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Children's Block Play with Their Parents: Subject to Sex Differences?

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A Thesis

in

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ABSTRACT

Children's Block Play with Their Parents: Subject to Sex Differences?

Eleni Zervas

The present study examined the various constructions parents built with their sons and daughters using a set of LEGO blocks, in order to investigate whether parents encouraged block configurations appropriate to their child's sex. Parents' speech to their children during play was also investigated to examine whether any differences occurred as a result of parents' and children's sex, type of block play or an interaction of any of these three variables. Twenty-four children ranging in age from 60 to 83 months, and their parents participated in this study. Each parent was assigned the same task but was observed separately with their child. Every child was observed playing for 10 minutes with the father and for an additional 10 minutes with the mother. All observations took place in the family's home. Results indicated that (1) fathers, more than mothers made greater distinctions based on a child's sex, (2) children built more gender-typed block constructions with fathers, (3) mothers were significantly more talkative during play sessions than fathers, (4) children were more verbally interactive with mothers than fathers, (5) boys were more verbally interactive with mothers when the type of block play they engaged in together was appropriate to the mother's sex. Findings are discussed in reference to Social Learning Theory.

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Introduction

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Unknown

From the minute children arrive in this world, they are ascribed a label: BOY or GIRL. As a result of this label, they are differentiated either by the clothes they will wear or simply by the way others will perceive them and behave towards them. Family members bearing gifts of various hues of blue for boys and pink for girls greet the infants in the hospital's nursery. However, the extent of such differentiation of the sexes does not end here; in fact, a child's sex can shape his or her destiny by either defining appropriate personal and social behaviors or by channeling their future interests and activities. Surprisingly, the primary socializing agents that will succumb to the differences that are implied within each gender are the child's parents themselves.

Parents have long been seen as important contributors to the gender role development of their children. While certain theories of gender-role development such as cognitive developmental theory (Kohlberg, 1966) and gender schema theory (Martin & Halverson, 1981) emphasize children's stagelike developments in cognition as an attempt to understand gender, social learning theory (Bandura, 1989; Mischel, 1970) maintains that parents can encourage gender-appropriate behaviors and preferences in their children through differential reinforcement and/or observational learning. Whether they are

consciously aware of it or not, parents treat boys and girls differently and consequently, they encourage their children to develop gender-typed activities and interests, as well as personal and social behaviors (Huston, 1983). The latter behaviors are often guided via the toys parents provide during play (Idle, Wood, & Desmarais, 1993; Caldera, Huston, & O'Brien, 1989; Snow et al., 1983), parental reactions to what they personally deem to be cross-sex and sex-appropriate behaviors (Fagot, 1978; Langlois & Downs, 1980) and the contrasting rewards, punishments and criticisms they allot to their sons and daughters (Fagot, 1978; Fagot & Leinbach, 1989).

There are numerous ways to detect differences in parental behavior towards their children according to sex and one interesting way is through their play interactions with their sons and daughters. Although fathers have been reported to influence their child's gender-role development more than mothers (Rosenberg & Hyde, 1993; Maccoby, 1990) and boys are often the greatest target of parents' gender-role expectations (Snow, Jacklin, & Maccoby, 1983; Tauber, 1979; Fagot, 1978) parents and other adults alike share common beliefs with respect to the gender appropriateness of toys. While toys encouraging large and fine motor skills such as vehicles, tools, Lego and other building sets are perceived as masculine, toys pertaining to domesticity and nurturance such as dolls and furniture are considered feminine (Campenni, 1999; Fisher-Thompson, 1990; Levy, 1994). These discrepancies however, have more serious implications considering that play with different toys can enhance different aspects of a child's development (Serbin & Connor, 1979; Connor & Serbin, 1977).

Although blocks are primarily viewed as masculine toys, when given the opportunity to play, boys' and girls' constructions revealed some significant differences.

Boys' block configurations revealed a preference for outdoor scenes (i.e., roads, lanes, tunnels) and erecting structures emphasizing qualities such as height and motion, whereas girls' revealed more static interiors of houses and enclosures, often adorned with gates and arches (Cramer & Hogan, 1975; Erikson, 1951). However, when blocks were the only toys children were provided with for play, boys and girls alike built taller configurations with girls building more towers and buildings than males (Budd, Clance, & Simerly, 1985). In essence, what the latter depicts is that when given no alternative toy options, girls demonstrated similar abilities and interests as boys. However, would similar results exist if parents were present during their block play?

Considering that girls and boys have been reported to prefer toys deemed gender-appropriate by their third birthdays (Martin & Little, 1990; Serbin, Poulin-Dubois, Colburne, Sen, & Eichstedt, 2001), the possibility that these toy preferences are shaped by situational and social constraints is not completely eradicated. In fact, preschool children have been found to allow social constraints with respect to gender-appropriate play, to hinder their toy choices, particularly boys (Raag & Rackliff, 1998; Raag, 1999). Therefore, if parents joined their children's block play, what outcomes can be expected? Would parents reinforce female-type constructions in their daughters and more masculine-type configurations in their sons? Furthermore, considering the evidence, can it be assumed that fathers would exert a more gender-typed influence on their children than mothers?

The entire play experience however, is not limited to the actions carried out with toys. What parents and their children communicate to one another during play can also have an impact on the outcome of the play experience itself. O'Brien and Nagle (1987)

revealed that different types of play can elicit different communication behaviors between parents and their children. For example, doll play elicited the most verbalizations from parents and toddlers but parents' language was primarily functional during play with shape sorters. Conversely, parents used very little language during vehicle play. In addition, although a child's sex has not been reported to influence parents' communication with their sons and daughters (Leaper & Gleason, 1996) a parent's sex has (Bellinger & Gleason, 1982). For example, fathers and mothers have been reported to communicate differently, with fathers asking their children more "WH" questions and mothers asking questions that elicit more yes or no responses (O'Brien & Nagle, 1987). Thus if different types of play elicit different communication between parents and their children, what type of verbal behaviors will parents engage in during block play?

The present study will investigate the various configurations parents will build with their sons and daughters using LEGO blocks, in order to investigate whether parents will encourage block constructions appropriate to their child's sex. Furthermore, parents' speech to their children will also be examined, with the intention of detecting whether differences will occur as a result of parents' sex, child's sex, type of block configuration or an interaction of any of these three variables. In sum, the purpose of the present study is to address the following questions: Will parents encourage their sons and daughters to build gender-appropriate block configurations and what type of verbal behaviors will occur during their play?

Before proceeding, it is crucial for the reader to have a clear understanding of what is implied by the terms sex and gender. Although these terms are often used

interchangeably, the present study will use the term "sex" as a label that is biologically determined, whereas the term "gender" will be used as a label that is socially determined, that is, what is regarded by others to be male or female appropriate (Brannon, 1996).

In the following sections, the literature on four areas will be reviewed. First, the central premises of three central theories of gender role development will be examined in an attempt to clarify children's early understandings of gender. However, for the purposes of this thesis, the stance taken will rely heavily on social learning theory. Second, the literature on toys will be reviewed thoroughly so as to examine their influence on children's social and cognitive development. Third, parents' socialization of the sexes will be closely examined. Specifically, fathers' and mothers' behaviors towards their sons and daughters will be reviewed with respect to the types of activities they encourage their children to engage in, as well as the personal and social attributes they promote in their children. Finally, the literature on parents' speech to their children during play will also be thoroughly reviewed.

Theories of Gender Role Development

How does early sex typing come about? How do children acquire knowledge about sex appropriate activities and behaviors? Several theories have suggested different structures underlying children's sex role acquisition. In this section, the following theories will be reviewed: cognitive developmental theory, gender schema theory and social learning theory.

Cognitive developmental theory. Lawrence Kohlberg (1966) proposed that gender role acquisition emerged as a consequence of a child's own understanding about gender. Kohlberg believed that children pass through three stagelike developments in

cognition that facilitate children's understanding about being male or female.

The first, most crucial stage to gender development, is the acquisition of basic *gender identity*. By the time children are 3 years old, they express an ability to label themselves boys and girls and begin to divide others around them accordingly. By their fourth birthday, children acquire *gender stability*, the sense that gender remains stable over time. For example, boys begin to understand that they will grow up to be men and girls recognize that they will grow up to be women. However, despite this understanding, children at this level are still fooled by appearances, and assume that external factors such as hair and clothing can determine sex. The final stage marks an important level for the completion of a child's gender concept. Boys and girls between the ages of five and seven, have reached the level of *gender constancy* the point where they are no longer fooled by appearances and understand that gender is stable across all situations. Children are now aware that external factors do not change a person's biological sex.

Gender schema theory. Martin and Halverson (1981) have also proposed a cognitive theory of gender-role development similar to Kohlberg's, emphasizing the child's own behavior and intrinsic motivations to learn about sex-appropriate behaviors and preferences. However, they argued that children do not need to attain gender constancy before the gender concept is complete. Instead, Martin and Halverson (1981) believed that children begin the "self-socialization" process as soon as they acquire basic gender identity.

