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## Growing up together

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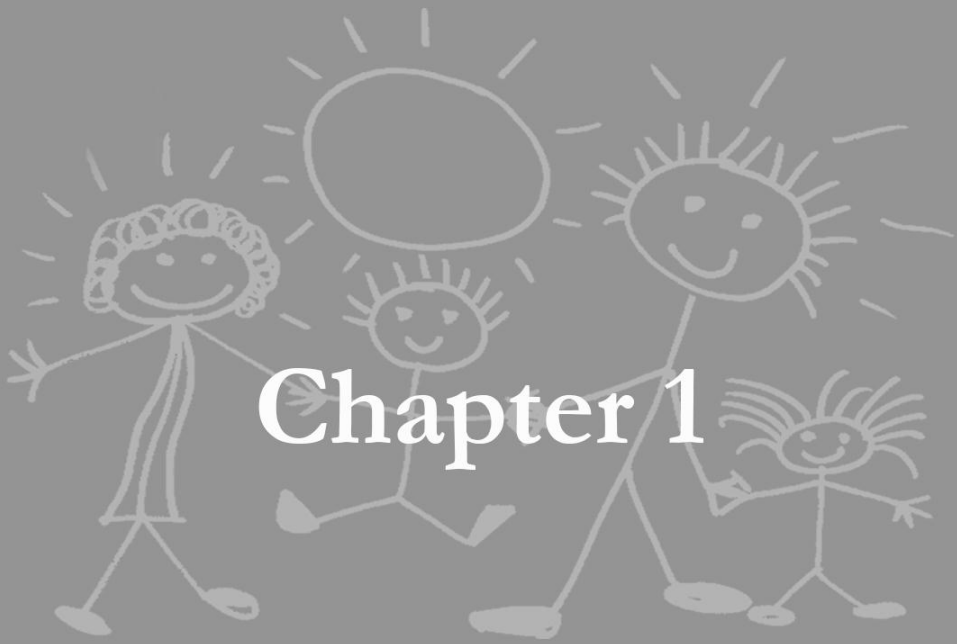


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# Chapter 1

## **General Introduction**



Relationships between siblings are unique in that siblings share the same family and have shared experiences both within and outside the family. Most children are raised in families with at least one brother or sister (Centraal Bureau voor de Statistiek [CBS], 2003; Volling, 2012) and siblings relations are the most long-lasting and enduring relationships of an individual. Due to the unique relation between siblings and the large amount of time they spend together, siblings may influence each other's socio-emotional development (Cassidy, Fineberg, Brown, & Perkins, 2005; Van Lange, Otten, De Bruin, & Joireman, 1997). These influences can be direct, as a consequence of siblings' numerous daily interactions, and indirect, through processes in which siblings influence parenting (Brody, 2004; McHale, Updegraff, & Whiteman, 2012).

To understand the development of an individual child within a family it is essential to investigate the mutual influence of siblings and their effect on parent-child interactions. In this dissertation, firstborns' interactions with their second-born sibling and parenting influences are examined in relation to socio-emotional development.

### **Siblings' Direct Influences**

Interactions between siblings differ from parent-child interactions in that they are more equal, while parent-child interactions are primarily hierarchical. Parents provide different learning environments than siblings and have fewer conflicts with the child compared to siblings (Youngblade & Dunn, 1995). During play for example, parents more often observe and provide comments on a child's play instead of joining in and collaborating on the same level as the child. Sibling interaction may contribute to both cognitive and socio-emotional development (Tucker & Updegraff, 2009). For later-born children, interactions with siblings are their first experiences with interactions and relations with an individual similar in status, which offers them the opportunity to practice social behaviors and provides a training ground for later relations with peers (Howe, Rinaldi, Jennings, & Petrakos, 2002). In addition, these interactions provide opportunities for children to imitate the behavior of their siblings, which in turn helps them to acquire new skills (Barr & Hayne, 2003).

