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Harnessing the Power of Sibling Relationships as a Tool for Optimizing Social–Emotional Development

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Abstract

For some children, sibling relationships are a source of positive support and skills development and can improve self-regulation and emotional understanding. Other sibling relationships can be characterized by antisocial behavior, substance use, and conflict and can pose a risk for future negative outcomes. Family relationships, as well as parenting skills and family discord, contribute strongly to both youth outcomes and the quality of the sibling relationship. Our work uses a multilevel model for engaging and intervening with families that explicitly integrates intervention targets (e.g., family management, parent-child relationships, sibling relationships) with principles of behavior change. Though specific intervention effects on sibling relationships have not been tested, we have found (a) reductions in youths' overall problem behavior, and (b) improvements in proactive parenting behaviors and parental monitoring, postintervention. It is hypothesized that reductions in child behavior problems and improvements in parenting strategies within the home positively influence sibling relationships.

Most people who grow up with one or more siblings know that sibling relationships can greatly influence the social climate of a family and provide training in a variety of behaviors. Siblings typically function as models of acceptable or unacceptable behavior within the home, and can serve as guides to the social world outside the reaches of family influence (Dunn, Brown, & Beardsall, 1991). This chapter provides an overview of the sibling outcome literature from an ecological perspective. We focus on literature that explores the potentially negative impact of sibling relationships on youth behavior, including deviancy training, collusion, and coercive relationship patterns. In addition, we consider the literature highlighting the positive and negative aspects of sibling relationships on youth development. We conclude with a brief review of the sibling intervention literature published to date, as well as our model of a family-centered intervention for youth problem behaviors.

Although social development research has long focused on parent–child relationship processes within the family and for the most part has neglected sibling relationship dynamics, the focus has changed during the past several decades. Systemic views of

parenting now acknowledge that parenting does not occur in a vacuum and that the sibling subsystem provides a unique and powerful influence that can promote or detract from parents' efforts to socialize their children (for reviews see Brody, 1998, and Volling, 2003). It is clear that sibling relationship quality can predict longitudinal adjustment from middle childhood well into adolescence (Bank, Burraston, & Snyder, 2004; Kim, McHale, Crouter, & Osgood, 2007).

An Ecological Approach to Understanding Sibling Adjustment

The quality of the sibling relationship can profoundly affect child development, including both positive and negative outcomes. Figure 1 presents an ecological model for understanding sibling relationships in the context of families and society. The family context may include both risk factors and strengths, some of which are shown in Figure 1. Risk factors such as marital problems, depression, substance use, and experiences of discrimination undermine parenting and place youth at risk for later problem behavior. Protective factors such as healthy marital relationships, low stress, and clear family values support family management skills and positive youth adjustment. Because sibling relationships occur in the context of families, naturally they are vulnerable to the risk and protective factors that are directly related to parenting and youth problem behavior. A dynamic interaction between family management and sibling adaptation mediates the link between contextual risk factors and later child adjustment, and is shaped by the family's culture and values. This developmental model organizes our discussion of siblings and the literature that supports the links between sibling adjustment and social-emotional development across childhood.

Siblings: Fellow Travelers on the Developmental Road

More than twenty years ago, Gerald Patterson published "Siblings: Fellow Travelers in Coercive Family Processes" (Patterson, 1984), an important chapter about the role of parent attention, effort, and skill in the management of sibling dynamics. Early research on the coercive model suggested that antisocial siblings are involved in high levels of conflict and engage in more coercive interactions in the home than target children engage in with their parents (Loeber & Tengs, 1986). In the decades that followed, researchers discovered that siblings are fellow travelers on an expansive, developmental path that includes both antisocial and prosocial outcomes (Abramovitch, Corter, & Lando, 1979; Rowe, 1981; Scarr & Grajek, 1982). For example, chronic conflict and coercion between siblings have been linked to academic difficulty, poor peer relations (Abramovitch et al., 1979; Rowe, 1981; Scarr & Grajek, 1982), the development and maintenance of aggressive behavior (Bank, Patterson, & Reid, 1996), adolescent substance abuse, and pervasive feelings of inadequacy, incompetence, and hostility in young adulthood (Bank et al., 1996; Dunn, Slomkowski, Beardsall, & Rende, 1984). Conversely, positive sibling relationships have been found to promote the development of prosocial behavior (Patterson, 1984), including empathy, social skills, and academic competence, as well as provide a source of emotional support (Stormshak, Bellanti & Bierman, 1996; Tucker, Updegraff, McHale, & Crouter, 1999). Close sibling relationships in adolescence may protect youth from the development of

depression and may support positive adjustment, particularly for girls (Kim et al., 2007; McHale, Crouter, & Tucker, 1999).