The basic component of this theory is the *schema*. Martin and Halverson (1981) defined schemas as " naïve theories that guide information processing by structuring experiences, regulating behavior, and providing bases for making inferences and

interpretations" (p. 1120). They believed that two types of sex-related schemas interplay in the sex typing and sex role learning process. First, children acquire a general "in-group-out-group" schema that consists of all the general information that will help children classify behaviors, objects, traits and roles as being either masculine or feminine. For example, children can rely on this schema to make inferences such as trucks are for boys and dolls are for girls. In essence, the labeling process (i.e., for boys, for girls) involved in this overall schema guides children's awareness in terms of what sex appropriate behaviors should be approached and what sex inappropriate behaviors should be avoided. The second schema children construct is a more detailed version of the "in-group-out-group" schema. Children also acquire an "own-sex" schema that allows them to obtain information about behaviors deemed appropriate for their own sex. This schema encourages children to carry out sex appropriate behaviors. For example, a young girl might know from her overall schema that "girls sew" but to act consistently with her own sex, she must learn how to sew. "The action patterns involved in sewing then become part of her own-sex schema" (Martin & Halverson, 1981, p. 1121).

In essence, gender schemas help children organize information about their social world. Although children are believed to retain information consistent with their own gender schemas, they can also either forget information inconsistent with the schema or adjust it in order to be more consistent with their stereotypes (Martin & Halverson, 1983).

Social learning theory. " Except for elementary reflexes, people are not equipped with inborn repertoires of behavior. They must learn them" (Bandura, 1977, p. 16). A central premise of social learning theory is that children acquire their gender-typed activity and toy preferences through direct tuition and observational learning (Bandura,

1989; Mischel, 1970). Direct tuition or differential reinforcement, entails encouraging or rewarding children for engaging in gender-typed behaviors, yet punishing or discouraging behaviors deemed appropriate for the opposite sex. In essence, the primary motivation underlying this premise is that rewards following a response will increase the likelihood of that response, whereas punishment will decrease its occurrence (Bandura & Walters, 1963). Bandura (1977) also believed that reinforcement might help regulate behaviors that have already been learned, however it does not help create new ones. He stated, "reinforcement does play a role in observational learning but mainly as an antecedent rather than a consequent influence" (p. 37).

In addition to direct tuition, sex-role acquisition can also be enhanced through observational learning. According to Bandura (1977), most human behavior is learned by observing others model behaviors. He believed that through observation, the recipient learns how to execute these new behaviors and later uses this knowledge to guide his or her actions. In a more recent review, Bandura (1989) reported that children also learn gender roles through observation and imitation of same-sex models. It is assumed that the observation of same-sex models and their experiences will provide children with information about the consequences of their own behavior.

The central premises underlying social learning theory will guide the stance taken in this thesis. Block play behaviors between parents and their children will be examined under the scope of differential reinforcement and observational learning. Does one factor have a greater influence on children's gender role acquisition or do both affect gender development equally?

" In social learning theory, reinforcement is considered a facilitative rather than a

necessary condition because factors other than response consequences can influence what people attend to" (Bandura, 1977, p. 37). For instance, if children observe certain behaviors performed consistently they will eventually retain them in their behavior repertoires even before reinforcement comes into play. Bandura (1977) best described the latter by stating, "After the capacity for observational learning has fully developed, one cannot keep people from learning what they have seen" (p. 38).

The present study however, will not discriminate between differential reinforcement and observational learning but will aim at guiding its investigations from a perspective that includes an interaction of both factors.

Children's Understanding of Gender

Consistent with Kohlberg's (1966) cognitive developmental theory, children learn to label themselves accurately and others as males or females between their second and third birthday (O'Brien et al., 2000; Fagot et al., 1992; Martin & Little, 1990; Thompson, 1975). However, the exact moment of this acquisition has proven to be quite variable, with some children ready as early 26 months (Weinraub et al., 1984), whereas others are still less able to do so by 36 months (O'Brien et al., 2000). However, by age 3, are children labeling adults and children alike, or are they limited to one group at a time? Do children appropriately label themselves first or does the process begin with adults?

According to Fagot, Leinbach, and Hagan (1986), children learn to label adults before they can label themselves and other children, as boys or girls. They reasoned that " adults are undoubtedly easier to discriminate perceptually, and this may be one reason for the earlier development of correct labeling" (p. 443). In addition, Weinraub et al. (1984) further revealed that 26-month-old toddlers were verbally able to label pictures of

men and women appropriately, however it was only by 31 months of age that children demonstrated an ability to identify themselves both verbally and nonverbally, as male or female. However, if we were to take it a step further, would boys and girls differ in their gender labeling abilities? And if so, what would explain these differences?

Consistent with recent studies, girls have been found to display greater and overall gender-role awareness than boys. O'Brien et al. (2000) reported that at 36 months, boys were less able to label pictures of males and females, and appeared less knowledgeable about female roles than girls. Interestingly however, boys and girls shared equal knowledge about the masculine role. Furthermore, Serbin et al. (2001) found that boys between the ages of 18 and 24 months did not demonstrate an ability to associate toys such as dolls or vehicles with gender, whereas girls had mastered this association by 18 months of age. How can these findings be explained? A popular theory lies within the salient and clearly defined male role. Serbin et al. (2001) maintained that boys'

> ...sex-typed preferences influence or delay their acquisition of some cognitive aspects of gender schemas. That is, it may be that their strongly differentiated interest in male-stereotyped activities causes boys to pay less attention to feminine or non-stereotyped events or stimuli, which they find less salient. (p. 14)

Similarly, O'Brien et al. (2000) explained that girls are more likely to explore masculine roles in addition to feminine ones, because they are much more prominent.

Toys

Children's toy preferences. By the time children are 3 years old, they have also acquired sex-typed toy preferences as well as an awareness of sex typing for clothing, household objects, tools and games (Huston, 1983; Martin & Little, 1990; Serbin et al.,

2001). However, earlier studies have revealed gender-typed toy preferences to surface in young children as young as 20-26 months of age (Blakemore et al., 1979; Fein et al., 1975; Weinraub et al., 1984). For example, after observing adults engaged in play with toys available during a free play session, 20-month-old toddlers were found to imitate the actions seen with sex-appropriate toys rather than with sex-inappropriate ones (Fein et al., 1975). Similarly, Weinraub et al. (1984) observed strong gender-typed toy preferences in 26-month-old toddlers.

However, although some studies even go as far to depict doll preferences for 10-month-old girls (Roopnarine, 1986) others have demonstrated that children in their first year displayed no evidence of gender-stereotyped toy preferences. In fact, Serbin et al. (2001) reported that boys and girls at 12 months of age displayed an equal visual preference for dolls and vehicles. In fact, children of both sexes showed an overall visual preference for dolls over trucks. It was assumed that children this young preferred dolls to vehicles due to their human resemblance (Serbin et al., 2001).

Boys vs. girls: Who possesses stronger preferences? Indisputably, boys and girls do have one thing in common: marked differences in their toy preferences. However, which of the two sexes, if either, possesses the strongest gender-typed preferences? Is one sex more open to play with sex-inappropriate toys than the other? Interestingly, boys have been found to hold more gender-stereotyped views than girls (Levy, Taylor, & Gelman, 1995; Turner, Gervai, & Hinde, 1993).

Blakemore et al. (1979) reported strong sex-appropriate toy preferences in 2-, 4 -, and 6-year-old boys. Girls however, only displayed such preferences after their third birthdays. Furthermore, boys have been found to be less open to play with female toys,

whereas girls did not make this distinction. Levy (1999) reported that toddler boys as young as 20 months of age were more likely to touch masculine toys, whereas girls at similar ages touched both feminine and masculine toys equally. In addition, Fagot et al. (1986) also found that boys avoided opposite-sex toys more than girls.

With findings such as these, what remains to be considered is whether these young children understand the reasoning behind their toy selections. Do children know whether their preferred toys are, in fact, typical boys' or girls' toys? Blakemore et al. (1979) demonstrated that although 2-year-old boys preferred boys' toys, not a single one could identify toys as for boys or girls. They assumed that this finding could be a result of boys' increased parental pressure to avoid sex-inappropriate toys. Conversely, others have argued that although preference for gender-typed toys can be demonstrated even by children who could not yet use the gender labels, children need a rudimentary understanding of gender, for preferences and knowledge to be influenced (Martin et al., 1990; Fagot et al., 1986; Weinraub et al., 1984). Martin and Little (1990) went even further by suggesting that even though gender stability understanding is not a prerequisite for gender-typed preferences to be acquired, it can be essential to children's imminent gender knowledge as a whole. They argued its significance by suggesting that, " while gender is unstable, they [children] may not seek out a great deal of information about their sex or develop strong same-sex preferences" (p. 1437).

Children's reasoning about toy preferences. As previously mentioned, children display sex-typed toy preferences at a very early age. However, what intrinsic motivation drives children to make their toy choices either for themselves or for others? Furthermore, can a toy's features enhance its desirability? Surprisingly, the evidence

demonstrates that children's reasoning about their own toy preferences differs from that which they maintain for others.