Interactions between siblings typically take place during play and sibling conflict (Howe & Recchia, 2005). During play and pretend play siblings learn to collaborate and to use internal state references (references

towards thoughts, feelings, and desires) when negotiating the rules of their play (Howe, Petrakos, Rinaldi, & LeFebvre, 2005). During sibling conflict children practice resolution strategies and learn to use various arguments to persuade others (Howe et al., 2002; Ross, 1996). When conflicts occur within a positive sibling relation they are related to the development of understanding others' perspective and emotions, and problem solving skills (Howe et al., 2002; Ram & Ross, 2001). Conflicts within positive sibling relations often end with constructive resolutions, such as compromises or collaboration, and satisfying outcomes for both parties (Howe et al., 2002). Conflicts within more negative sibling relations, on the other hand, are characterized by destructive conflict strategies, such as coercion and (physical) aggression (Recchia, & Howe, 2009). Furthermore, during adolescence, destructive conflicts have been related to more aggression and antisocial behavior, interactions with antisocial peers and more difficulties with peer relations (Bank, Burraston, & Snyder, 2004; Criss & Shaw, 2005; Garcia, Shaw, Winslow, & Yaggi, 2000).

Apart from interactions emphasizing siblings' equality, older siblings may take the lead and teach new skills to or help their younger siblings, as a consequence of having more knowledge compared to their younger siblings (Howe & Recchia, 2005). Such more hierarchical interactions between siblings are related to socio-emotional and cognitive development in both older and younger siblings (Azmitia, & Hesser, 1993; Howe & Recchia, 2005; Howe, Recchia, Della Porta, & Funamoto, 2012). Older siblings may profit from teaching their younger siblings because they have to organize their knowledge before giving instructions and explanations, and they have to adapt their instructions to the developmental level of their younger siblings (Howe et al., 2012; Smith, 1993). Indeed, children who frequently teach their younger siblings have better language skills, higher school achievement (Smith, 1990,1993), and a better understanding of other's perspectives and emotions than both singletons and children who did not teach their younger siblings (Howe et al, 2012). In addition, taking care of a younger sibling or comforting a distressed younger sibling has been related to a better understanding of others' emotions and perspectives (Garner, Jones, & Palmer, 1994). Younger siblings learn new skills from their older siblings and, when guided by their siblings, they are able to complete more difficult tasks. When interacting with older siblings, children are active learners and as a result gain more from the

guidance of older siblings than from guidance of peers (Azmitia & Hesser, 1993).

Older and younger siblings' behaviors during teaching interactions are related to the quality of interactions during play. When play interactions are positive older siblings ask more questions and give more physical demonstrations and younger siblings are more involved learners (Howe & Recchia, 2005, 2009). As a result siblings may learn more from each other when they have more positive interactions. Finally, older siblings can provide younger siblings with a buffer against negative effects of stressful life events. Younger siblings who experience emotional support from an older sibling after experiencing negative life events show less internalizing problems than children without a supportive sibling relation (Gass, Jenkins, & Dunn, 2007). Moreover, when children are adopted together with a sibling, both children show fewer behavioral problems than children who are adopted without their siblings (Boer, Versluis-den Bieman, & Verhulst, 1994). In addition, older siblings who take care or feel responsible for a younger sibling may also develop better social skills (Boer, 2012). In conclusion, siblings may influence each other during interactions in which they have equivalent roles or in which the older sibling takes the lead, which stimulate social development of both siblings.

### **Siblings' Indirect Influences**

In addition to direct influences, siblings can also indirectly influence each other through their influence on parenting. Parents may learn from their experiences with their firstborn child, which may lead to more effective parenting of second-born children. Indeed parents have been found to display more warmth towards and have less conflicts with their second-born adolescents compared to their firstborn adolescents, as a consequence of having more realistic ideas about behavioral changes during adolescence (Shanahan, McHale, Crouter, & Osgood, 2007; Whiteman, McHale, & Crouter, 2003). Regarding early childhood however several studies found that parents show more sensitivity towards their firstborn than towards their second-born child (Furman & Lanthier, 2002; Van IJzendoorn et al., 2000). Moreover, research on differences in parental stress after the birth of a child indicates that second-time mothers experience similar or higher levels of stress than first-time mothers (Krieg, 2007; Wilkinson, 1995). Although

second-time parents are more experienced in parenting one child, they are inexperienced in parenting two children and the associated challenges (Krieg, 2007). Studies on how these elevated levels of stress may influence parenting and on parents' learning experiences with younger children are lacking, and it remains unclear whether parenting of younger children becomes more effective with a second-born child or whether it is more difficult given that parents have to divide their attention between two children (Krieg, 2007; Whiteman, Becerra, & Killoren, 2009). In addition, parents develop expectations concerning their second-born child based on their experiences with their firstborn child, which influences their responses to a second-born child (Whiteman & Buchanan, 2002).