Although a substantial literature describes the influence of sibling relationships across various domains of development, these studies have generated inconsistent results. For example, some studies revealed that the association between sibling support and developmental outcomes yielded negative correlations between older sibling support and younger sibling adjustment even after controlling for gender, race, family activities, and the perception of the family environment (Widmer & Weiss, 2000). One might assume these results suggest that a supportive relationship with an older sibling is associated with poorer adjustment for younger siblings. In contrast, warmth in sibling relationships has been associated with fewer conduct problems and reports of loneliness, and greater self-worth (East & Rook, 1992; Kim et al., 2007; Stocker, 1994). In addition, warmth and positive sibling relations that occur in the context of deviant behavior and coercion have a negative impact on later youth adjustment and predict problem behavior for both siblings (Slomkowski, Rende, Conger, Simons, & Conger, 2001; Stormshak, Comeau, & Shepard, 2004). The complex picture that emerges from this research is that because sibling relationships occur in the context of families, they cannot be disentangled from the relationships that children have with their parents and peers or from the role parenting skills play in sibling outcomes. At the same time, many factors in a child's environment simultaneously influence both the sibling relationships and developmental outcomes.

It is likely, given the model presented in Figure 1, that factors such as child temperament (Brody, Stoneman, & Gauger, 1996; Stoneman & Brody, 1993), age gap and gender differences (Brownfield & Sorenson, 1994), absence of identification with siblings (Schachter & Stone, 1985), level of parental involvement in sibling conflict (McHale, Updegraff, Jackson-Newsom, Tucker, & Crouter, 2000), child perceptions of differential parental treatment (Feinberg, Neiderhiser, Simmens, Reiss, & Hetherington, 2000; Kowal & Kramer, 1997; McHale et al., 2000), and cultural context (McHale, Whiteman, Kim, & Crouter, 2007) contribute to the inconsistency of these findings because each of these family and contextual influences may differentially affect the nature of the sibling relationship and behavioral outcomes.

Relationship Processes: Coercion and Collusion in the Sibling Relationship

Several studies have provided evidence that older siblings may influence the initiation of their younger siblings' substance use or delinquency (Brook, Whiteman, Gordon, & Brenden, 1983; Conger & Rueter, 1996; Duncan, Duncan, & Hops, 1996), yet the mechanisms of influence are poorly understood. Siblings may share a coercive history that would formulate a trajectory toward poor academic performance and deviant peer relations. This family history of coercive interactions may result in antisocial children within the family functioning as "trainers" of antisocial behavior for their siblings (Loeber & Tengs, 1986; Patterson, 1982, 1984). As children in the same family mutually develop patterns of problem behavior, it is possible that they actively form coalitions of deviance within the family and outside the home in shared peer networks (Bullock & Dishion, 2002).

Two relationship processes have been directly associated with child and adolescent behavior problems: coercion and collusion. *Coercion* refers to a process by which siblings use aggression and other aversive behaviors to terminate conflict. *Collusion* refers to a mechanism by which siblings reinforce deviant behavior through the positive reinforcement of rule-breaking talk.

Coercion

The coercion model of antisocial behavior posits that problem behavior is the product of an interactive process in which family members encourage antisocial acts through repetitive negative reinforcement sequences (Patterson, 1982). Children with an antisocial sibling have also been found to be both affected by the behavior of this sibling and influential in shaping the behavior of this sibling in the course of coercive exchanges in the home (Patterson, 1984). Siblings in distressed families have been reported to be more coercive than those in nondistressed families and more likely to extend a coercive sequence in the event of an antisocial sibling's attack. Because siblings in troubled families are participants in a "distressed system" that is influenced by the contribution of all family members, coercive sibling interactions are fundamental determinants for future antisocial conduct, with siblings functioning as teachers and pupils (Patterson, 1984, 1986).