Other factors in addition to children's sex-role stereotypes have been found to account for young children's toy preferences. O'Brien and Huston (1983) found that although boys and girls differed in their toy choices based on sex-role stereotypes, they resembled each other in their preferences for high activity-eliciting toys. However, the salience of gender resurfaced within this high activity toy category for boys, who clearly preferred masculine high activity toys to feminine or neutral ones, whereas girls did not make this distinction. In addition, Eisenberg, Murray, and Hite (1982) revealed that 3- and 4-year-old children used sex role reasoning to justify their dislikes and their choices for other children, but not for their own personal likes. In fact, their own toy preferences were based on what a toy could do, its specific characteristics or its association with a valued person or object.

Children were also found to resort to gender-centric response patterns when predicting others' liking of both familiar and unfamiliar toys. Martin, Eisenbud, and Rose (1995) found that children assumed that others of their own gender group would share their personal toy preferences, whereas the opposite sex would demonstrate no interest in similar toys. In essence, although factors such as toys' promising features, influence children's preferences, "even for these young children, gender appears to be salient, and seems to provide important information for making judgments under conditions of uncertainty" (Martin et al., 1995, p. 1457).

However, is a child's gender-based reasoning about toys a suitable toy selection strategy or does this sex-typed behavior come at a certain price? According to Frey and

Ruble (1992) gender-typed behavior comes at a "cost". They found that boys with a constant concept of gender, preferred to spend more time with an unattractive toy as opposed to an attractive one, simply because it was preferred by other boys. Surprisingly, girls did not demonstrate any such effects. Martin et al. (1995) referred to this as the "hot potato effect" resulting in children's sudden loss of interest for an attractive toy due to its sex-inappropriate label. Nonetheless, why is this "hot potato effect" more salient among young boys? Could this be a result of young boys' overriding pressure to adhere to social gender-appropriate expectations more than girls?

Which toys are considered sex appropriate? For the individual who is utterly oblivious about which toys are best considered masculine and feminine, the most optimal place to search for the answer, is the aisles in a toy or department store. There, one will discover divisions upon divisions of toys, all classified according to toy type but nevertheless under the large umbrella of "For Boys" or "For Girls". Research on children's sex-type toy ratings has revealed some consistent findings. Adults, parents, and even teachers were found to possess sex-typed beliefs about the gender appropriateness of toys. The overall pattern for males included vehicles, tool sets, sports gear, Lego sets and other building sets, as well as guns and toys involving large motor skills. Conversely, the toy classifications for girls included dolls and doll furniture, items pertaining to domestic tasks such as tea sets and sewing kits, as well as beauty items (Campenni, 1999; Levy, 1994; Fisher-Thompson, 1990; Connor & Serbin, 1977). Interestingly enough however, certain toys were rated as appropriate for both males and females, although slight characteristics differed between them. For example, male superheroes were strictly considered boys' toys but female superheroes were more appropriate for girls. Similarly,

although bicycles reflect a neutral toy category, a red bike was considered appropriate for boys yet a pink one, was typically female (Fisher-Thompson, 1990; Campenni, 1999).

Children's outdoor activities were also found to be gender-stereotyped (Levy, 1994). Preschool teachers rated soccer balls, footballs, bow and arrows and skateboards as typically masculine outdoor toys, whereas a sandbox, umbrella, hopscotch and jump rope were considered strictly girls' toys.

Considering these findings, the research clearly indicates that toys considered appropriate for boys differ significantly from those believed to be typically feminine. However, does the gender label ascribed to toys also denote additional differences with respect to their overall characteristics?

Characteristics of feminine and masculine toys. Jones, Abelli, and Abelli (1994) reported that some of the attributes often associated with females were home-oriented, inactive, submissive, adorned with jewelry, ruffles and lace as well as, pink coloration and emotional. Conversely, attributes considered male included active, aggressive, strong, independent and blue coloration. Considering the above, can a link be made between these beliefs about femininity and masculinity, and the differences in toys adults consider most appropriate for girls and boys?

In her quest to identify the specific ways in which gender-related toys differed, Miller (1987) attempted to compare toys along functional dimensions. Her findings revealed that both aggressiveness and competition correlated with masculine-typed toys, while girls' toys scored higher on the attractiveness rating. Furthermore, while female toys rated higher than male toys on manipulability, creativity, nurturance and attractiveness, male toys rated higher on symbolic play, competition, constructiveness,

handling, sociability and aggressiveness. Similarly, Fisher-Thompson (1990) also found toys more appropriate for boys to require active play, yet no significant differences were found for education and cooperation ratings for masculine, neutral, or feminine toys.

In summary, it is suggested that the sex-appropriateness of toys maintain a relationship with differences in judgment about gender. For example, all feminine toys were similar along many qualitative dimensions, which in turn could be related to the widely held stereotypic beliefs about feminine attributes. Nurturance was a very typical female toy characteristic yet according to Jones et al. (1994) nurturing behavior also corresponded to people's judgments on femininity. Finally, if masculine and feminine toys significantly differ, would additional implications exist for children's development? Miller (1987) believed that these differences may " bear a theoretical relationship to cognitive/social development" (p. 485).

Toys and Children's Development.

Liss (1983) highlighted the significance of toys in children's overall development by expressing that "repeated play with boys' and girls' toys over the early years, establishes a course of skill learning, role learning and attitude formation that may then be associated with later cognitive and social interaction" (p. 154). This "toy curriculum" however, is to a great extent, influenced by a child's sex. It influences which toys will be provided for children by their parents and becomes a prominent factor in determining children's toy selection (Greenberg, 1986). However, does a child's sex become an impediment by differentially influencing and stimulating children's learning opportunities? Can play with masculine and feminine toys enhance differential cognitive and social skills in children, and if so, what is it about gender-typed toys that encourage

such differential skills to blossom?

The influence of toys on spatial and verbal abilities. In their thorough review of the literature on sex differences, Maccoby and Jacklin (1974) concluded that reliable sex differences were found in the areas of spatial and verbal ability; girls were reported to have greater verbal ability than boys, yet boys excelled in visual-spatial ability. Sprafkin et al. (1983) attributed these cognitive differences between the sexes to children's early experiences. They reported that " boys may be more superior on visual-spatial ability because they have more opportunities to practice this skill in the course of their play experiences" (p. 174). Consequently, can play with certain toys increase a child's verbal or spatial abilities?

Spatial ability defined as a " skill in representing, transforming, generating and recalling symbolic, non-linguistic information" (Linn & Peterson, 1985 p. 1482), has been positively related to play with boys' toys (Connor & Serbin, 1977; Etaugh, 1983; Serbin & Conner, 1979; Serbin et al., 1990; Sprafkin et al., 1983), while play with girls toys' has been found to relate to higher verbal abilities (Serbin & Conner, 1979). Tracy (1987) reported that male-preferred toys such as Lego blocks, Lincoln Logs, vehicles, Erector sets, cars and airplane models were found to promote children's spatial skills. Conversely, girls' toys were qualitatively different from boys' toys in that they elicited more teaching, praise, and questions (Caldera et al., 1989) and more conversation from girls (Liss, 1983). Consequently, if toy play with girls' toys elicits such verbal enhancing behaviors, it is not surprising that girls' are reported to have greater verbal abilities than boys.

In addition, Fagot and Littman (1976) reported that children's masculine-typed

toy preferences were not only related to spatial abilities, but to teacher ratings of academic performance. Their study revealed that " masculinity (in preferences) was associated with academic performance (task orientation), while feminine choices were associated with helping behaviors (social orientation)" (Fagot & Littman, 1976, as cited in Liss, 1983, p. 1144).

However, considering the gender-typed toy choices of boys and girls, is this "toy" curriculum implying a different education for boys and girls? If play with masculine toys enhances spatial ability and girls' toys more verbal abilities, are boys and girls being cheated of the advantages provided by cross-sex play? Could it be assumed that girls have fewer spatial abilities than boys because they lack experiences with male-appropriate toys? Numerous studies have reported a positive relationship between spatial activities and spatial abilities (Baenninger & Newcombe, 1989; Etaugh, 1983; Sherman, 1967).

Does experience enhance development? Serbin et al. (1990) reported that although the availability of masculine toys predicted block design scores, which in turn reflected visual-spatial problem-solving skills, girls' limited access to such toys affected their performance on Block Design on the WISC-R. Girls did however rate high on social responsiveness, which correlated with their successful academic performance. However, " the problem-solving skills necessary for more advanced academic achievement, particularly in math and science, may be acquired through practice with toys and materials that evoke and utilize related visual-spatial skills" (Serbin et al., 1990, p. 626). Although indirect, the latter findings could also correspond to parents' causal attributions for their children's success in math. The emphasis is on effort for girls, but on talent for

boys (Eccles, Jacobs, & Harold, 1990).

