This study investigates interaction in eight sibling pairs aged 1-5 years with the purpose of examining the prevalence of certain variables constituting the interaction. The siblings were observed with video camera while playing with a toy brought along by the author. In order to validate and expand upon the information obtained from the observations, the parent(s) were asked to respond to a number of questions from a Questionnaire. The variables investigated were reciprocal and complementary interaction, asymmetrical roles, imitation, conflict, joint and parallel play and communication. The results obtained indicate that, in these eight sibling pairs, reciprocal interaction, that is interaction taking place on an equal level, is signified by joint play. Complementary interaction, that is interaction taking place on different levels, is signified by parallel play. High activity level for boys versus low activity level for girls in three sibling pairs were observed to correspond to gender-specific play activities in everyday life.

Key words: sibling interaction, gender segregated play, gender-specific versus gender-neutral play and activity level.

Introduction

Sibling relationships are an important aspect of most children’s everyday life. Growing up in the same family, siblings constitute each other’s first social worlds. Sibling relationships also contribute to children’s development of sociocognitive and communicative skills. Particularly very close sibling relationships can, at an early age, afford children with an ideal setting for developing these skills through the enactment of role-playing (Dunn, 1983). Siblings’ equal status within the family combined with their frequent disagreements are furthermore considered as contributing to their causal understanding and reasoning (Dunn & Brown, 1993). The sibling relationship can be seen as consisting of both complementary interaction features as well as reciprocal interaction features (Piaget, 1965; Sullivan, 1953, in Dunn, 1983). A complementary interaction is for example like the one seen between child and parent in which the interactional positions of the participants take place on different levels, whereas the reciprocal type of interaction for example takes place between children and is characterized by the participants being able to understand each other and function on the same level. The roles that siblings enact when playing together appear however, for the most part, to be complementary and asymmetrical, with the older sibling often acting as teacher, manager and helper and the younger sibling, in its turn, assuming the role of learner, managee and helpee (Dunn & Kendrick, 1982; Stoneman, Brody & MacKinnon, 1984). The sibling relationship therefore contain qualities similar to that of a parent-child relationship. The
types of play activities children engage in are, however, the same as in a peer-relationship. This demonstrates the uniqueness of a sibling relationship in the way that it contains aspects of both an adult-child relationship as well as a peer-relationship.

**Reciprocal and Complementary Interaction**

It is the reciprocal features of the sibling relationship that have consistently been linked to sociocognitive development (Dunn, 1983). Family structure variables such as sex, age and birth interval relating to the complementary features of the relationship have, on the other hand, for the most part yielded less interesting results in the more recent sibling research (Dunn, 1983, Brody, 1998). For instance, the conclusion drawn in Munn and Dunn’s study (1989) was that what makes a difference with regards to compatibility in a sibling relationship are the temperaments of the siblings and the match between those rather than the age or sex of the two children. In Volling, Herrera and Poris’ study (2004), none of the analyses of the different gender compositions proved to be significant. On the other hand however, earlier work by Dunn and Kendrick (1982) showed dramatic differences between same-sex and different-sex sibling pairs, not only pertaining to imitation but for all types of interaction. A study by Furman and Buhrmester (1985) reported that feelings of warmth and closeness were greater in same-sex dyads than in opposite-sex ones, which was particularly true for siblings close in age. According to Buhrmester (1983, in Furman & Buhrmester, 1985) there appears to be a similar taboo against intimacy and closeness in close-age siblings of the opposite sex resembling that of a peer-relationship. Moreover, a study by Pepler, Abramovitch and Corter (1981) found that imitation as well as common interests declined over time in mixed-sex dyads which the authors thought to be an indication of sex-typing.

**Imitation**

Imitation is an important aspect of sibling interaction (e.g. Dunn & Kendrick, 1982) as well as of children’s behavior in general (Piaget, 1962). Children are more likely to imitate adults and older children than children of their own age or children who are younger than themselves, and they are particularly likely to imitate a person they admire (Piaget, 1962). In Dunn & Kendrick’s study on sibling interaction (1982), imitation between siblings indicated a measure of affection between them. The prevalence of babies imitating their older siblings can be seen as due to children’s propensity to imitate individuals who are particularly powerful or nurturant (Bandura, Ross & Ross, 1963, in Dunn & Kendrick, 1982), which would explain why affectionate older siblings become particularly powerful models according to Dunn and Kendrick. In this study, more imitation was seen by same-sex siblings than in opposite-sex siblings. Dunn and Kendrick proposed a few possible interpretations for this finding. The older sibling, who is aware of the sex of the younger child, is more interested in playing with or imitating the younger sibling if they are of the same gender. This behavior is picked up by the younger child who reciprocates by imitating the older sibling. Another possibility is that it is the younger child who is aware of his or her gender, and becomes more interested in imitating the older sibling if the siblings are of the same sex. Thirdly, more imitation between same-sex siblings could be due to the fact that they enjoy the same kind of
activities and therefore engage in more interaction. On the other hand, a study by Abramovitch, Corter and Lando (1979) found no sex differences in imitation nor did the age interval between the siblings appear to have any effect upon imitation, and younger siblings who were a year and a half younger than their older siblings, as well as those who were three years younger imitated older siblings equally in this study. Furthermore, these authors noted that it appears as if the actual content of the imitation is not related to behavior which facilitates the learning of new skills. Perhaps this indicates that it is the social development in general which benefits from children sharing positive sibling relationships containing imitation, in the way that these children get a headstart in learning how to interact with other children, which probably has positive implications for their self-esteem.

Conflict

Do differences or lack of fit in siblings’ temperaments explain their high levels of conflict as proposed by Munn and Dunn (1989) in their similarity hypothesis? Siblings with more positive temperamental characteristics could on the other hand buffer the negative effects of a sibling with a difficult temperament (Brody, 1998). The findings indicate that siblings who both were highly active engaged in most conflicted behaviors as well as sibling pairs in which the older was highly active and the younger was not (Brody, 1998). However, older siblings who exhibited positive temperamental characteristics and who were paired with highly active younger siblings engaged in low levels of conflict. Apparently, older siblings can exert a positive influence on younger siblings while the younger sibling possess less influence on the conflict-level. Conflict in itself is not however indicative of the functionality of the relationship and the level of support must also be taken into consideration. The reason some siblings experience low levels of conflict may be due to the fact that their interaction-level is similarly low. Furman and Buhrmester (1985) showed in their study that there was no correlation between the factors warmth/closeness and incidence of conflict which supports their hypothesis that these dimensions of sibling interaction are not bipolar opposites of the same continuum. Moreover, learning how to deal with conflict is an essential part of a child’s developing ability to engage in play activities, and conflict need not necessarily be destructive but may instead promote children’s learning of social and communicative skills if they are handled correctly (Jorup & Preisler, 2001).