Coercive sibling relationships are predictive of later adjustment difficulties for boys with identified behavior problems, as well as for their siblings. Negative patterns of sibling interaction during middle childhood have been found to be not only prognostic of future maladjustment, but also to be among the best predictors of boys' psychopathology in adolescence and early adulthood (Bank et al., 1996). Synchronous negative interactions with mothers and siblings during middle childhood have consistently predicted adult arrests and severity of criminal history, particularly for boys.

In families engaged in high rates of conflict and coercion, sibling interaction may be simply another context in which children learn to use aggression and other forms of aversion. Parents who do not attend to and manage sibling play may be inadvertently allowing conflicts to be resolved by means of coercion. Coercion, then, is a process that is embedded in family conflict and negative affect, and it is highly related to contentious sibling relationships and concurrent and future antisocial behavior (Bank et al., 1996).

Collusion

Although coercion emphasizes the relative contribution of negative sibling dynamics to conduct problems, recent observational research suggests that positive interactions among siblings may also lead to the development of a maladaptive behavioral repertoire (Bullock & Dishion, 2002; Criss & Shaw, 2005). Sibling collusion is a process by which siblings form coalitions that promote deviance and undermine parenting. Videotaped family interactions have revealed a process by which siblings in families with a child at high-risk for conduct problems exhibit reliably higher rates of collusion than do those in families with a normative target child. Sibling collusion also accounts for variance in problem behavior, including delinquency and substance use, after controlling for involvement with deviant peers (Bullock & Dishion, 2002). Collusive attempts to undermine parental efforts to monitor and

set limits regarding behavior form a common ground among siblings, potentially amplifying risk of mutuality in problem behavior during early adolescence. This process is found to persist one year later, suggesting that this dynamic may be relatively stable during adolescence (Bullock & Dishion, 2001).

Siblings and substance use

Ample research supports the links between siblings and substance use. As discussed in Chapter 3, younger siblings are exposed to substances and often initiate use earlier than do older siblings (Brook et al., 1983; Bank et al., 1996). We examined the links between siblings' substance use and youth access to substances over time by videotaping sibling interaction and learning about youth, sibling and family dynamics in 161 families enrolled in our Project Alliance study. We measured substance use, antisocial behavior, and peer deviance over time, through age 19. We found that sibling deviance in 6th grade predicted siblings' increased substance use over time, with higher levels of sibling deviance predicting greater growth in substance use (see Figure 2). Using lag sequential modeling, we observed that initial levels of sibling deviance in 6th grade predicted the degree of both 7th grade substance use and siblings' use and access to substances. Access to substances through sibling use continued to significantly predict use of substances for our target youth through age 19. Sibling substance use and access to substances through siblings predict 27% of the variance in target child substance use by age 19 (see Figure 3). Clearly, sibling substance use and access to substances through siblings is a major contributor to later problem behavior for youth.

Positive Sibling Relationships and Social Development

Most children spend more time interacting with their siblings than with parents, and children are involved with their siblings every day in multiple ways (Dunn, 1983; McHale & Crouter, 1996). A recent study of sibling quality and time revealed that siblings spend an average of 10 hours together per week in both constructive activities and unstructured activities (Tucker, McHale, & Crouter, 2008). As children enter adolescence, they experience less conflict with their siblings and increased gender-based differences in support and intimacy (Kim, McHale, Osgood, & Crouter, 2006). Same-sex girl dyads remain stable in their support and intimacy, whereas boy dyads decrease in intimacy and support as adolescents. The amount of time siblings spend together in constructive activities predicts self-esteem for both older and younger siblings and peer competence for younger siblings, particularly for girls (Tucker et al., 2008). Not surprisingly, sibling relationships provide one of the most stable and powerful developmental contexts for the transmission of both antisocial and prosocial behavior.

Self-regulation

One factor related to the development of both externalizing and internalizing behavior is self-regulation. Self-regulation refers to the ability to regulate behavior during stressful situations, maintain focused attention, and modulate underlying reactivity (Rothbart & Derryberry, 1981). Self-regulation is also related to constructs such as effortful control (Rothbart & Rueda, 2005) and emotional regulation (Blair, Denham, Kochanoff, &

Whipple, 2004). Given the nature of the sibling relationship, it seems logical that self-regulation skills would develop in the context of positive sibling relationships. This model is consistent with much of the early work on sibling relationships that focused on feeling state language development, perspective-taking, and affective control (Brown & Dunn, 1992; Dunn et al., 1991; Howe, 1991). Nonetheless, very little research has linked self-regulation in the context of the sibling relationship to later positive adjustment.