Varma (1980) also attributed girls' lack of play with masculine toys to their limited availability for girls. Before the intervention of an additional block area in a nursery school, girls spent a limited time playing with blocks, and when they did, they still engaged in feminine-typed play such as cleaning-up the blocks or constructing a house for the nursery school guinea pig. However, with the intervention of an additional block area, the time spent by all girls with the blocks increased and the girls engaged in more stacking and building block play. In essence, not only did girls increase their spatial abilities through their greater involvement in masculine activities but "by simply providing increased opportunities for girls to play with blocks, more play of a non-stereotypic kind occurred among girls" (Varma, 1980, p. 35).

Children's Play with Gender-Typed Toys

The finding that boys' and girls' toys differ along many qualitative dimensions also entails differences with respect to how children play. The question that arises however with respect to such findings, is whether a child's sex is the central influence on the overall play experience, or the association with the toys available for play? Do different types of play result from boys' and girls' toys, from the gender of the child engaged in play or from an interaction between toys and gender?

Same toys, different play? Boys and girls have been found to play differently with similar toys. For example, Liss (1981) reported that during children's observed play with dolls, trucks and musical instruments, girls were found to be more talkative and active during doll play, whereas boys were more talkative and active during truck and musical play. In addition, boys were found to play more appropriately with the trucks and musical

instruments, whereas girls played more appropriately with the dolls. Furthermore, with respect to gadgetry, that is the focus on a toy's parts rather than its overall functions, the results were quite interesting. Liss (1981) attributed girls' higher gadgetry scores with trucks and musical instruments, to the already inherent fine motor skills encouraged by female-typed play and toys. To summarize she stated that, "appropriate doll play centers on fine motor movements (such as hair combing) with few gross actions by the child. Thus, girls used 'female play' styles in truck play" (p. 1149).

Karpoe and Olney (1983) investigated the dramatic scene constructions of children in both a free and limited toy choice situation. They reported that children's biological gender determined their play in the free toy choice situation, with girls employing more dolls and doll furniture and boys using twice as many blocks in their constructions than girls did. Alternatively, in the limited toy choice situation, consisting of dolls, doll furniture, vehicles and blocks, boys and girls built similar play constructions while using the same toys and told similar stories. In sum, the children played with " sex-typed toys in a manner appropriate to the gender association of the toys, rather than their own biological gender" (Karpoe & Olney, 1983, p. 516). The only sex difference that occurred however, was with respect to the block configurations. Girls' performance was consistent with their gender, not with the gender associations of the toys available. Specifically they created block configurations considered feminine such as freestanding walls, enclosures, gates arches, and partitions. Boys however, built both masculine and feminine configurations. How does one begin to justify the similarities in children's play with dolls and vehicles in the limited toy choice situation but the discrepancies found in their block constructions? Could it be that children's stereotypes where dolls and vehicles

are concerned, are stronger than those they possess for blocks?

Sex differences in block play. As was previously discussed, the prevailing literature available on the sex stereotyping of children's toys, considers blocks a play material typically appropriate for boys. The importance of blocks in a child's play repertoire has often been stressed, because they are reported to enhance aspects of physical, emotional, social, and intellectual development (Cartwright, 1988; Conrad, 1995). However, when girls are offered opportunities to play with blocks, does their play resemble that of boys?

Research on sex differences in block play yields some interesting results. Regardless of these similar play materials, boys and girls differ in the type of block play they engage in. Varma (1980) suggested five different types of block play namely, stacking, building, cleaning-up blocks, knocking down block structures and play, where blocks are considered as secondary to other toys and play materials. Her findings revealed that boys spent more time stacking, building and knocking down block structures, whereas girls, who spent only a limited time in the block area, engaged in play where toys other than the blocks took precedence as well as the cleaning-up of blocks. In effect, Varma indirectly associated this type of block play with a "predominantly female role" (p. 34).

Erikson (1951) studied the block configurations of preadolescent boys and girls after they were assigned to create an exciting scene from a motion picture using blocks, toy animals, vehicles, dolls, and toy furniture. His findings revealed that height and its downfall, as well as motion and its channelization and arrest, were exclusive to male configurations, while open and static interiors of houses, enclosed, blocked or intruded

upon, characterized females' configurations. In addition, Erikson also reported that although girls rarely built high towers, in the very few instances when they did, girls were unable to make them stand freely and thus made them lean against the background. Similarly, Cramer and Hogan (1975), whose study included both preschoolers and preadolescents, also reported high erecting structures and towers, as well as sidewalks and roads to occur more frequently among boys, yet the building of gates and arches was found exclusively among older girls.

Although both of the above studies share common findings, a more recent study by Budd, Clance, and Simerly (1985) does not replicate their findings. In the first condition, subjects were asked to create scenes from a movie using blocks, family and uniformed dolls, vehicles, animals, and furniture. The findings revealed no significant sex or age differences with respect to erected structures, height and enclosures, yet males were reported to use more motion in their constructions, as a result of their heightened use of vehicles. However, when subjects were given only blocks to make their constructions, all subjects built taller configurations with more motion, yet females regardless of age, built more erected structures such as buildings and towers, than males.

In sum, the research largely indicates sex differences in children's block play. Overall, boys seem more inclined to building tall, powerful constructions characterized by motion, while girls opt for the construction of more quiet scenes, mainly within the home and daily life. Could children's block constructions thus, resemble other types of children's play, in that they are both influenced by gender appropriate social norms? Could the "open interior of houses" reflect a sign of domesticity and nurturance in girls, while boys' "height and motion" themes, suggest their encouraged independence and

activity by socializing agents such as their parents? According to Budd et al. (1985) the answer is yes. They maintained " the influence of social learning and sex appropriate behavior as the prime determinants in play configurations" (p. 577). For example, when boys were given a choice, they selected more vehicles in their constructions encouraging more motion. However, when blocks were the only toys available, differences between boys' and girls' configurations regarding motion did not exist.

Parents and the Differential Socialization of the Sexes

Parents have long been seen as important contributors to the gender role development of their children. In their thorough review of the literature on sex differences, Maccoby and Jacklin (1974) concluded that very few differences were found with respect to parents' behaviors towards boys and girls. Among the few consistent findings were that parents encouraged more gross motor and physical behavior in their sons than daughters, there was a greater tendency for boys to receive more physical punishment and praise than girls and finally, parents were found to encourage sex-appropriate behavior and discourage cross-sex behavior particularly for boys. These findings have been criticized for being limited to the personal-social aspects of gender typing and for not making reference to the differential socialization of activities and interests (Huston, 1983). Turner and Gervai (1995) noted that " gender typing cannot be considered as a unitary phenomenon... gender typing must be viewed as multidimensional, encompassing such varied domains as activities and interests, personal-social attributes, social relationships and stylistic and symbolic characteristics" (p. 760). Since then, more recent studies and reviews have revealed additional differences that reflect differences in the socialization of activities and interests (Block, 1983; Lytton

& Romney, 1991). However, although we may be made aware of the existence of parents' differential treatment of the sexes, we are left to ponder in which specific areas of socialization are these sex differences most prominent and to what extent parents are encouraging gender-typed behaviors in their sons and daughters? Furthermore, are mothers and fathers similar in their differential behaviors towards sons and daughters or is one parent more encouraging of gender-typed behavior than the other?

Sons and daughters: Where lie the differences? The evidence that parents treat children differently on the basis of their sex is strongly supported in the literature. Block (1979) found that parents emphasized very dissimilar behaviors in their sons and daughters. Achievement, competition, as well as independent and responsible behavior were primarily emphasized for sons, while warmth, trust and ladylike behavior were expected more from daughters. Fagot and Hagan (1991) examined the behavioral differences in mothers' and fathers' reactions towards 12- and 18-month-olds, as well as 5-year-old boys and girls. Differences in parental reactions to boys and girls were perceived as early as 12 and 18 months of age with boys receiving more positive responses for aggression however, no such differences were observed in 5-year-olds. Rosenberg and Hyde (1993) also found that parents were more likely to suppress aggressive behavior in girls than in boys. Do findings such as these imply that aggression is a positive behavior that should be rewarded? Why are parents encouraging this type of behavior in boys but suppressing it in girls? Conceivably, adults' stereotypes of what constitutes sex-appropriate behavior may elucidate this query. When asked to rate behaviors as typically masculine, feminine or neutral, parents rated aggressive behavior, active and roughhouse play, exploration and play with transportation toys, as more

appropriate for boys. Conversely, dressing up, playing with soft toys, sitting quietly, doll play and dancing were rated as most appropriate for girls. Ironically however, aggressive behavior was not a frequently observed behavior in boys and sitting quietly was not observed more in girls (Smith & Daglish, 1977; Fagot, 1974). In addition, Martin (1995) found that adults rated aggressive behavior as one very typical masculine characteristic and gentleness as one considered very feminine. However, when asked to rate behaviors according to desirability, aggressive behavior did not make the list while gentleness in girls appeared again as something desired in girls. Considering these findings we can assume that parents are responding to their own personal beliefs about what constitutes sex-appropriate behavior and that they perceive aggression as something that has a tendency to flourish in boys more than in girls. Perhaps, parents accept this behavior as an inherent part that comes with being male and thus, react positively towards it, since it is perceived as a sign of masculinity.