Play

Their close proximity and their sharing of most aspects of everyday life should provide siblings with ideal opportunities for engaging in play activities. Playing together and learning how to get along while playing constitute children’s most significant means to achieve social and communicative development (Jorup & Preisler, 2001). Pretend play has in particular long been considered an excellent opportunity for gaining insight into a child’s growing cognitive and social competence (Piaget, 1962) and the ability to engage in joint pretend play depends on social understanding and communicative skills (Youngblade & Dunn, 1995). Constituents of pretend play are role enactment and role playing. Role enactment has been defined as “involving mental representation by
exemplifying a category of action”. Role play has been defined as, in contrast to role enactment, “to be genuinely symbolic; the child’s behavior designates the behavior of another person or character” (Miller & Garvey, 1984, in Youngblade and Dunn, 1995 p. 225). Piaget, in his theory on play, distinguished between three types of play; practice games, symbolic games and games with rules (Piaget, 1962). Symbolic assimilation is the source of make-believe play (Piaget, 1962), and there is thus a symbolic or mental quality inherent in pretend play which the child develops when engaging in this type of play. This ability of pretend play to develop a child’s mental capacities further points to its beneficial effects.

Gender Segregated Play and its causes

A sweeping characteristic of children’s play that researchers have noted is the tendency for children to engage in gender segregated play (e.g. Alexander & Hines, 1994; Maccoby, 1998; Martin & Fabes, 2001). Girls play with girls and boys play with boys to a large extent. This pattern of interaction starts as early as 2 or 3 years (Kuhn, Churnin Nash & Brucken, 1978), with girls exhibiting gender segregation tendencies a little earlier than boys (LaPrevire, 1984), and increases up until the middle elementary school years (Boyatzis, Mallis & Leon, 1999). A feature of girls’ interaction is their emphasis on social sensitivity whereas boys like to engage in more rough-and-tumble play (Fabes, 1994). Girls are also more likely to play cooperatively with one another indoors while boys are more likely to compete with one another outdoors (Stoneman, Brody & MacKinnon, 1984). There may be rather important consequences of children’s gender segregated play patterns. Children learn social norms and expectations within their peer-groups and gender segregated peer-groups may in its turn influence children’s school achievement since girls learn to emphasize cooperation and boys learn to emphasize competition (Martin, Fabes, Evans & Wyman, 1999). According to Liss (1983, in Martin et al., 1999) the consequences of gender segregated play are that boys and girls are socialized into different worlds since they learn many kinds of cognitive and interactive skills within their respective peer-group. Boys’ play activities usually take place further away from adults than girls’ play activities which allows boys’ activities to be more initiated by the peer-group and provides them with opportunities to generate their own rules and standards for appropriate behavior (Fabes, Martin & Hanish, 2003). Girls’ play activities are, in contrast, characterized by more structured, adult-oriented interaction (Fabes, Martin & Hanish, 2003). Furthermore, girls have been found to be more likely to engage in same-sex dyadic play whereas boys prefer to play in larger groups. Dyadic play has been found to elicit behaviors that are more sensitive to partner’s needs while play in larger groups is more conflictual and competitive (Fabes, Martin & Hanish, 2003). The research on children’s gender segregated play patterns has been conducted by video observations.

It therefore appears likely that girls’ and boys’ different experiences within their respective peer-groups give rise to their developing different behavioral norms and styles of interaction (Martin & Fabes, 2001). Martin and Fabes (2001) found that sex segregation does constitute a major socialization force. These authors observed 61 preschool children, 28 boys and 33 girls, whose behavior they coded every weekday for
six months during two consecutive academic semesters. Several aspects of the children’s behavior were sex differentiated. Boys were active, forceful and engaged in rough-and-tumble play. Girls interacted with one another in a calmer and more cooperative way. Same-sex exposure effects were observed, that is boys who engaged in more gender-typed play in the fall compared to other boys showed higher levels of active, forceful and more aggressive play in the spring. Similarly, girls who interacted in a calmer and more cooperative way in the fall, showed increased gender-typed play in the spring. Furthermore, girls’ tendency to play near adults was magnified when they were engaged in higher levels of same-sex play. These children’s patterns of behavior were thus reinforced over time in this study.

The Martin and Fabes’ study also found more evidence for temporal stability within children’s preferences for play-partners than has previously been demonstrated. The fact that the children in this study maintained their relative levels of gender segregated play during the length of the investigation, supports the view of children’s sex segregated play as consisting of individual and stable characteristics. For example, behavioral compatibility among children may play a role in how patterns of gender segregation develop, in the way that boys who are very active prefer to play with other equally active children who, presumably, would be more likely to be boys and the same pattern could be true for very gentle girls (Fabes, 1994). Furthermore, children who have a strong motivational need to resemble their playmates may be especially likely to be influenced by same-sex peers. Martin and Fabes however point out the fact that situational factors as underlying causes of gender segregation should not be overlooked. For instance, in particular types of situations, such as for example school settings, children are more likely to choose to play with same-sex peers rather than opposite-sex peers (Maccoby, 1998).

The reason children adhere to gender segregation when they play has thus been explained by many researchers as being due to behavioral compatibility; that is different playstyles and interests (Eisenberg, Tryon & Cameron, 1984). However, since many activities children engage in are of the non-gendered kind such as, for example, playing in sandboxes or working with puzzles (Maccoby & Jacklin, 1987, in Martin et al., 1999) during which children maintain their same-sex preferences, behavioral compatibility does not suffice as an explanation for children’s preferences for same-sex playmates (e.g. Maccoby, 1990). Socially based cognitions or beliefs about what girls and boys are really like have been proposed to partly account for gender segregation (Alexander & Hines, 1994). These cognitions have been thought to account for how gender segregation is maintained (Martin, 1991, in Alexander & Hines, 1994). When children come to understand that they belong to one sex and not the other, which happens at around 2 or 3 (Fagot, 1985), they begin to perceive their own sex as the ingroup and the other sex as the outgroup (Martin, Fabes, Evans & Wyman, 1999) with ingroup favoritism and outgroup discrimination as the sometimes ensuing result of these perceptions (Martin et al., 1999; Kuhn, Churnin Nash & Brucken, 1978). Children may even come to form abstract beliefs about all girls sharing the same interests and all boys equally sharing the same interests (Martin et al., 1999). Martin et al. did find that children formed beliefs about girls’ preferring to play with girls’ and boys’ preferring to play with boys. These beliefs
became stronger as children grew older. The children in this study also appeared to form ideas about other children’s approval when they played with the same sex and these beliefs also appeared to become stronger as children grew older.

Finally, these researchers found that children’s preferences for same-sex playmates increased as they grew older which is a finding that has also been observed in other studies (e.g. Maccoby & Jacklin, 1987, in Martin, Fabes, Evans & Wyman, 1999). At the same time as children’s own same-sex playmate preferences increase as they grow older, they also become more and more aware of the fact that other children share the same preferences for same-sex playmates. These results, suggest, according to Martin et al., a potential causal role of children’s beliefs in age differences in sex segregation.