Brody, Stoneman, Smith, & Gibson (1999) tested a model in which family relationships and parent psychological resources predict child self-regulation, which in turn predicts the quality of the sibling relationship. They found that in a sample of 85 African American youth, the links between family processes and sibling quality were fully mediated by self-regulation. This research was not longitudinal, so the directionality of effects is unclear. Does self-regulation predict sibling relationship quality, or is the reverse true? Either way, positive sibling relationships are related to a child's ability to self-regulate emotions and develop social competence. Even after controlling for children's relationships with parents, positive sibling relationships in middle childhood predict youth adjustment (Pike, Coldwell, & Dunn, 2005). It is clear that positive sibling relationships in the context of a supportive family environment can have positive benefits for youth, including reducing the risk of later depression and enhancing social competence with peers (Kim et al., 2007; Stormshak et al., 1996).

Parenting Practices

Parenting practices have long been known to directly affect the quality of sibling relationships. Factors such as harsh, inconsistent, or differential parenting, in which one sibling is treated with more positivity or negativity than is the other, have consistently been found to affect both the quality of the sibling relationship and behavioral outcomes (McHale et al., 2000; Brody, Stoneman, & McCoy, 1992). Children who are exposed to harsh parenting and environments characterized by unresolved disputes are significantly more likely to develop a behavioral repertoire that fosters conflictual interactions with siblings. In particular, they are more likely to handle disputes by means of aggressive, coercive behaviors, interpret neutral sibling interactions as hostile or aggressive, or be motivated by negative, self-serving intentions (Brody, Arias, & Fincham, 1996; Crick & Dodge, 1994; Fincham, 1994).

Differential parenting, or perceptions by youth that one child is being treated differently than another, also affects both the quality of the sibling relationship and later child adjustment. When children perceive fairness in the parenting system, sibling relationships are more positive and are linked to better adjustment (McHale et al., 2000). Similarly, differential parenting creates stress in the marital dyad, and has been linked to longitudinal changes in marital quality from the offspring's middle childhood to adolescence (Kan, McHale, & Crouter, 2008). A variety of studies on family dynamics has provided evidence that behaviors during dyadic disagreements, and sibling perceptions of parental behavior during such encounters, have significant bearing on child development (Feinberg et al., 2000; McGuire, Manke, Eftekhari, & Dunn, 2000; McHale et al., 2000; Vuchinich, Emery, & Cassidy, 1988).

Clearly, sibling relationships are influenced by multiple factors. They are sensitive to contextual risks and protective factors such as parents' marital quality, parenting skills and behaviors, and adult mental health; these family context factors may have both immediate and long-term effects, predicting later adjustment. That said, our attention must turn to effective interventions with siblings and a model for intervention with siblings and families. The literature has demonstrated the salient role siblings play in the development of various problem behaviors and positive outcomes and provides support for the importance of family-based interventions that target the sibling relationship as a mechanism of change (Rowe, Rodgers, & Meseck-Bushey, 1992). Accordingly, a family-centered, ecologically-based treatment model that includes the targeted child and the people and contexts that are meaningful to the child, including siblings, is most likely to result in positive youth outcomes.

A Family-Centered Approach to Working with Problem Behavior

As this review suggests, siblings can profoundly affect child development through coercive and collusive relationship patterns that may contribute to problem behaviors such as substance use and delinquency. On the basis of the research described in this chapter, it is logical to assume that working directly with siblings, or with siblings and parents, may reduce these problems. Interestingly, very few intervention studies focus exclusively on the sibling relationship. This is primarily because for many families, enhancing communication and interaction between high-risk siblings may actually increase problem behavior among younger siblings who would be more exposed to high-risk behavior. Our research suggests that, in some cases, reducing exposure to high-risk siblings may be the best treatment strategy for younger siblings and other vulnerable family members. Interventions aimed at improving parenting skills such as monitoring, positive reinforcement, and appropriate limit setting would most likely "trickle down" and influence the nature of the sibling relationship and sibling developmental outcomes. Overall, a targeted approach to family intervention that builds on the ecological model and considers the context of development for the family and each child is warranted.