Furthermore, due to the presence of a sibling, children experience parenting directed towards another child, which may influence their behavior and their socio-emotional development as well (Fearon et al., 2006; Feinberg & Hetherington, 2001). This is in line with family-system theories that state that apart from the mutual influence of family members during dyadic interactions, all dyads within a family (mother-child, father-child, and sibling-child) influence each other (Minuchin, 1985; Volling, Kolak, & Blandon, 2009). Negative interactions between a parent and a sibling could thus influence parent-child interactions and the other way round. Research on relationships between family members during early and middle childhood, provide evidence for bidirectional influences of the quality of the parent-child relationship and quality of the sibling relationship (Boer, Goedhart, & Treffers, 1992; Criss & Shaw, 2005; Erel, Margolin, & John, 1998). Especially hostility and coercion are sensitive for a spill-over effect between parent-child and sibling relations (Criss & Shaw, 2005; Erel et al., 1998).

In addition, growing up with siblings enables children to compare the parenting they receive with the parenting their siblings receive. When parents treat children differently from their siblings, social comparison between siblings may lead to jealousy and rivalry over the love and attention of parents (Volling, Kennedy, & Jackey, 2010). Differential parenting has been related to more behavioral problems, such as more hyperactivity, less prosocial behavior, and more conduct problems in the less favored child (Asbury, Dunn, Pike, & Plomin, 2003; Caspi et al., 2004; Mullineaux, Deater-Deckard, Petrill, & Thompson, 2009). In addition, differential parenting has also been related to more internalizing problems (Lindhout, Boer, Markus, Hoogendijk,



Maingay, & Borst, 2003). Moreover, differential parenting has been found to have a system-wide effect in that it affects all children in the family negatively, irrespective of whether they are being favored or not (Boer et al., 1992; Meunier, Boyle, O'Connor, & Jenkins, 2013). This system-wide effect could be due to increased competition between siblings over parental resources, resulting in negative sibling relations, and possible fear over losing the “favored” position (Kowal, Krull, & Kramer, 2006; Meunier et al., 2013; Shanahan, McHale, Crouter, & Osgood, 2008). However, the negative effect of differential parenting partly depends on the perceived fairness of the differential treatment by the children (Kowal, Kramer, Krull, & Crick, 2002). Moreover, small differences in parenting between siblings can be adaptive when this is in line with differences between children in age or temperament (Meunier, Biscaglia, & Jenkins, 2012).

### **Birth order and sibling gender configuration**

There are several structural features of sibling dyads that can explain differences in how siblings both directly and indirectly influence each other, such as birth order and sibling gender configuration (Steelman, Powell, Werum, & Carter, 2002). Results concerning the effect of these structural characteristics on child development are mixed (e.g. Cassidy et al, 2005; Dunn, Deater-Deckard, & Pickering, 1999; Klein & Zarur, 2002; Peterson & Slaughter, 2003) and various theories provide different explanations of whether and how birth order and sibling gender configuration could affect direct and indirect sibling influences.

Siblings might directly influence each other through imitation or de-identification. The effect of these processes on child development may depend on birth order and sibling gender configuration. Imitation of behavior is, as proposed by the social cognitive learning theory (Bussey & Bandura, 1999), important for social development. Especially later-born children imitate their older siblings and as a result may acquire social skills at a younger age than firstborn children (Barr & Hayne, 2003). In addition, from the age of three years children have a preference for interacting with and imitating behaviors of individuals of their own gender (Bussy & Bandura, 1999; Serbin, Moller, Gulko, Powlishta, & Colburne, 1994). This may lead to more imitation of behavior between same-sex siblings compared to mixed-sex siblings.