Findings by Alexander & Hines (1994) in their study indicated however a stronger role for playstyles in children’s gender segregation than for cognitive beliefs. In their study, children had to choose targets’ playstyles versus targets’ gender labels as a competing dimension. All groups (boys 4-5 and 6-8 years as well as girls 6-8 years) of children in this study chose gender-specific playstyles over same-sex playmate except for girls 4-5 years old who chose targets on the basis of gender labels over playstyles. These results do not support cognitive-social theory since children’s cognitive beliefs did not result in children becoming increasingly gender segregated with age, particularly not girls who demonstrated the reverse pattern.

Situational factors as underlying causes of children’s gender segregation have been proposed by Maccoby (1990). According to this author all situations involving a social interaction are not only situation-specific but also gender-specific, that is what occurs in a social situation is a function of the interaction between the individuals involved in it and their respective gender. For instance, in a study of children with a mean age of 33 months conducted by Jacklin and Maccoby (1978), girls were found to display passive behavior while engaging in play activities with boys, whereas these girls’ behavior was no more passive than that of boys while they were playing with other girls. The outcome of the behavior of the participants was thus dependent on whom they were interacting. This type of result could have the effect of making children feel more compatible with their own sex, which would induce these children, as they become older and enter into group settings with both sexes, to engage in gender segregation. Maccoby further proposes two possible explanations for gender segregation; the fact that girls find boys’ rough-and-tumble play aversive as well as their dominant and competitive interaction styles. Secondly, girls start to find it increasingly difficult to influence boys while interacting with them. Between the ages of 3,5 and 5,5 years, children increase their attempts to influence their play partners (Serbin, Sprafkin, Elman and Doyle, 1984 in Maccoby, 1990), which is an important aspect of play behavior. Boys’ influence attempts were signified by power-assertive demands and it appears that in order to successfully influence other boys and to get them to respond, it takes considerable force and action (Fabes, 1994). Girls’ interaction on the other hand have been found to increasingly involve positive reciprocity and cooperation (Leaper, 1991). Therefore, it appears as if the means children adopt when attempting to influence other children become increasingly gender-typed. This, in itself, may lead to children being positively reinforced
when engaging in same-sex play and makes it less rewarding for them to play with the opposite sex. However, the explanations put forth by Maccoby as to why children engage in gender segregation do not take into account the reasons boys display this type of behavior, which they appear to do to an even larger extent than girls (Maccoby, 1990).

Fabes (1994) has conducted research in order to corroborate and expand upon Maccoby's explanations of gender segregation. This author proposes a model containing the idea that thresholds for arousal are different for boys and girls, and that it is more difficult for boys to regulate their arousal once they have been aroused. Furthermore, boys and girls may find different contexts and situations physiologically arousing. Gender segregation could thus depend upon the fact that gender differences may in part be due to physiological arousal and regulation. Fabes' model is based on earlier work by him and Eisenberg (1992, in Fabes, 1994) in which they proposed that children who have difficulties maintaining their emotional arousal within tolerable levels and therefore easily become overaroused, exhibit behavior which is detrimental to positive interaction in arousing social situations. They identified two individual difference variables which influence how much individuals become emotionally aroused in social situations. These two variables are: an individual's dispositional level of emotional responsivity, in particular the intensity and threshold with which he or she responds, as well as the individual's ability to regulate his or her emotional reactions and ability to cope with evocative social contexts. These two variables were found to predict social skills in boys and girls (Eisenberg & Fabes, 1992, in Fabes, 1994). Individuals who respond with a moderate level of emotional responsivity, as well as regulating their emotional reactions in an optimal way, are thought to display the most socially competent behavior. Moreover, according to these authors, emotional intensity reflects both the intensity and threshold of emotional arousability. A study by Eisenberg, Fabes, Nyman, Bernzweig and Pinuelas (1994) found that teachers' ratings of children's emotional intensity were significantly higher for boys than for girls, whereas mothers rated boys' and girls' emotional intensity equally. This suggests that the level of emotional intensity may vary depending on the context and that boys on the whole may exhibit higher levels of increased arousal and intensity in social interaction.

Emotion regulation was the second individual difference variable posed as an explanation for how individuals respond to social stimuli. Findings of earlier studies (e.g. Fabes & Eisenberg, 1992, Fabes, 1994) indicate that girls and boys regulate their emotions in different ways. Moreover, females' coping responses reflect more sensitivity towards the social environment, while males' coping responses were found to be more signified by forceful and even uncontrolled behavior. Fabes' proposed however that the contexts in which the coping responses occurred may have different salience for boys and girls. The contexts in which the coping responses of the above-mentioned findings occurred could have been more likely to trigger problematic behavior in boys than in girls (Fabes, 1994). Fabes therefore hypothesized that different situational contexts play different roles for boys and girls' arousal states and thus evoke different coping responses. This may in consequence play a role in the occurrence of gender segregated play. Building on this hypothesis, Fabes reasons that the fact that boys and girls are differentially responsive to different evocative contexts may help explain why girls have difficulty influencing boys.
For example, girls have been found to be more physiologically responsive to sympathy-inducing stimuli whereas boys have been found to be more physiologically responsive to distress-inducing stimuli (Fabes, 1994). Specifically, the reason for boys’ unresponsivity towards girls’ influence attempts may be that boys’ and girls’ emotional and behavioral thresholds differ, in the way that, in order to influence boys, it takes a considerable larger amount of power-assertive techniques or a more arousing style of interaction than girls normally display. The same explanation may be applied to the fact that boys engage in more rough-and-tumble play than girls do, that is girls’ and boys’ different emotional arousability and regulation, but this possible explanatory factor of rough-and-tumble play had not been examined to date in Fabes’ study.

Many of the findings of Fabes’ study supported Maccoby’s explanation for gender segregation. For instance, both arousable boys and girls were rated higher in negative behaviors, but arousable boys were also rated lower in positive social behaviors. The boys who were rated as more arousable by teachers evidenced greater same-sex preferences. With regards to negative social behaviors it was found that boys who obtained a high score on this dimension, were found to be relatively likely to be observed to play with other boys instead of with girls. Girls were also found to tend not to like arousable children as much as those who were less arousable. Furthermore, girls tended to play more often with children displaying positive social characteristics which agrees with the finding that girls are responsive to sympathy-inducing contexts. Thus, according to the author, this data suggest that the differences in the contexts that elicit arousal-related responses may contribute to gender segregation. This does not, however, explain why gender segregation appears to increase with age (Maccoby & Jacklin, 1987; in Fabes, 1994). A number of other important questions also remain to be answered.