We use a multilevel model for engaging and intervening with families that explicitly integrates intervention targets (e.g., family management, parent-child relationships, sibling relationships) with principles of behavior change (Dishion & Kavanagh, 2003; Dishion & Stormshak, 2007). In this model, called EcoFIT, we tailor our interventions with children and families to fit their current family circumstances on the basis of the assessment results of the Family Check-Up (FCU). The FCU provides an ecological assessment that addresses parents' motivation to change (see Miller & Rollnick, 2002). We videotape family interactions and collect data from parents, teachers, and youth involved in the intervention. We then give feedback to families using motivational interviewing techniques that are strengths based and adapted for each family's needs.

Some families may participate in interventions that target only the encouragement of skills (e.g., positive reinforcement), especially if limit setting, parental monitoring, and communication are found through the assessment to be parenting strengths. Or, we may tailor our approach to limit setting with families depending on the number of parents in the

family, the sibling dyad and behavior of siblings, and the sociocultural background of the family. In this sense, the EcoFIT approach proposes a menu of empirically supported interventions with diverse venues of service delivery. Offering an intervention menu and a variety of flexible service delivery options promotes parent engagement and motivation (Dishion & Kavanagh, 2003; Miller & Rollnick, 2002).

This approach to intervention reduces the focus on one particular target child and increases the focus on family management, siblings, and contexts of change (see Figure 1). As such, the treatment may vary depending on the particular circumstances of the child and sibling. For example, in a family in which an older sibling uses drugs and spends a lot of time alone with a younger sibling, the intervention may focus on altering the children's schedules and increasing parental supervision of both children after school. For families involved in coercive relationship patterns and those in which sibling collusion is undermining parents' authority in the home, interventions may be tailored to improve parents' ability to extinguish the coercive cycle, improve family relationship quality, and reduce siblings' ability to negatively influence family dynamics. Alternatively, in a family where siblings are close and mutually supportive with low rates of problem behavior, the intervention may include activities with siblings that support teamwork and a positive sibling relationship, as well as parenting support using encouragement and incentives. In a general sense, this approach enables all family members to benefit when a child is referred for treatment.

Our intervention model parallels recent research focused directly on parenting and the effects of parenting interventions on multiple siblings. Brotman and colleagues (Brotman et al., 2005; Brotman, Gouley, O'Neal, & Klein, 2004) found that families with an adolescent engaged in serious delinquent behaviors were motivated to participate in a prevention program focused on preventing problem behaviors in their younger preschool-age children (Brotman et al., 2003, 2004). Working with a sample of 92 families, they found parenting interventions with preschool children improved older adolescent siblings' peer relationships and reduced antisocial behavior. Most of the adolescents did not directly participate in the intervention, suggesting that intervening with parents and a younger sibling to improve parenting practices may generalize to improved parenting and reduction in problem behaviors of older adolescent siblings.

Brestan, Eyberg, Boggs, and Algina (1997) also tested the generalizability of treatment effects on nontargeted siblings. In this investigation, parents and children referred for conduct problems engaged in parent-child interaction training and the investigators examined the effects of the training on the siblings not involved in treatment. Treatment focused on addressing the referred child's behavior and parents were encouraged to not include siblings in home practice skills. When compared with the control group, untreated siblings and the referred children had lower levels of conduct problems, based on parent report. This study further supports the notion that treating one sibling may have spillover effects on other siblings who are residing in the home but are not directly involved in treatment.

Kennedy and Kramer (2008) developed a preventive intervention aimed to help siblings age 4–8 years improve the sibling relationship by developing emotional competencies and

increased prosocial behaviors. Results from this study suggest sibling relationships are malleable and amenable to intervention and that teaching emotion-regulation skills to siblings may be a key domain for improving sibling relationship quality. This outcome is important to our understanding of the developmental context of the sibling relationship. A key question that remains in this literature is how to sort the temporal sequencing of self-regulation from sibling interactions over time.