Fagot (1977) also found that parents encouraged girls to ask for help, to assist with tasks and follow them around. In one of her subsequent studies in 1978, she found that parents gave positive responses to girls when they asked for help but negative responses to boys for displaying similar behavior. Physical contact seeking was also overtly accepted in girls with parents holding their daughters in close proximity, however neither parent supported this behavior in their sons (Tauber, 1979; Snow et al., 1983). Concisely, all of these child behaviors are associated with one universal pattern: that of dependence and proximity in daughters and independence in sons. However, are parents truly conscious of the impact such differentiation may have in their child's later development? Are they not aware of the implicit messages they are conveying to their

children? By encouraging independence in boys, parents could be signaling their confidence in that child's ability and as a result of this confidence, a child can achieve his/her goals. However, when parents support dependence and proximity in their daughters, the results are not as optimistic; they could be hindering their child's own sense of self-competence (Huston, 1983). In their attempt to strengthen the impact of the differential socialization of the sexes, Fagot and Leinbach (1987) stated, " we were unable to find a single study in which boys were given less opportunity to explore, less encouragement of achievement, or more emotional support than girls" (p. 96).

It was never believed that parenting was a simple task. Raising children can in fact be one of the most challenging responsibilities that exist. Without a doubt, devoted parents wish to raise their child as fairly as possible however, often parents' personal ideologies may stand between their overt actions and their sincere intentions. Conversely, who is most likely to differentiate between the sexes? Is it mothers or fathers who are most likely to succumb to their own philosophies and attitudes about gender appropriateness and treat their children accordingly?

Fathers vs. mothers: Who reinforces gender-stereotyped behaviors most?

Regrettably, fathers and mothers are not always compatible in their beliefs concerning the reinforcement of specific behaviors for their sons and daughters. In fact, fathers have been found to influence their children's gender-role development more than mothers and treat their sons and daughters in more gender stereotypical ways (Rosenberg & Hyde, 1993; Maccoby, 1990; Siegal, 1987; Block, 1983; Langlois & Downs, 1980). Quiery (1998) captured the essence of the maternal and paternal role by stating that " the verb 'to mother' means to nurture or care for some person or animal, not only a son or daughter,

whereas 'to father' is to engender" (p. 136).

Fathers have been found to differentiate between the sexes more than mothers in many respects. First, during interviews about parents' attitudes toward sex role socialization, Fagot (1978) found that fathers were more concerned with appropriate sex-typing than mothers. In an even earlier study, Fagot (1974) also reported that fathers rated more behaviors as sex appropriate on child rearing questionnaires and expressed that they would react differently to their child if he or she were of the opposite sex. Fathers of boys said they would treat their child more gently if she were a girl and fathers of girls said they would spend more time with the child and engage in physical play if he were a boy. Mothers of girls said they would not treat their daughters differently if they were boys, but mothers of sons said they would restrain a daughter more either in choice of playmates or in the use of aggression. Paternal differentiation of the sexes was also very prominent in children's play, with fathers more likely to consistently reward both boys' and girls' play with same-sex toys as well as punish play with cross-sex toys more than mothers (Langlois & Downs, 1980).

Rosenberg and Hyde (1993) examined adults' recollections of their fathers' and mothers' socialization practices during childhood. Their retrospective reports revealed many significant differences. First, with respect to the expression of affect, fathers were remembered to demonstrate more affection towards their daughters than their sons. In addition, they also invested more time with girls. In contrast, mothers were not found to make this distinction and demonstrated equal affect for both sons and daughters and devoted just as much time to both. Noller (1978) also confirmed these findings by demonstrating that affectionate behavior was manifested more in father-daughter pairs

than in father-son dyads. Once again, mothers were found to be equally affectionate towards their children, irrespective of the sex of the child.

Paternal responses to children's behaviors also differed as a function of the child's sex. Fathers were found to display almost twice as many positive responses to their sons than daughters, but mothers gave almost the same number of positive responses to boys and girls (Margolin & Patterson, 1975). However, fathers were also found to punish sons more than daughters via verbal and physical prohibitions and display more disapproval towards them (Frankel & Rollins, 1983; Smith & Daglish, 1977). This latter difference however may exist as a result of boys' temperament; boys were found to receive more prohibitions for they were more likely to touch tempting objects such as a plastic pitcher with water or a half-filled Styrofoam cup (Snow et al., 1983). Evidently, the father's role is very significant in sex-typed socialization but particularly for boys. Perhaps this results because " fathers feel a special responsibility for masculinizing their sons" (Huston, 1983, p. 439). In essence what the above findings demonstrate is that, it is paternal behavior that varies significantly as a function of the sex of the child, while maternal behavior remained relatively constant regardless of the child's sex.

Does a child's perceived sex encourage different parental reactions? In a final attempt to mark the influence of gender on parents' socialization of personal and social behaviors in their children, certain studies have found parents responded differently to the same infant if they believed it was of the opposite sex (Fagot, 1974; Culp et al., 1983). Culp, Cook, and Housley (1983) investigated the effects of a 6-month-old infant's perceived sex on adult-infant interactions. Their study revealed that the infant perceived as female by adults, received more verbal interaction whereas the infant perceived as

male received more direct gazes. Differences were also detected with respect to adults' behaviors, with women engaging in more verbal interaction with the infants but less physical contact than men. Men were also found to smile more at the infant, particularly when the infant was perceived as male. Clearly, these findings imply that adults' preexisting stereotypical beliefs affected their behaviors around children. The perceived sex of a child can alter the way adults will interact with him or her. However, are these adults aware of their differential treatment of boys and girls? After the infant-adult observations were concluded, a follow-up interview revealed that 75 % of the study's participants stated that there should be no differences in the behavior of male and female 6-month-old babies. If no sex differences in the infants' behavior should exist, then how do these adults explain the differences they portray during their own interactions with the infant? Is it not contradictory to say one thing and imply another? Or is it that gender-typing is so subtle that adults are unaware of their own predispositions toward sex-typing (Culp et al., 1983)? The answer to this question can stir up an entire debate about what constitutes premeditated versus spontaneous behavior and the search for answers can reveal ambiguous results. However, the need for parents to adhere to publicly held values about the sexes could also serve as an incentive to react according to gender stereotypes. As we proceed into parental socialization of activities and interests, the latter view will resurface.

Parents' Encouragement of Gender-Typed Activities and Interests

In addition to encouraging the development of gender-typed personal and social behaviors in children, parental socialization practices have also been found to influence gender-typed activities and interests in young children (Idle et al., 1993; Fagot & Hagan,

1991; Langlois & Downs, 1980). In fact, in a meta-analysis aimed at elucidating the extent of parental differential treatment of boys and girls, Lytton and Romney (1991) reported that the only socialization area to demonstrate the clearest effect for both parents was the differential encouragement of sex-typed activities. In light of this finding, it is only pertinent to discover the various measures that parents apply to facilitate gender-typed activities and interests in their children. What is it about the tactics parents use that appeals to and influences the activities of infants as young as 25 months old? In light of this question, Lytton and Romney (1991) suggest that both environmental and biological factors contribute to parents' influence on children. Not only can parents enhance a child's environment with gender-appropriate displays but they could also be reacting to differences arising from the child himself. Perhaps the most influential parental approach is one that can be considered " subtle and covert...such as structuring the environment in a way that limits choices, such as providing only dolls for girls and trucks for boys" (Ruble & Martin, 1998, p. 972). In essence, parents can encourage gender-typed activities by "channeling" their physical environment (Block, 1983).

Children's physical environment. Evidence that the physical environment made available to young children by their parents differs as a function of gender, has been widely supported. Rheingold and Cook (1975) analysed the content of the rooms of 96 children under 6 years of age. Their findings revealed significant differences with respect to the types of toys and furnishings found in the rooms. Boys' rooms contained more vehicles, spatial temporal toys, sports equipment, educational and art materials, as well as toy animals. Furthermore, animal furnishings and motifs were predominant features in boys' rooms décor. In the girls' rooms however, dolls, primarily female and

baby dolls, as well as dollhouses and domestic items were the most prominent features. In addition, their rooms' décor reflected floral designs and ruffles.

In a similar but more recent study, Pomerleau et al., (1990) found that infants between the ages of 5 and 25 months also experienced very different play environments. Their analysis of boys' and girls' physical environments revealed that boys owned more vehicles, sports equipment and tools, whereas girls possessed more dolls, child furniture and fictional characters. In addition, yellow bedding for girls and blue bedding for boys, enhanced their rooms' décor and according to parents' reports, boys wore more blue, red and white clothes whereas girls wore more pink and multicolored attire.