Leaper (1991) conducted a study in which he investigated how gender differences develop in children’s peer communication. Investigating language behavior is a purposeful way of studying how girls and boys differ in peer interaction since language both creates and reflects gender segregated behavior (Leaper, 1991; Graddol & Swann, 1989) according to this author. Girls’ interpersonal communication has been found to differ from boys’ in the way that they maintain interpersonal harmony, while at the same time pursuing their own interests and trying to influence others, which is also significant for boys’ communication (e.g. Serbin, Sprafkin, Elman & Doyle, 1984; in Leaper, 1991). Boys’ communicative strategies are furthermore more direct and demanding while girls’ strategies are more cooperative (Serbin et al., 1984; in Leaper, 1991). Children’s different communicative strategies appear as early as age three (Jacklin & Maccoby, 1978), which coincides with the appearance of gender segregation (Kuhn, Churnin Nash & Brucken, 1978).

Leaper specifically investigated whether the degrees of children’s communication or speech acts reflected influence and involvement. “Influence refers to the extent that a message is either direct (i.e. assertive) or nondirect”. “Involvement refers to the extent that a message is either affiliative (i.e. responsive) or distancing” (Leaper, 1991, p. 798). Leaper analyzed two types of speech act exchanges such as cooperation and dominance. Mutual cooperation is signified by two collaborative speech acts which follow one
another. This type of pattern has been reported to occur more in girls’ communication than in boys’. One speaker’s dominance over another is signified by two controlling speech acts which follow one another. This type of pattern has been found to occur more in boys’ communication than in girls. Some of the hypotheses that Leaper posed were that since girls’ communicative strategies have been found to be more cooperative, girls were expected to use more affiliative speech acts than boys. Conversely, since boys’ communicative strategies have been found to be more direct and demanding, boys were expected to use more controlling speech acts than girls. Since the author furthermore wanted to study the development of gender differences in peer communication, two age groups were investigated in this study; the younger age group had a median age of 5 years and the older age group had a median age of 7 years. Since children’s cognitive understanding increases as they grow older, the older age groups in this study were hypothesized to display a larger amount of gender differences in discourse strategies. The findings of this study with regards to the collaborative speech acts were that 56% of the interaction in the female dyads consisted of collaborative exchanges, while 39% of the interaction in the male dyads consisted of these types of speech acts. The older female group used more collaborative speech acts than any other group. Controlling speech acts on the other hand occurred more often in the male dyads of the older group while domineering exchanges occurred more often in the male dyads of both groups. Gender differences in discourse exchanges were thus found to be more prevalent in the older age groups as predicted. Collaborative speech acts were also more prevalent in the female dyads and, conversely, boys used more controlling speech acts which also was predicted.

Aim of the study

The aim of this current study was to investigate interaction in eight sibling pairs aged from 1 to 5 years old. It is a descriptive and exploratory study and no hypotheses were thus formulated. The type of interaction and their quality, positive or negative, with regards to the siblings’ ages and gender compositions were of interest. Questions that were of specific interest for this study were; “do the siblings enjoy playing together?”, “do the siblings cooperate with one another?”, “how do the siblings’ temperaments affect their interaction?” as well as which factors appear to be beneficial versus detrimental to sibling interaction. The main underlying question guiding this study was in particular which roles do siblings play in children’s lives and in children’s development. It was considered appropriate to conduct this study on preschool children since it is probable that siblings’ effect on children’s development is established at an early age. The siblings were observed while playing with a toy brought along by the author. In order to validate the information obtained from the observations and to get a more complete picture of the sibling interaction, the parent(s) were asked to respond to a number of questions from a Questionnaire put together by the author for the purpose of the study. The variables of reciprocal and complementary interaction, asymmetrical roles, imitation, conflict, joint and parallel play as well as communication were considered important for the purpose of the investigation and were therefore kept in mind at the beginning of the study. Since an interesting pattern manifested itself with regards to the siblings’ activity level during the observations, when compared with the information regarding siblings’ type of play activity in an everyday context obtained from the interviews, the variables of activity
level and type of play activity in an everyday context (gender-specific versus gender-neutral) were included in the study.

**Method**

**Participants**

The subjects consisted of 8 sibling pairs aged from 1 to 5 years old, see figure 1. However, one participant had turned 6 one week before the observation took place. There were three boy-boy sibling pairs, three girl-girl sibling pairs and two opposite-sex sibling pairs. Two of the siblings in one pair were adopted (pair 8). The participants were mainly recruited through the author’s acquaintances except for two sibling pairs who were recruited through a notice posted at the Department of Psychology at Stockholm University. The participants thus mostly constituted a non-random sample. Two of the sibling pairs were somewhat familiar with the author before the study took place which may possibly have affected the sibling interaction in these cases, by way of making these siblings feeling less inhibited or shy in the presence of the author compared to the other sibling pairs. It may also have affected the sibling interaction in the amount of attention and communication the older sibling directed towards the author instead of towards her sister, (pair 6).

![Figure 1. Age & Gender composition of pairs](image-url)
Material

A video camera was used for the observations of the participants while they were playing with a toy brought along by the author. The toy was a wooden-block assembly train in different shapes and colors. The train itself consisted of three parts that could be put together into one long train and could therefore be used as one toy or three different toys. This toy was considered appropriate for the study in question since it could be used for a calmer type of play activity such as putting blocks on the train or for a more active type of play activity such as pulling the train on the floor while walking or even running. Putting blocks on the train and pulling the train on the floor were also considered activities interesting to investigate in this study since these activities can give rise to both separate as well as joint interaction. In order to validate the information obtained from the video tapes and to get a more accurate picture of the sibling interaction, the parent(s) were asked a number of questions from a Questionnaire (Appendix 1) put together by the author for the purpose of the study. Since the scope of this study was partly exploratory the questions had the intention of covering an area as large as possible concerning the sibling interaction, instead of focusing upon a particular aspect of this interaction while at the same time keeping the variables of interest in focus. The questions were for example ranging from; ”do the siblings play a lot together?” to ”what types of play activities do the siblings engage in?” and ”in which situations does the sibling interaction function at its best or at its worst respectively”?

Procedure

The procedure consisted of filming the participants for approximately 10-15 minutes while they were playing with the train. All the observations took place in the homes of the participants. During filming the author tried as much as possible to maintain a relatively low level of contact with the participants in order not to influence the interaction. When the filming was completed, the parent(s) of the participants were asked to respond to the questions from the Questionnaire.