Although we have not directly tested the impact of the Family Check-Up on siblings, we have directly tested whether or not our intervention improves basic parenting skills such as monitoring and positive support. The model has been applied in both early childhood and adolescence. In the Early Steps project, young children starting at age 2 were the primary focus of the intervention. The FCU intervention significantly improved both problem behavior and observed positive behavior support of parents, as well as proactive parenting (Dishion et al., 2008; Gardner, Shaw, Dishion, & Supplee, 2007). Because the majority of these families include siblings, it would be interesting to test the effects of the intervention on siblings in the family. Improving parenting skills with one child will likely have the benefit of improved parenting with all children in the family. Relationships with family members are dynamic processes that change and influence development over time (Dishion & Snyder, 2004). The improvement of any relationship in the family would likely have a positive impact on the relationships of other family members.

Conclusions

It is surprising that so little consideration has been given to the role of siblings in child and family treatment, given the longevity of the sibling relationship and the role of siblings in the development of both positive and negative youth behaviors. The studies described in this chapter support the notion that the role of siblings in family relationships and treatment outcomes is complex, that it warrants increased attention in both clinical and research domains, and that it should be considered when developing larger intervention studies and family-centered approaches to intervention. Given the complexity of this developmental model, it is clear that sibling relationships do not occur in isolation and that they are significantly influenced by the context of development, family relationships, and family values. As we discussed earlier in this chapter (see Figure 1), sibling relationships are key predictors of youth outcomes, including positive adjustment and problem behavior. It would be simple to state that sibling relationships characterized by positive support and intimacy predict improved child functioning, whereas those characterized by negative interactions and conflict predict poor outcomes. Yet the picture that emerges from the sibling literature is much more complicated and suggests that other factors such as parenting, self-regulation, and peer relationships influence sibling relationships and subsequent outcomes. Some positive sibling relationships are actually detrimental, for example, when they occur in the context of deviant behavior. Alternatively, some negative aspects of the sibling relationship, such as conflict, are actually positive and normative because they contribute to the development of social skills and conflict negotiation. As a result, intervention models that target mediators such as family, peer, and sibling relationship processes will be the most successful at reducing later risk for youth.

Future intervention models should strive to integrate these research findings as we identify effective intervention strategies that reduce risk and promote positive adjustment over time. Clearly, treatments that enhance the positive aspects of the sibling relationship, while addressing potential negative influences, will be promising interventions for at-risk youth in the future. These interventions should occur in the context of family-based models of treatment that reduce contextual risks while promoting protective factors and environmental supports. Intervention models that directly test the impact of family-centered approaches on all siblings will be vital to enhancing our understanding of effective treatments for youth.