In light of these findings, there is no denying that aspects of children's physical environments are differentiated according to the child's sex. However, in order to understand these differences, it is important to be conscious of parents' motivations for their actions. Ruble and Martin (1998) best described their assessment of gender-typed environments as " subtle ways of channeling children's preferences and their behavioral tendencies for activities and interests" (p. 974). In essence, their implication was that parents were referring to their own ideas and stereotypes about what aspects were best considered sex-appropriate and they used these perceptions to help guide their choices when selecting furnishings and toys for their child's room. However, is it that the different environments provided are a result of parents' own gender-typing philosophies or is it that parents are simply responding to their children's interests or requests?

Gender-typed play environments as a result of children's personal interests and requests. In an attempt to elucidate this question, a number of studies (Bradbard, 1985; Marcon et al., 1994; Richardson et al., 1982; Robinson et al., 1986), have investigated

children's toy requests during the Christmas season to determine whether parents' toy purchases are largely influenced by their child's requests. A content analysis of letters to Santa revealed that girls requested more feminine toys than boys and boys requested more masculine toys than girls, however, no differences in neutral toys were found (Marcon et al., 1994). Richardson and Simpson (1982) found that boys' letters to Santa Claus requested toys in the vehicle, spatial-temporal, sport and doll (male and humanoid) categories. Girls requested toys primarily in the doll, domestic, educational and art, doll house and clothing categories. In a similar study, Robinson and Morris (1986) examined over 500 Christmas toys received by 36-, 48-, and 60-month-old children by their parents. Their findings revealed that 63% of the sex-typed toys found in the home were largely the result of parents responding to their children's sex-typed requests, whereas only 37% of the nonrequested toys were judged to be gender stereotyped. They concluded, "although parents are not overwhelming their children with gender-stereotyped toys, they do contribute to their children's stereotyping through their nonrequested toy selection choices" (p. 31). Alternatively, a study by Snoddy et al. (1993) revealed some contrasting results. Parent interviews revealed that 68% of parents admitted to intentionally purchasing toys considered appropriate for their child's gender, although they justified their toy play with their children by commenting " they like to believe that they judged their decisions on what they thought the child wanted" (p. 6).

Essentially, whether parents are responding to their own set of principles, to their child's interests or requests or even a balance of both, still remains ambiguous. Five-month-old infants are unable to request toys or clearly express their interests, yet their rooms were still furnished with gender-appropriate items (Pomerleau et al., 1990). Hence

in this respect, it is more reasonable to assume that parents are guided by their own compelling set of principles related to sex appropriateness. On the other hand, if we choose to believe that parents are merely responding to their child's interests when selecting toys, how do we explain the complete absence of certain toys in children's rooms? How can we assume that a child dislikes a certain toy if he or she is never given the opportunity to explore and play with it? We must bear in mind that " the children's interest could have little influence if they are given no opportunity to exercise an interest" (Rheingold & Cook, 1975, p. 463).

Whether parents openly admit to purchasing gender-typed toys for their children or simply justify their actions by using their child's requests as a validation, they are only true to themselves when they evaluate the toys and furnishings in their child' s room. Only then can they assess their genuine intrinsic motives, for " parents who rear their children in a nonsexist environment choose toys, clothes and room decorations that are functional, age appropriate and fun, not sex-typed and rigidly different for girls and boys" (Snoddy et al., 1993, p. 4).

Parents' and Children's Play Activities

As depicted in the literature cited above, the toys that enhance children's physical environments often adhere to what are considered gender-appropriate norms. The research suggests that both parents' personal philosophies about gender-typing and their children's own requests for certain toys, may account for the dissimilar play environments offered to young boys and girls. This ambiguity of the findings in recent literature guides us to consider consequently, that the liability for the gender-typed play environments provided to young children is a bi-directional one, one in which both

parents and children, share the responsibility (Eisenberg et al., 1985).

The provision of divergent toys in the child's physical environment however, is a mere inauguration to the remainder of the learning of sex distinctions, he/she will confront during play with his/her parents. Parental encouragement of gender-typed play can be displayed not only by the gender-stereotypic toys they offer children during free play (Snow et al., 1983; Campenni, 1999) but also by the types of play parents promote with their sons and daughters (Kindsey et al., 1997; Bunker, 1991). Do parents participate in similar play activities with their sons and daughters? Is physical play something exclusive to sons or do parents encourage this type of play in their daughters as well? Furthermore, if parents are choosing similar toys for their sons and daughters, are they playing in similar ways with both sexes? Fathers have been found to be more concerned with appropriate gender typing than mothers with respect to children's personal and social attributes (Fagot, 1978). Thus, does this imply that fathers exert more pressure than mothers for sex-typed play behaviors as well? In essence, before one can begin to grasp the realities of the often implicit and explicit gender-typed play that parents of very young children are promoting, it is of significance to comprehend what is denoted by the term "play" and why parents are encompassing gender stereotypes in their play with their children? Liss (1983) defined play as "a medium for acquiring and practicing concepts and perceptions about adult behavior that may or may not be adapted or used immediately by the child. Consequently, play in sex-typed activities may contribute to sex differences in personality attributes and behavior" (p. 118). Thus, by promoting gender-appropriate play, are parents aspiring to establish specific gender-appropriate attitudes and role learning in their children?

Parental beliefs about gender-appropriate toys. Parents contribute to the gender typed play of their sons and daughters in many ways. First, parents have their own beliefs about what toys are deemed to be sex-appropriate and thus offer their sons and daughters dissimilar play materials. In a study by Campenni (1999) both parents and nonparents rated toys as pertaining to domestic tasks, dolls and their accessories and beauty enhancement items as most appropriate for girls. Toys rated as most appropriate for boys, included sports items, cars and other vehicles as well as construction and building sets. Ironically, an action figure doll, a toy that falls into the global "doll" category was seen in both male and female categories. However, only male action figures were included as most appropriate on the boys' list and only female action figures were included in the feminine toy category.

Parents not only form their own opinions about what toys are deemed sex-appropriate for their children but the toys their children play with, encourage many disparate reactions from their parents. Fagot (1978) found that doll play encouraged contrasting parental reactions towards sons and daughters. That is, girls were offered positive feedback for doll play whereas boys' play with dolls was greeted with enhanced negativity. Furthermore, parents gave boys significantly more positive responses when they played with blocks than they did girls. However, these discrepancies in parents' reactions to doll and block play can once again be perceived as a parental response to children's own preferences. Consequently, could it be that parents are simply adjusting to their child's interests and following their child's play initiations when they provide them sex-appropriate toys to play with? Roopnarine (1986) found that girls at 10, 14, and 18 months inclusively were more likely than boys to offer dolls to parents during play,

however, boys and girls were equally likely to play with kitchen utensils, trucks and blocks. Regardless of the children's play interests however, parents were reported to attend to the block play of sons more than of daughters even though girls displayed similar interests in block play. In essence, what these findings reveal is that parents may be reinforcing the type of play they believe is appropriate for their child's sex.

As previously mentioned, parents found dolls to be most appropriate for girls. The only type of doll that was found to be equally appropriate for both sexes was the action figure but once again, the sex of these dolls determined whether they were appropriate for young boys or girls. The doll family however is quite vast. Toys such as baby dolls, Barbie, female and male superheroes, cartoon characters dolls, clowns and toy soldiers are just a few that fall into the "doll" toy category. However, what is it about these "dolls" that makes them more appropriate for a boy or girl? Are all dolls the same? In attempting to elucidate this question, Caldera and Sciaraffa (1998) investigated mothers' and fathers' verbal and nonverbal behaviors while playing with three different dolls: a baby doll that cried, a baby doll with a bottle, and a stuffed clown. Their study revealed that parents of girls called more attention to both baby dolls, while parents of boys encouraged play with the clown. In addition, the type of play these three dolls elicited differed as well. Both parents and children initiated more nurturing and caretaking behaviors with the two baby dolls than with the clown. Apparently, parents were selecting the doll they considered appropriate for their child's gender but notably, the clown doll never substituted for a baby doll with respect to nurturance. Hence, providing boys with stuffed clowns as a way to restore the nurturing qualities baby dolls encourage, simply may not be enough to encourage these behaviors in boys (Caldera et al., 1998).

Parental beliefs about gender-appropriate play. Parents have their own views as to what toys they consider sex-appropriate for their children. However, what are the toys they choose during play with their sons and daughters and what type of play do parents encourage in their children? Are masculine, feminine and neutral toys all prominent features during toy play with parents or are parents referring solely to neutral toys, as a way to diminish any gender discrimination?

First, parents of girls and boys have been found to differ significantly in their play styles. Lindsey, Mize, and Pettit (1997) reported that parents of girls were more likely to engage in pretense play than were parents of boys and fathers of boys were more likely to engage in physical play than were fathers of girls. Interestingly, although boys preferred physical play in general, they were more likely to engage in pretense play in the presence of their mother. As a result, boys benefited from the advantages of both pretense and physical play, whereas girls gained from pretense play alone. Tauber (1979) also reported that fathers supported physical play only in boys but mothers encouraged physical play in both boys and girls. Although mothers seldom initiate physical activity with their sons and daughters, the important point is that they try to provide more equal amounts of encouragement for both sexes than fathers. Similarly, Langlois and Downs (1980) found that unlike fathers who rewarded same-sex play and punished cross-sex play for both sons and daughters, mothers rewarded their sons for play with cross-sex toys. As a result, they offered their sons equal opportunities to engage in other types of play elicited by feminine-typed toys. In brief, what must be considered is that by completely discouraging physical activity in their daughters, fathers may not only be hindering their child's development but inhibiting them from developing adequate skills and fitness, as well as a

positive attitude towards physical activity (Bunker, 1991). In addition, Bunker (1991) also underlined the significance of early physical activity by reporting that the motor skills of children in the first three grades of elementary school reflect the number and types of opportunities they had to develop these skills. Children " move to learn and learn to move" (p. 467).