Analysis

The analysis of the information obtained from the video tapes consisted of transcribing the filmed sequences into flow descriptions of the occurring events in one-minute intervals. One-minute intervals were chosen as an appropriate cut-off point in order to gain insight into a unit large enough to give a coherent picture of the events. The variables whose occurrences were noted were thus reciprocal and complementary interaction, asymmetrical roles, imitation, conflict, joint and parallel play, communication as well as activity level. The information obtained from the interviews was compared with the information obtained from the analysis of the observations of each sibling pair. In particular, the information from the interviews concerning gender-specific versus gender-neutral type of play activity in everyday life was compared with siblings’ activity levels during the observations.
Definitions of variables

- Reciprocal interaction. The siblings’ play activities are characterized by mutual cooperation and interaction. The activity of each sibling is advanced and influenced by the other siblings’ activity.

- Complementary interaction. The siblings engage in the same play activity but one sibling appears to be more influential than the other and there appears to be no mutual cooperation between the siblings, (i.e. they are not really functioning on the same level).

- Asymmetrical roles. The roles between the siblings are characterized by asymmetry, that is one sibling is the leader and his or her activity is influencing the other sibling’s activity who is the follower, (imitation may be seen as an indication of asymmetrical roles).

- Imitation. One sibling is the instigator of the play activities and the other sibling is not, on the whole, introducing any new form of play activity. Imitation can also be seen as occurring when one sibling is picking up a smaller aspect of the other sibling’s activity and reenacting that particular aspect.

- Conflict. The play activity is interrupted due to either disagreement between the siblings or due to one sibling disturbing the other.

- Joint play. The siblings are engaging in mutual play activities, that is constructing the train together or both of them pulling parts of the train at the same time or pulling the train together. There should appear to be a mutual goal in mind if the play activities are not simultaneous.

- Parallel play. The siblings play side by side engaging in the same type of play activity and may communicate with one another, but they are not really taking into account or being influenced by what the other sibling is doing.

- No play. The siblings are engaging in different play activities but may, from time to time, communicate with one another.

- Communication. Whether or not the siblings are exchanging verbal communication with one another. One sibling may communicate with the other sibling at a fairly high rate while the other sibling only responds from time to time.

- Activity level. The level of noise and physical activity the siblings display. If the siblings are communicating and negotiating with one another at a high rate they are also considered displaying a high level of activity.
- Type of play activity. What type of play activity the siblings ordinarily engage in in an everyday context according to the interview. Whether the play activity can be considered gender-specific or gender-neutral was specifically of interest.

**Results**

Comparison of the observations with the parental interviews

Since the sibling interaction during the observations may very possibly be particular to the somewhat unusual context of filming and therefore situation-specific, the information obtained from the parental interviews was designated to validate and expand upon the information gained during filming. Whether the observation was validated or not by the interview is shown in figure 2.

![Figure 2. Validation and non-validation of observation by interview.](image)

**Pair 1.**

*Observation:* these two boys’ interaction was reciprocal and they engaged in joint play. The boys communicated with one another the whole time during the observation; the
older boy was mostly initiating the communication and the younger boy responded. A fairly large conflict occurred when the younger brother did not go along with his older brother’s suggestion of assembling the parts of the train.

*Interview:* the brothers play a lot together and really enjoy each other’s company. Conflict may occur from time to time but to a lesser degree since the brothers have become older as they appeared mainly to be due to language difficulties of the younger brother.

*Comparison:* The information obtained from both sources was therefore validated with regards to the boys’ reciprocal interaction and enjoyment while playing together.

**Pair 2.**

*Observation:* these boys’ interaction was signified by complementary features and parallel play. Both boys seemed to enjoy playing with the train and engaged in the same type of play activity, i.e. sitting on the floor constructing the train with wooden blocks from separate piles. For the first part of the observation, the majority of the communication was directed at the author. The older brother directed some play activities towards his younger brother, e.g. pretending to be a pirate and attacking his brother’s trains with a block. This initiative was not picked up by his younger brother. *Interview:* the boys enjoy and engage in the same type of play activities and are often seen playing side by side. The older brother talks a lot and the younger brother is interested but the younger brother’s communicative abilities are not as developed as his older brother’s.

*Comparison:* the interview validated the information obtained during the observation with regards to the boys’ engaging in parallel play and enjoying the same type of play activity. The fact that the boys’ communicative skills are not on the same level was not observed during filming however and the brothers did exchange some verbal communication.

**Pair 3.**

*Observation:* both boys were very active and both of them were pulling the train behind them while walking as well as constructing the train with blocks. Not a lot of interaction nor communication were seen between the brothers. The younger brother is for the first part of the observation mostly watching his older brother playing or trying to participate in his older brother’s play activity. His older brother wanted to play by himself. During the later part of the observation the younger boy engaged in his own play activity, that is running around while pulling the train behind him. Both boys appeared to enjoy the same type of play activity and displayed a high level of noise.

*Interview:* these boys like to play together and engage in both joint and parallel play. The younger brother wants to do everything his older brother does. The older brother sometimes wants to play by himself.

*Comparison:* some of the information obtained from the interview was validated during the observation, e.g. that the younger brother wants to do everything his older brother does and that the older brother sometimes wants to play by himself. However, the fact that these brother usually like to play with one another was not apparent during this observation although it was apparent that they were interested in playing with the same type of toys.
Pair 4.
Observation: these girls did not play together and did not engage in the same play activity. Some communication occurred between them but they were mostly on the part of the older sister. One large conflict occurred when the younger sister did not receive the attention she wanted from her older sister.
Interview: the sisters play more and more together. They really enjoy each other’s company. Their roles are clearly defined; big sister-little sister.
Comparison: the sisters’ interaction during the observation are not indicative of their everyday interaction. The sisters have some type of activities they enjoy together but playing with the train was not one of them. The girl of 1:8 years appeared to be not at all interested in this type of play activity.

Pair 5.
Observation: both girls were engaged in the same play activity, at first constructing the train and later pulling the train on the floor. The sisters appeared to engage in the activity together, there was some silent communication between them, e.g. the younger sister picked up a block and showed it to her sister before she put it on the train. At one point both sister were, for a short while, pulling the train behind them which was an activity initiated by the older sister and taken over by the younger sister. There was a smaller disagreement occurring between the girls, when the younger sister tried to pull one train out of the room her older sister caught up with her and started to pull the train back into the room. When the younger girl tried to get hold of the string, the older sister flipped the train upside down and all the blocks fell on the floor.
Interview: the sisters play a lot together and engage in joint play. Play activities are almost always initiated by the older sister. The younger girl imitates her older sister a lot and their roles are that of big sister-little sister.
Comparison: both during observation and according to the interview, the sisters engage in and give some very good examples of joint play. According to the interview their roles are asymmetrical which was apparent during the occurrence of the conflict/disagreement, but apart from this incidence during the observation the sister appeared to function on the same level and their interaction appeared to be reciprocal rather than complementary.