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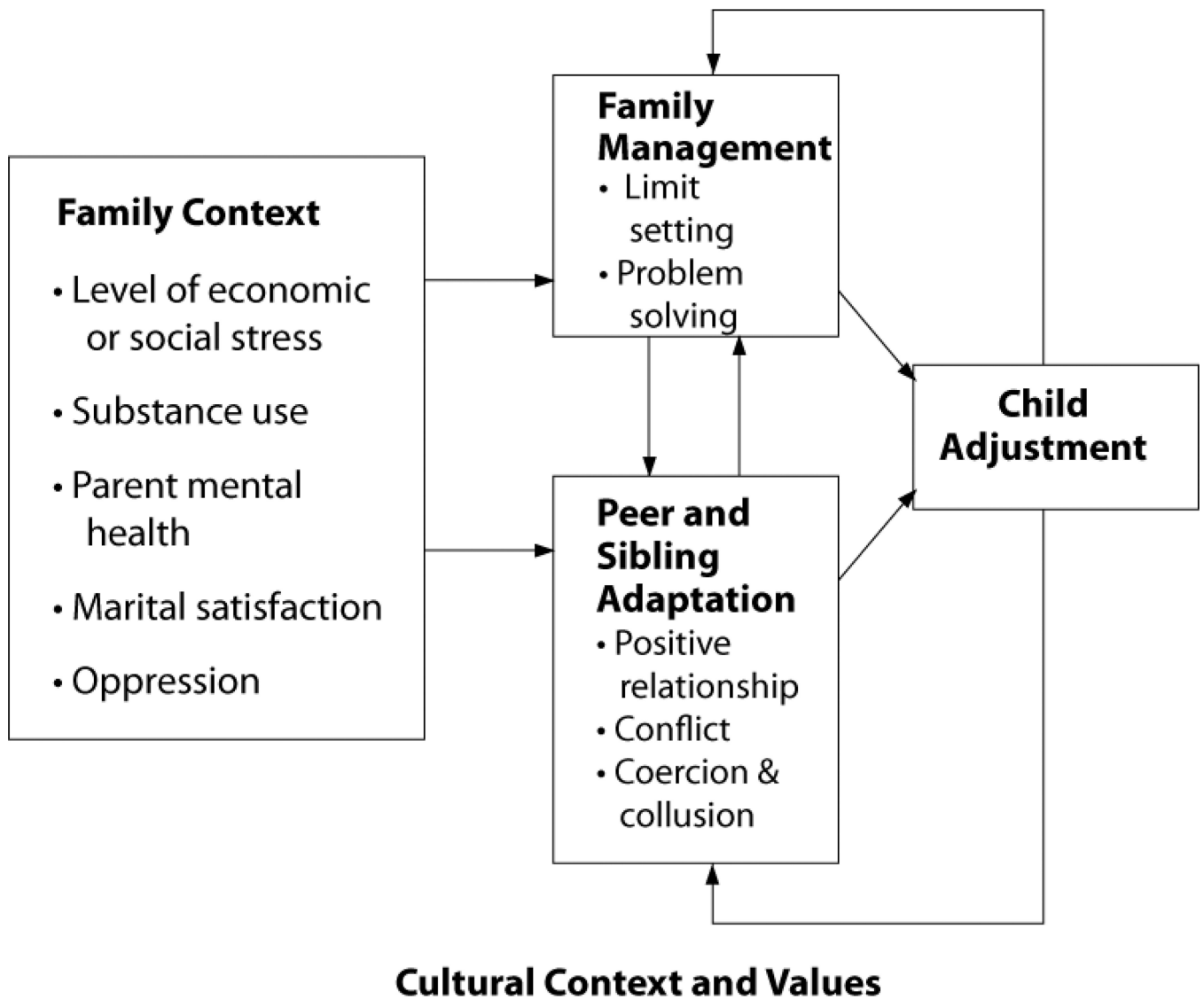


Figure 1.

An ecological model of family social processes related to child adjustment.