Although mothers and fathers have been found to differ in their gender-typed play expectations of sons and daughters, fathers reportedly exert more pressure for sex-typed play behaviors than mothers. Women in general, have been reported to hold less traditional attitudes and beliefs than men, considering more toys as appropriate for either boys or girls, as opposed to males' more extreme sex-typed ratings (Leve & Fagot, 1997; Fisher-Thompson, 1990). Surprisingly, boys as young as 18 months, received negative responses from their fathers when they engaged in feminine-typed play, while mothers did not make this distinction (Fagot & Hagan, 1991). Fathers have also been reported to discriminate in their treatment of boys and girls, offering both their sons and daughters toys appropriate to their gender but equal number of neutral toys (Bradley & Gobbart, 1989).

Parental choice of gender-appropriate toys. Concerning the types of toys parents selected for play, Eisenberg et al. (1985) reported that for sons, parents chose more neutral toys than feminine toys and more masculine toys than feminine ones. For girls however, parents chose more neutral than masculine or feminine toys. Similarly, Idle, Wood, and Desmarais (1993) found that fathers and mothers chose masculine toys when playing with their sons, while feminine toys were considered the least desirable for boys' play. For their daughters, parents rated neutral toys most favorably and masculine toys

least favorably. Interestingly, although parents valued feminine toys as more desirable for their daughters, they spent the least amount of time with feminine toys and found these toys less acceptable for play for either gender. Could parents be suggesting that feminine toys are the least entertaining? Or simply, do they maintain that feminine toys are more girl-oriented, simply because they are wary of publicly held or cultural values? Furthermore, if parents consider feminine toys to be the least preferred toys for their children, why do they assume they are acceptable for a girl to play with but not a boy? Are boys worthy of bigger and better things? Inadvertently, these could be some of the messages parents can be signaling to their children regardless of their true intentions. Can fear of not corresponding to publicly held values truly have an impact on parents' differential socialization of young children's play? In order to comprehend parents' true intentions for encouraging gender-typed play in their sons and daughters, it is imperative to get to the source of these intentions. Why are parents dismissing cross-sex toys during their children's play? Are they alarmed that play with feminine toys will result in children with feminine qualities in the future?

Are parents' gender-typed toy choices reducing their fear of future outcomes for their children? Parents' fear of future outcomes for their children may account for the sex discrepant activities they promote during play. Martin (1990) reported that parents' anxieties about their children's future psychological adjustment was key. Her study revealed that cross-sex personality characteristics and cross-sex toy preferences were rated as more acceptable in girls than in boys. Therefore, girls seen as "tomboys" were more socially acceptable than boys who were seen as "sissies". Cross-sex boys were also predicted to be less likely than girls labeled as tomboys, to be psychologically well

adjusted as adults and more likely to grow up to be homosexual. In essence, adults were more concerned about their sons deviating from the traditional gender roles than girls, but women were more accepting of children's cross-sex preferences than men. Similar results were reported in a Finnish study by Sandnabba and Ahlberg (1999). In accordance with Martin's (1990) American sample, boys with more feminine personalities (sissies) were also considered less positively regarded in society than girls with masculine personalities (tomboys). In addition, cross-sex toy preferences were also deemed more acceptable for girls than for boys however, this study found men more accepting of children's cross-gender behavior than women. Again, the fear of future outcome was parents' primary rationale for maintaining their responses but unlike the American sample who feared a child's future psychological adjustment, the Finnish sample primarily feared femininity in boys. Ironically, parents did not reciprocate their fear concerning masculinity in their cross-gender girls. Does this imply that parents are simply more stringent about the gender socialization of their sons than daughters during play?

Parents' firmness with regard to their children's gender-appropriate play practices can be detected simply by their definition of male and female behaviors. Compared to girls, boys have been found to be more pressured into adhering to play behaviors most appropriate for their sex and this has been reported to influence their play preferences (Raag, 1999; Raag & Rackliff, 1998). The unyielding socialization of boys' play by their parents has been widely reported in the literature (Campenni, 1999; Fagot & Leinbach, 1989; Snow et al., 1983). Fagot (1977) reported that boys received significantly more negative consequences for cross-gender-typed behavior than girls. In addition, parents defined masculine behaviors in terms of play with specific gender-appropriate toys with

an emphasis on physical activity. However, doll play was the only prominent feminine play behavior they reported to be appropriate for girls. In essence, boys' play repertoires were more clearly defined within "masculine" boundaries whereas girls' play repertoires were more variable and less restricted (Singer & Singer, 1990). Conversely, parents have not always been reported to be so critical of masculine and feminine toys. Although, they possess dissimilar opinions about the gender appropriateness of toys, their attitudes can be susceptible to change under certain circumstances. Campenni (1999) reported that fathers of girls only, rated feminine toys more gender-stereotypically than mothers of girls only, who in turn, were most gender neutral in their ratings of female toys and in their ratings of male toys compared to other mothers. Ironically, fathers of both girls and boys were more gender neutral in their ratings of feminine toys and masculine toys, than mothers with children of both sexes. Why did fathers report such drastic differences when rating feminine toys? Does having one child of a particular sex conflict with having two children of opposite sexes? Campenni (1999) probed these questions and suggested that fathers of boys and girls may simply have more gender-neutral views of feminine toys, merely as a means to rationalize their sons cross-sex toy choices, whereas mothers are simply more gender neutral in their overall ratings of masculine and feminine toys, in order to justify their daughters' preferences for masculine toy play.

Are children's gender-typed toy choices a result of parental expectations? Fathers and mothers will always have their own personal beliefs and attitudes towards the play of their sons and daughters. The literature on parental socialization of children's play is infiltrated with gender-appropriate norms and discrepancies. However, to what extent do parents' personal philosophies about gender-appropriateness shape children's own play

preferences and actions?

In a study by Raag and Rackliff (1998), preschool children's awareness about familiar people's social expectations regarding gender-typed and cross-gender-typed play was investigated. The study revealed that children's gender-related toy choices were shaped by situational and social constraints rather than toy preferences alone. Overall, children perceived their gender appropriate play to be viewed positively by both their parents. However, a significant finding revealed that with cross-gender-typed play, boys reported that their fathers would think cross-sex play was "bad" and as a result of this, they played more with the masculine toy provided (a set of tools) as opposed to the feminine typed toy (a dish set). Conversely, girls reported more frequently that their fathers would think it was "good/doesn't matter" if they played with cross-sex toys. When children were asked to express what their mother would think of cross-gender-typed play, the majority of boys and girls replied that their mothers' responses would fall into the "it doesn't matter" rating category. Interestingly, when children were asked at the beginning of the study to rate the set of tools and dishes according to liking, both boys and girls stated that they liked the tools and dishes. Considering that boys and girls shared common play interests, was it not justified for boys to abandon play with the dish set, simply because it did not meet paternal expectations? Must boys compromise what they like simply to satisfy someone else?

Raag (1999) also reported that children as young as 4.5 years old allowed perceived social constraints of gender to hinder their toy choices. In fact, even if children thought of at least one person who thought cross-sex-type play was bad, they allowed this knowledge to influence their toy choices, particularly for boys. Boys, more frequently

than girls, allowed the perceptions of others' thoughts of cross-gender play to enhance their avoidance of these toys. Perhaps these differences are prevalent in boys because they feel pressured, particularly by their fathers to live up to the masculine ideal.

Parents' Speech Towards Sons and Daughters

Parents demonstrate differential treatment of sons and daughters in some important ways that extend beyond the encouragement of gender-typed personal and social behaviors, activities, and play. Parents' language behavior during play with their children, has also been reported to differ. Specifically, parents' sex, the type of toys used, the type of play encouraged, as well as the number of people involved in a play situation, are all contributing factors to the disparities in parents' language behavior (Leaper & Gleason, 1996; O'Brien & Nagle, 1987; Kurth, 1986; Stoneman & Brody, 1981). Why do these differences exist? Parents may deem gender-typing of children's interests, behaviors and activities as an essential task, if their goal is to enhance gender-appropriate values in their children. However, what can mothers and fathers possibly gain by differing in their speech patterns? By doing so, will they not be providing their sons and daughters with contrasting language opportunities? Furthermore, are fathers more inclined than mothers to speak differently to their sons and daughters or does a child's sex influence the way his /her parents will communicate with him/her?