Pair 6.
Observation: the older sister was very active and engaged in all sorts of play activities. The younger sister watched her older sister’s activities a lot. At one point the younger girl joined in when her older sister was building a tower with the blocks which the older sister accepted as a very natural thing.
Interview: the sisters play and enjoy playing together. They like to engage in motion play activities, e.g. chasing one another which is an example of joint play. When they engage in more calmer activities however they play side by side. Their roles are clearly defined; big sister-little sister.
Comparison: what occurred during the observation does not appear to be indicative of the girls’ everyday interaction. The younger sister took a more passive role that she ordinarily does with her big sister. The very natural way the older sister accepted that her younger sister joined in when she was constructing a tower with the blocks indicates however that these sisters usually like to engage in play activities together. Their
asymmetrical roles as indicated in the interview were also apparent during the observation.

Pair 7.
Observation: sister and brother were playing side by side on the floor. The younger brother was not that interested in playing with the train and got up and left the room from time to time. His sister was calling him back. Apart from that there were no real interaction taking place. At one point there was a large conflict when the older sister wanted to play with her younger brother’s train and tried to convince him that his train was really hers and held it out of his reach. From that point on their interaction was signified by conflict and both children appeared to be very tired.

Interview: according to the interview these children usually play together in side by side activities. When the children are tired or hungry their interaction function at its worst. Their roles are asymmetrical; big sister-little brother.

Comparison: the children were observed during the time of day when they are the most tired and when their interaction is the most dysfunctional according to the interview. This was very apparent during the observation. Their asymmetrical roles mentioned in the interview were noticeable during the observation in the way that the older sister appeared to be in control of their interaction.

Pair 8.
Observation: the sister in this pair was very physically active and running in and out of the room on more than one occasion. Her brother was watching her and sometimes followed her out of the room. When the older sister constructed the train with the blocks, her brother was first watching her and then started to play with the blocks himself. The siblings did not engage in any joint play but did from time to time give examples of parallel play, that is the younger brother imitated his older sister’s activities. Their roles appeared to be signified by asymmetry.

Interview: the siblings like to engage in activities close to one another and are very aware of each other’s whereabouts. They do not engage in many joint activities but mostly play side by side. The younger brother is very influenced by his older sister and imitates her a lot. The older sister does not fully assume the role of big sister. However, their interaction function at its best when the older sister is in charge. The siblings cannot play for very long alone together without a conflict occurring.

Comparison: the information obtained from the interview was validated by the observation in the way that the younger brother was watching and imitating his older sister on various occasions. No joint play was apparent during the observation which is also in accordance with their everyday activities. However, the siblings’ roles appeared asymmetrical whereas according to the interview the older sister does not fully assume the role of big sister.

Reciprocal interaction

Two of the sibling pairs gave examples of reciprocal interaction as defined in this study. They were the boy-boy pair of 5:11 and 3:8 years (pair 1) as well as the girl-girl pair of 4 and 2 years (pair 5). These two sibling pairs did not only engage in the same type of play
activity at the same time but they also appeared to be influenced by the activity of their sibling. Building and constructing the train as well as pulling the train were activities that were enjoyed together. The boy-boy pair was communicating with one another while playing during the length of the observation. The older brother was trying to convince his younger brother that they should be putting their trains together which his younger brother was opposed to. To these brothers constructing the train appeared to be more of a social activity than an activity carried out individually. The girl-girl pair demonstrating reciprocal interaction on the other hand did not communicate much during the observation. They were however sitting close facing one another and they were both of them concentrated on putting blocks on the train, methodically, in the same manner. They appeared to be working towards the same goal. The younger sister showed a block to her older sister and said “there” before she put it on her train. At a later point the older sister was walking and pulling a train behind her when her younger sister came up to her and started to walk beside her. They walked beside one another for a little while, until the older girl left the younger girl to carry out the activity on her own.

**Complementary interaction**

All of the sibling pairs except for one gave examples of complementary interaction. The sibling pairs whose interaction was signified by reciprocity gave however only small examples of complementary interaction. A girl-girl sibling pair of 6 and 1:8 years (pair 4) with a large age interval manifested no complementary interaction in the way that they did not engage in the same play activity at almost any point during the observation. A boy-boy sibling pair of 4 and 1:5 years (pair 3) gave examples of interaction that were particularly complementary. They clearly enjoyed the same type of play activity but did not play together and did not appear to function on the same level. The younger brother was watching his older brother and tried to join in his activity but his brother wanted to play by himself. His attempts to join his brother’s activity were signified by him trying to interrupt his brother’s activity, instead of starting a similar activity close-by which could have been incorporated into the other boy’s playing. After a while the younger boy started to play by himself in the same kind of activity his brother engaged in but it appeared to be with less of an intention to join his brother’s activity.

**Asymmetrical roles**

In all the sibling pairs except for two there were clear indications of one sibling being the leader and the other the follower. In particular, there were two sibling pairs who appeared to be the most asymmetrical and these were pairs 4 and 7. The two sibling pairs who gave less of an impression to assume asymmetrical roles were also the ones who engaged in most reciprocal interaction, i.e. pairs 1 and 5. The girl-girl sibling pair of 6 and 1:8 years (pair 4) who engaged in almost no complementary interaction was also the sibling pair who, among two pairs, appeared the most asymmetrical. The younger sister gave the impression of expecting her older sister to assume some care-taking responsibilities for her. At one point the younger sister handed over a diaper to her older sister and laid down next to her probably as part of some joint pretend play. When her older sister made it
clear that she was not interested in engaging in that kind of activity the younger sister became very angry.

**Imitation**

![Figure 3. Sibling pairs showing imitation](image)

In pair 5, imitation occurred to a smaller extent in the way that the younger sibling was picking up smaller aspects of her sister’s behavior and reenacted those aspects, e.g. putting blocks on the train in a methodical way and then trying the train out by pulling it slowly back and forth in front of her while sitting on the floor. In pair 3, 6 and 8 the imitation aspect of the relationship was very noticeable in the way that the younger sibling was at first passively watching the older sibling’s more vigorous activity, before either trying to join in the sibling activity immediately, or right away starting to carry out a similar type of play activity on his or her own. In pair 8 for example, the older sister leaves the room on several occasions, sometimes while pulling a train behind her and sometimes while carrying out another play activity, e.g. running out of the room empty-handed and returning with another toy. On each of these occasions her younger brother follows her after a while, and when his sister is pulling a train behind her or running out of the room empty-handed he does the same thing.
Conflict

Figure 4. Pairs in which conflicts occurred.

In pairs 1 and 5, the disagreements were of the less serious kind. For example, in pair 1 a conflict occurred when the older brother repeatedly tried to convince his younger brother to assemble their trains. When his attempts were turned down by his younger brother, he declared that his brother was no longer his friend. This conflict was resolved through wrestling after which the boys happily put their trains together. Pair 7’s interaction was mostly characterized by conflict. For example, the older sister of this pair insisted that the train her brother was playing with was in fact hers and took it away from him. When the younger brother screamingly tried to retrieve it, she repeatedly held it out of his reach. Pair 4 manifested one large conflict. In this pair, the younger sister was seeking her older sister’s attention and when she did not receive it, she became angry and kicked at her sister’s train and finally threw a wooden block at her sister’s head.