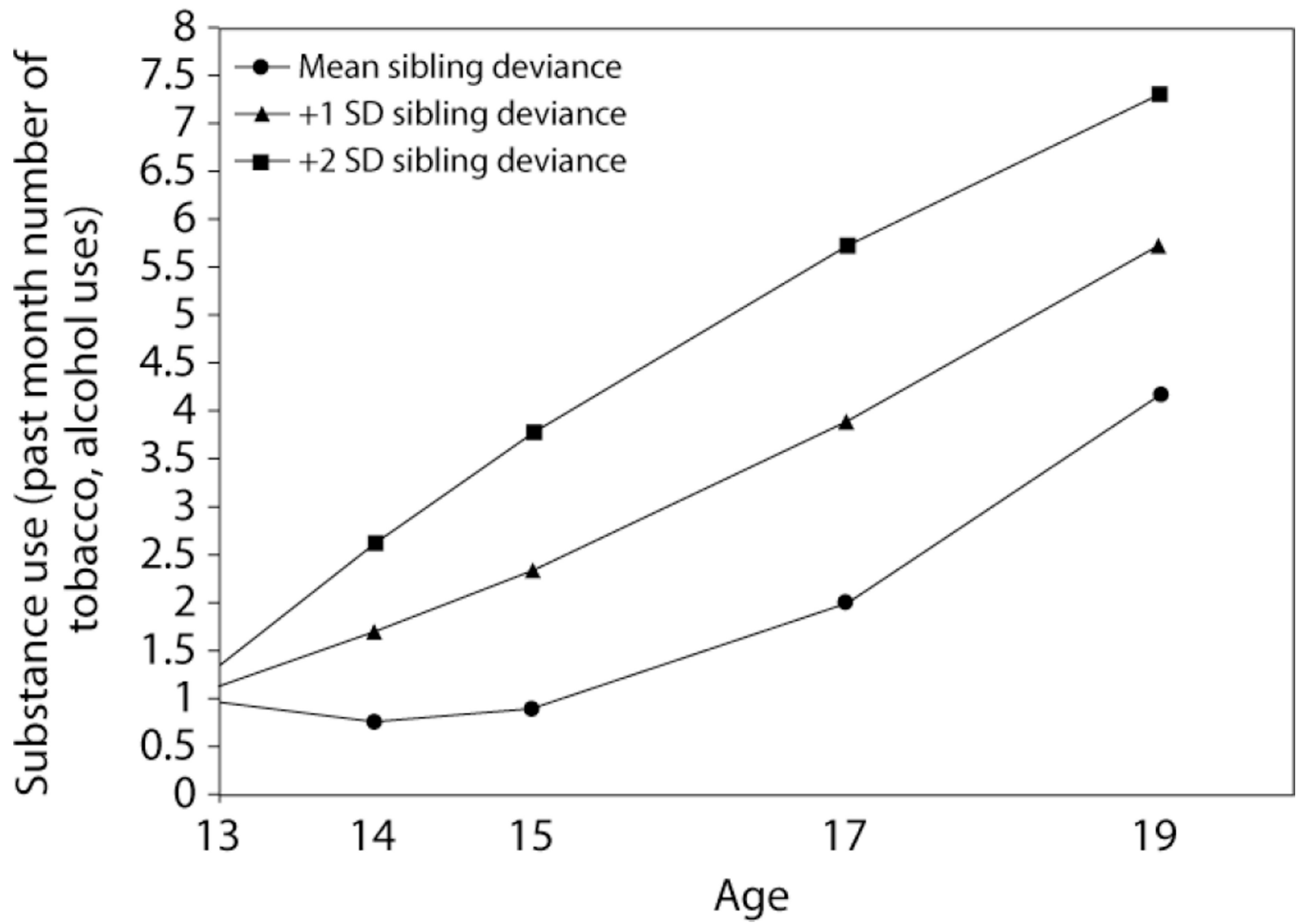
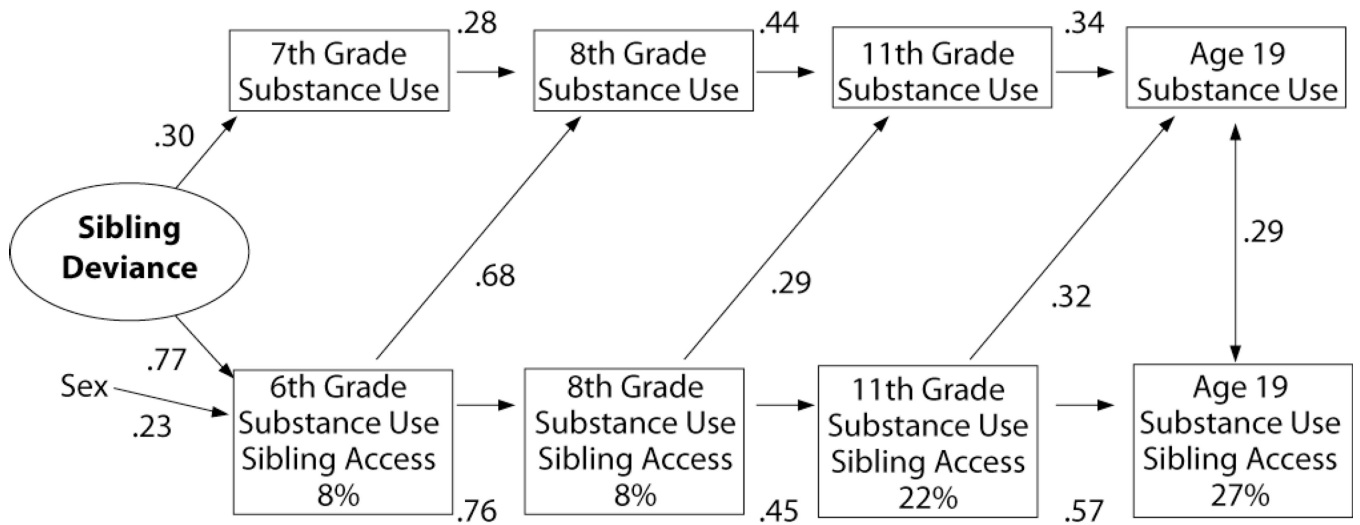


Figure 2.
Growth of substance use predicted by sibling deviance over time.



$\chi^2 (df = 16) = 30.46,$
 $p = .02.$ CFI = .93
 TLI = .95, RMSEA = .07

Figure 3.
 Longitudinal influences of sibling behavior on substance use.