In contrast to imitation, sibling de-identification is the tendency of siblings to (un)consciously develop different behaviors and different qualities to avoid direct competition and social comparison (Whiteman et al., 2009). The family niche model (Sulloway, 1996, 2001) argues that de-identification leads to differences between siblings, because second-born children need to differentiate their behavior from their firstborn siblings to receive an equal amount of attention from their parents. Given that differentiation from a sibling to avoid social comparison is more important for sibling dyads that are more similar (Whiteman et al., 2009), same-sex siblings may try to differentiate their behaviors to a greater extent than mixed-sex dyads.

Birth order and sibling gender configuration may also affect siblings' indirect influences, including parental investment and differential parenting. Parental resources such as attention and time spent with parents are limited. As a consequence a larger number of children in a family results in a decline in parental resources each individual child receives. The resource dilution model (Blake, 1981) and evolutionary theories (Trivers, 1974) presume that parents will (unconsciously) not equally invest in all their children, and that it may be adaptive to invest more in children that increase their fitness. Firstborns would then have an advantage over second-born children, because they experienced a period in which they were the only child and received all parental resources. In addition, given that firstborn children have survived for a longer period of time than their younger siblings, they have a greater chance to reach reproductive maturity (Sulloway, 1996), and would thus receive more parental investment.

In addition to birth order, sibling gender configuration has been found to influence parental investment, especially of fathers, with boys receiving more time with their parent, money, and parental care than girls (Raley & Bianchi, 2006). In addition, parents may treat their sons and daughter differently as a result of their ideas concerning traditional gender roles and characteristics associated with these roles (Eagly, 2009; Eagly, Wood, & Diekmann, 2000). This gender-differentiated parenting may result in parents stimulating nurturing behavior more often in girls than in boys, while stimulating assertive and guiding behaviors more often in boys (Hastings, Utendale, & Sullivan, 2007). Both gender-differentiated investment and gender-differentiated parenting may lead to more differential parenting in

families with mixed-sex siblings than with same-sex siblings, leading to more social comparison in mixed-sex siblings (Meunier et al., 2013).

Sibling influences may thus be different for firstborn and later-born children and may vary with sibling gender configuration. However, the theories describing how siblings influence each other and how this is related to structural characteristics of the sibling dyad are contradictory and research on the influence of these characteristics shows mixed results, which makes it difficult to draw firm conclusions on how these characteristics influence child development (Whiteman & Buchanan, 2002).

### **Within-family versus between-family design**

Although differences in development between siblings is a within-family factor, many studies concerning sibling influences, especially studies investigating birth order, use cross-sectional between-family designs comparing singletons with firstborn and second-born children from different families (Rogers, 2001; Whiteman et al., 2003). By using cross-sectional data, within-family processes can only be estimated instead of truly observed. Previous research has shown that results of between-family studies do not always match with those of within-family studies. As an example, birth-order effects on intelligence with firstborns outperforming second-born children have been found repeatedly in between-family studies, whereas within-family studies show a less consistent pattern (Rodgers, Cleveland, Van den Oord, & Rowe, 2000). This indicates that other process, namely differences between families, influence the results of between-family research (Rogers, 2001). Adopting a within-family approach offers other challenges when comparing siblings, namely distinguishing age from birth order effects. To address these issues, this study uses a longitudinal within-family design, in which social development of firstborn and second-born children from the same family can be observed at the same age.

### **Aim and outline of the dissertation**

The overall aim of the studies presented in this dissertation is to address the gap in family research concerning the role of siblings in children's social development. Firstborns' interactions with their younger sibling and parenting towards all children in the family are investigated in a four-year longitudinal

study following families with two children from the first birthday of the youngest child.

In Chapter 2 the prediction of individual differences in sharing with a younger sibling by family and situational factors was investigated. In Chapter 3 the association between parental sensitivity towards both children and compliance and sharing behavior of the firstborn child was investigated. Chapter 4 focuses on sibling discipline and sibling support during parental limit-setting, and associations with inhibitory control, empathy, and gender. Finally, the effect of birth order on toddlers' social development was examined with a longitudinal within-family design in Chapter 5.