Joint play

Joint play as defined in this study occurred in two pairs; namely pair 1, a boy-boy pair of 5:11 and 3:8 years as well as pair 5, a girl-girl pair of 4 and 2 years. These pairs were the same sibling pairs whose interactions were most reciprocal. In pair 1, the boys were simultaneously engaging in at first constructing the train and later on pulling the train
while constantly communicating with one another. Their play activities appeared to be more of a social kind than activities carried out individually. In pair 5, the girls were sitting close to one another, face to face, engaging in constructing the train with the blocks in a very similar, methodical fashion and also “trying out” the train in front of them by pulling it back and forth. These two girls were also at one point walking alongside one another while one of them was pulling the train behind her, an activity initiated by one of them but which ended up being taken over by the other.

**Parallel play**

![Figure 5. Pairs engaging in parallel play.](image)

Thus, the siblings in more than half of the pairs engaged in parallel play, see figure 5. In pair 2, the two brothers were sitting beside one another facing the camera and putting blocks on their respective piles of blocks. Most of their communication was at first directed towards the camera. The older brother was, however, on one occasion passing a block to his brother saying “this will help you” and on another occasion, himself putting a block onto his brother’s train. This appeared to pass unnoticed or to be accepted as a natural occurrence by his younger brother. Later during the observation, the brothers were discussing their respective trains with one another; younger brother: “is it a cake or is it a house”?, older brother: “it’s a house”, younger brother: “so, where are you supposed to enter”? From their conversation however it is apparent that constructing the train is a task that is carried out individually. A little later the older brother was knocking with a block on his younger brother’s train pretending to be a pirate and saying: “load the
cannons on both trains”. This type of approach could have resulted in some joint pretend play between the brothers but his younger brother did not respond in kind to his older brother’s initiative.

No play

Only one of the sibling pairs, pair 4, a girl-girl pair of 6 and 1:8 years, did not engage in the same type of play activity during almost the entire observation. The older sister was sitting on the floor putting blocks on two trains in a very concentrated manner. Her younger sister was sometimes walking around pulling a train behind her and sometimes engaging in other play activities, e.g. putting a blanket over her head or playing with a purse. From time to time she sat down and played a little with the blocks. At one point, she put a block on her sister’s train which her sister retrieved saying: “thank you (sister’s name) I don’t need this one”. Her younger sister then repeated “thank you” several times.

Communication

![Figure 6. Pairs in which communication occurred.](image)

In particular, pair 1 and pair 2 were very communicative within their respective pair. Pair 1 was communicating during the length of the observation. They were discussing how to put blocks on the train and other related subjects. The older brother was, at one point, jokingly telling a story to his younger brother. The children in pair 2 were also communicating with one another during the later part of the observation when they were discussing what the piles of blocks represented, e.g. a cake, a strange house, a house train and a pirate ship. In pair 4, the older sister was, at least for part of the observation,
keeping up a stream of conversation towards her younger sister. Her sister’s communication mostly however consisted of repeating some of the words her sister said, e.g. “thank you”, “oops”. The impression however was that of a general verbal exchange between the siblings with each participant contributing in accordance with her developmental level.

Activity level

![Figure 7. Pairs displaying a high activity level during observation.](image1)

![Figure 8. Pairs displaying a low activity level during observation.](image2)
Type of play activity

Figure 9. Pairs engaging in gender-specific play activities in an everyday context according to the interview.

The two boy-boy sibling pairs, that is pair 1 and 3, ordinarily engage in typical boy play activities such as, for example, Spiderman, wrestling or playing with transportation toys like, for instance, boats. The girl-girl sibling pair, that is, pair 5, ordinarily engage in typical girl play activities such as, for example, feeding the teddybears, playing house or playing with dolls.
Figure 10. Pairs engaging in gender-neutral play activities in an everyday context according to the interview.

The gender-neutral play activities these pairs ordinarily engage in are, for example, chasing one another, playing hide and seek, playing with lego and drawing.

Discussion

The interaction of two of the sibling pairs was signified by reciprocal interaction and joint play. All sibling interaction was complementary and they all engaged in parallel play to different degrees except for one pair. The sibling pair who did not engage in any reciprocal and very little complementary interaction had a large age interval, 4:4 years, and was also the most asymmetrical. The variables of joint and parallel play were therefore observed to correspond, to a large extent, the variables of reciprocal and complementary interaction. In these eight sibling pairs, it is thus proposed that joint play is indicative of reciprocal interaction and that parallel play is indicative of complementary interaction. Dunn (1983) argued that there is a close relation between siblings’ reciprocal interaction and their sociocognitive development. This supports the idea that reciprocal interaction is mainly signified by joint play. When engaging in joint play children interact more with one another compared to parallel play since they are compelled to negotiate the rules and framework of the play activities in themselves. Because of this aspect of joint play and possibly reciprocal interaction, the development of children’s sociocognitive skills should be particularly promoted. Pretend play and role-playing have been particularly associated with the development of sociocognitive abilities in children (Dunn, 1983, Brody, 1998). When children engage in symbolic pretend play, their interaction is signified by an advanced form of joint play which explains the
beneficial effects of this type of play. If complementary interaction is mostly signified by parallel play which is proposed regarding the sample of this study, this could explain why this type of interaction has yielded less interesting results in the sibling research (Dunn, 1983), since parallel play entails a less involved form of interaction. It is important to note, however, that no clear boundaries exist between these two types of interactions and that almost all sibling pairs gave examples, however small, of belonging to both groups. Interestingly, the two sibling pairs, one girl-girl pair and one boy-boy pair, who mostly engaged in reciprocal interaction were also the two sibling pairs out of three who usually engage in gender-specific play activities.

Imitation occurred in the sibling pairs in which the younger sibling was around 1,5 – 2 years and not much older, with two exceptions. In one of these exceptions, the age interval between the siblings was very large. This sibling pair furthermore exhibited a high level of conflict. In the other exception, the sibling interaction was also characterized by conflict. It appears therefore, in this sample, as if imitation is due to the age of the younger sibling and not the age interval, apart from these two exceptions. Imitation did not occur in the siblings where the younger sibling was older than three years. The reason younger siblings of 1,5 – 2 years exhibited more imitation than the younger siblings who were three years may possibly be due to the type of play activity in this situation. The play activity consisted of putting together pieces of a train and then pulling it on the floor, which could prove more difficult for children of this younger age pair. The younger sibling could thus take advantage of their older sibling’s more developed mental capacities in this play situation, which would result in more imitation.

This toy was also considered, by the manufacturers, appropriate for children from the age of 1,5 years old. Moreover, in the study by Abramovitch, Corter and Lando (1979) age interval between siblings appeared to have no effect upon the prevalence of imitation which is in agreement with the results of this study, with the exception of the sibling pair with a very large age interval. The fact that no imitation occurred in the sibling pairs whose interaction was characterized by conflict, seems to agree with Dunn and Kendrick’s (1982) proposition that children imitate siblings who are particularly affectionate and nurturant. High levels of conflict were also found to be detrimental to the aspect of imitation in these observations, it could therefore be that no imitation may occur in a situation where there is a lot of conflict. However, it is important to take into consideration that the conflict observed for these two, on this occasion, conflict-prone siblings, can only be discussed with regards to this very particular observational situation; these siblings may display different patterns of interaction and different conflict levels in other situations. Imitation was observed in one opposite-sex sibling pair and not the other which corresponds to other findings on imitation in same- and opposite-sex siblings in the research discussed in this study. That is the sex of the siblings has not been found to affect the occurrence of imitation. The exception to this was Dunn and Kendrick (1982) who found imitation to be more prevalent in same-sex than in opposite-sex siblings.

There is a slight pattern which emerges when the occurrences of conflict are analyzed. The two sibling pairs who mostly assumed asymmetrical roles also displayed the highest levels of conflict, that is pairs 4 and 7. The two siblings who were the most reciprocal displayed smaller levels of conflict or disagreement (pairs 1 and 5). Furthermore, in these
siblings and during these observations, siblings whose roles were signified by asymmetry engaged in more conflict which they needed help to resolve. Siblings whose roles were more equal, on the other hand, had much smaller conflicts which they resolved by themselves. In the pairs where conflict occurred, both of the older siblings displayed fairly low levels of activity level whereas the younger siblings were fairly active. This is not in accordance with Brody’s (1998) finding that siblings who are both highly active engage in the most conflicted behavior, and that older siblings with positive temperamental characteristics paired with highly active younger siblings engaged in low levels of conflict. On the other hand, it is in accordance with Munn and Dunn’s (1989) similarity hypothesis, that is, lack of fit in siblings’ temperaments explain their high levels of conflicts. However, since conflict were only found in two out of eight sibling pairs who were qualitatively observed in this study, no inferences can be made compared to the more thorough studies conducted by Munn and Dunn as well as Brody. It is also necessary to point out that, according to the interviews, the conflicts occurring during filming were not indicative of the sibling conflict in an everyday context.

The two boy-boy pairs who usually engage in gender-specific play activities according to the interviews, had a very high activity-level when they were playing with the train. The girl-girl pair who also usually engage in gender-specific play activities according to the interview, were very quiet when they were playing with the train. Thus, when combining the information retrieved from the interviews with the observations, it appears as if the three sibling pairs who ordinarily engage in gender-specific play activities, interestingly displayed typically gender-specific behavior with regards to activity level in these observations. Martin and Fabes (2001) found in their study effects of same-sex exposure. That is children’s gender-specific patterns of behaviors were reinforced in the way that boys and girls, who engaged in gender-specific types of play activities at one point, showed increased gender-typed play at a later point. Perhaps the same increase in gender-specific behaviors can be noted for same-sex siblings? That is siblings who engage in gender-typed play become reinforced and therefore show increases in this type of play over time. This could indicate, in these eight sibling pairs, that temperaments and behavioral compatibility play a role in activity level and also perhaps in gender-specific versus gender-neutral play activities. Female sibling pairs who have a calmer temperament could become more inclined to engage in typical female play activities since these activities are more conducive to a calmer temperament. Similarly, male sibling pairs could become more likely to engage in typical male play activities since these activities are more conducive to an active temperament. However, only three of six same-sex siblings displayed this type of pattern. Nevertheless, there was a clear distinction between those same-sex siblings who usually engage in gender-specific play activities vis-à-vis those same-sex siblings who are more inclined to engage in gender-neutral play activities. Fabes (1994) proposed in his study that behavioral compatibility may play a role in how patterns of gender segregation develop, in the way that very active children, presumably boys, would be more likely to seek out other equally active children. The same pattern could be true for very gentle girls. Behavioral compatibility may, in the same manner, play a role in sibling relationships, by way of making siblings who are very compatible more prone to engage in gender-specific play activities. Their very proximity could in itself reinforce their tendencies to engage in gender-typed play.
This pattern would be apparent in siblings whose temperaments are considered typical for their gender with respect to activity level that is active boys and calmer girls. On the other hand, Fabes’ proposition that children with equal dispositions seek one another out, cannot be applied to the sibling context since siblings, in most cases, grow up in the same family. Furthermore, the two sibling pairs who were the most reciprocal and who mostly engaged in joint play, were also among the three same-sex sibling pairs who displayed gender-specific patterns of interaction. This appears to indicate that siblings who are more alike in their temperaments are more likely to engage in joint play, at least with regards to this sample. It is important to note, however, that no generalizations can be made from this small sample and that the results of this study can only be discussed pertaining to these eight sibling pairs.

In conclusion, the potential of sibling relationships to affect children’s sociocognitive and emotional development as well as their subsequent relationships is pointed out. Future studies could be done on a larger scale to further examine which factors constitute sibling interaction and how the prevalence and quality of these affect the sibling relationship. The roles siblings play in each other’s lives could also be more specifically investigated. Furthermore, the incorporation of research on same-sex and opposite-sex siblings into the research on children’s gender segregated play patterns could prove interesting. For instance, the causes of children’s gender segregated play could be further established by examining same-sex siblings play patterns and activity levels in the home and by comparing these with the siblings’ tendencies to engage in gender segregation in group settings. Comparisons between same-sex siblings with opposite-sex siblings could also help prove whether reinforcement plays a role in gender-specific play by investigating if same-sex siblings play activities become more gender-specific in group settings.

References


Appendix 1.

Questionnaire

1. In which situations does the sibling interaction function at its best or at its worst respectively?
2. Do they play a lot together?
3. Are both of them equally interested in playing together or is one of them more interested?
4. Which one of the siblings is the initiator of their playing together?
5. What types of play activities do the siblings engage in?
6. Do they share the same interests?
7. If one of them is playing with a friend, is the other one allowed to play with them?
8. Do they keep together in unknown situations?
9. Do they help each other out in different activities? (e.g. fetching/reaching for a toy, searching for and putting toys (pieces) together?
10. Do they share their toys with one another?
11. Do they share a room? How does that work?
12. Do they hug and are they affectionate towards one another from time to time?
13. Do they have a positive attitude towards one another generally?
14. Does one of the siblings sometimes or often seek the other one out but is turned down but his or her sibling?
15. Are you able to leave them alone for longer periods of time without them starting to fight or one of them hurting the other?
16. Do they talk a lot with another?
17. Do their play activities function better when you are around or when you are not around?