Surprisingly, a child's sex has not been found to influence parents' communication with sons and daughters during play. Alternatively, it was the children themselves who were found to discriminate towards their mothers and fathers (Leaper & Gleason, 1996; O'Brien & Nagle, 1987). Leaper and Gleason (1996) reported that children as young as 25 months used more informing speech and avoiding acts with

fathers during a pretend store play activity than with a car construction activity. Conversely, children used fewer confirming speech acts with their mothers during the car construction activity than with either their mothers during the pretend store play or their fathers during the car construction play. In essence, it appears that children's speech to mothers and fathers was not only related to the play context, but also to their own perceptions of the type of play deemed most appropriate for their parents' sex. For instance, children did not confirm or go along with their mothers' ideas or initiatives during the construction play activity because they may have perceived this type of play as not assimilating with a "mother's" play repertoire or area of expertise. Similarly, children resorted to being verbally nonresponsive to their fathers' play initiatives during the pretend store play, perhaps because they were not accustomed to playing with their fathers in a feminine-typed play activity. Thus, children's perceptions of their fathers' lack of familiarity with this type of play may be associated with their increased use of increasing informing speech acts, in order to render the store activity more coherent to their fathers. In sum, both the play activity and parents' gender influences children's speech to their parents during play. However, did these types of play affect parents' speech to their children and if so, how and to what extent?

Leaper and Gleason (1996) found pretend play to be a language enhancing activity for both children and parents. They reported that the pretend store play activity elicited more speech from mothers and fathers, as well as more cooperative communication between parents and children than the construction activity. In addition, the pretend store activity was also found to encourage more informing speech acts on both parents and children, speech acts that were associated with dimensions of

assertiveness. However, what are the implications of these findings? How do we justify the advantages of pretense play for both boys and girls, when the literature reveals that this type of play is most frequently preferred by girls, while boys are more likely to engage in physical play (Lindsey et al., 1997)? How does a child's gender-typed toy and play preferences affect his/her opportunities for language learning?

O'Brien and Nagle (1987) reported that different types of toy exposure were related to different kinds of language environments. When parents engaged in doll play with their 1- and 2-year-old children, they were highly verbal and encouraged verbalizations from their toddlers. Furthermore, parents used longer utterances and asked many questions. The doll play context also elicited the greatest variety of words. Play with vehicles, a toy considered most appropriate for boys, displayed contrasting results. Parents used very little language in this context but made a significant number of imaginative sounds. Finally, playing with shape-sorters, a more gender-neutral toy, encouraged parents to use more functional language including directives, attentionals and praise.

As a result of these findings, one can consider doll play as a contributing factor to children's language proficiency. This type of play elicited a richer language environment for the children. Perhaps this can explain why girls were reported to use more speech in play than boys (Leaper & Gleason, 1996). Furthermore, it must be noted that language interactions during doll play in this study were typical of parents of sons and daughters therefore, both boys and girls benefited from it. However, how often do parents encourage doll play in their sons or in fact, how likely are boys to select dolls during play? The chances of both of these occurrences are slim. By discouraging doll play,

parents may be inhibiting their sons' opportunities for language learning but also " early sex-typed play preferences of children may, in themselves, contribute to subtle but pervasive differences in the environment of boys and girls (O'Brien & Nagle, 1987, p. 278).

Does parental sex contribute to differential language behaviors with their children? The types of play experiences and the different types of toys are not the only contributing factors to parents' differential language behaviors towards their sons and daughters; a parent's sex can also be an underlying issue. Fathers and mothers have not only been found to differ in the way they verbally interact with their children, but as a result of this, they have also been criticized, for providing discrepant stimulation in their child's environment.

First, fathers, more than mothers, have been found to use more imperatives in their speech to young children (Kurth, 1986; McLaughlin et al., 1980; Bellinger & Gleason, 1982). In a study by Bellinger and Gleason (1982), fathers were reported to produce more imperatives and implied indirect directives, which were defined as "arguments, phrased either interrogatively or declaratively, for why an act should or should not be performed" (p. 1128). For example, a parent can say to his child, " It's **really** cold outside" in an attempt to get him to dress a toy bear appropriately for cold weather. In contrast, mothers employed more conventionalized indirect directives that identified not only what was being requested but also the child as the agent that would produce that act. Some examples include, " Can you...?" or " Why don't you...?" Interestingly, this study also revealed that children themselves modeled the behavior of their same-sex parent, with boys producing more imperatives and implied indirect

directives in their speech and girls more of the conventionalized indirect forms. In this respect, parental modeling can be a negative influence, considering that the use of imperative form entails giving commands. Bellinger and Gleason captured the essence of this influence by stating, "Fathers and mothers prompt girls and boys to produce the routines *Thank You* and *Goodbye* with equal frequency, but mothers themselves use more of these politeness formulas than do fathers in their own speech" (p. 1134).

Regardless of the criticisms related to the significant number of imperatives produced by fathers in their speech to children, fathers have also been commended for providing a more stimulating language environment than mothers (Kurth, 1986; McLaughlin et al., 1983; O'Brien & Nagle, 1987). A reliable difference in the speech of mothers and fathers lies within their question posing and vocabulary enhancement strategies. Fathers have been found to ask significantly more "WH" questions, while mothers ask children questions that elicit yes or no answers (McLaughlin et al., 1983; O'Brien, & Nagle, 1987). Furthermore, fathers have been reported to use more infrequent words in their speech and children have been often found to reiterate these novel words (Kurth, 1986). Consequently, fathers are believed to place more demands on children than mothers and justifiably are considered responsible for increasing children's performance (McLaughlin et al., 1983). For the optimist, there could be a great deal of substance in this latter statement. However, can one sincerely say that mothers are not challenging their children's knowledge during their communications with them? Fathers may use more novel words in their speech, but how does that benefit a child? Does reiterating what Daddy says imply that authentic learning is taking place? Mothers' verbal simplicity can demonstrate something fathers' speech fails to do: "the notion that

mothers 'tune' their language more to the child's linguistic abilities than fathers do" (McLaughlin et al., 1983, p. 251).

In conclusion, although differences between fathers and mothers exist, it is unwarranted to suggest that one parent is more responsible than the other for their child's language success. Perhaps fathers are believed to encourage more stimulating language environments for their toddlers on account of their challenging questions and novel vocabularies. However, these findings were based on dyadic play sessions, where the father interacted with his child alone. Do similar patterns unfold in triadic play situations with mother, father and child all present at the same time? Is it " three's company" after all? Stoneman and Brody (1981) reported that although both parents spoke fewer utterances in the triadic as compared to the dyadic play situation, the effect was more significant for fathers. Fathers reduced the frequency of conversational turns when mothers were present and also decreased their use of questions in the dyadic compared to the triadic situation. Stoneman and Brody (1981) also suggested that although fathers were efficient language models, who interacted similarly to mothers in a dyadic situation, in triadic situations " fathers assume a playmate role, while mothers are left to oversee and supervise the situation" (p. 707).

The Present Study

Given the literature review and using the conceptual umbrella of social learning theory, the present study will investigate the relationship between the type of block play parents will engage in with their sons and daughters and the overall speech patterns between parents and their children during their play. First, parents and their children will be asked to create block configurations with a set of LEGO blocks. These block

configurations will be viewed in relation to the child's, as well as the parents' gender. Will parents encourage gender-appropriate block configurations in their children? Second, parents' speech to their children during block play will be examined in order to detect whether any differences will occur as a result of parents' sex, child's sex, type of block configuration or an interaction of any of these three variables. The purpose of the present study was to bring together the three bodies of research on girls' and boys' block configurations, parents' sex-typing of children's play and parents' speech to their children during play. In order to explore parents' play and speech behaviors during block play with their sons and daughters, the following hypotheses were advanced.

It was expected that since children's gender-related toy choices will be not only shaped by preferences alone but by situational and social constraints (Raag & Rackliff, 1998), children will perceive their gender-appropriate play to be viewed positively by both parents. Therefore the first hypothesis was:

1. Children will engage in gender-typed block play and construct gender-appropriate block configurations during their play with their parents.

Specifically, boys will construct masculine-typed block constructions with both their mother and father and girls will build feminine-type block configurations with both parents as well.

Furthermore, based on the literature (Rosenberg & Hyde, 1993; Maccoby, 1990) demonstrating that fathers have been found to treat sons and daughters in more gender stereotypical ways than mothers, it was expected that fathers would encourage more masculine-type block configurations with boys and more feminine block configurations with girls. Therefore the second hypothesis was:

2. Fathers, more than mothers, will encourage their children to engage in gender-typed block play and construct sex-appropriate block configurations.

Parental encouragement was defined by use of specific language features such as praise, suggestions, confirmation, attentionals, imaginative sounds and directives.

If the second hypothesis is accepted, a third hypothesis comparing parents' speech to their children may be interesting. It was expected that since both the play activity (Leaper & Gleason, 1996) and parents' gender (O'Brien & Nagle, 1987) influence children's speech to their parents during play, and since children have been reported to be verbally more responsive toward a parent when the activity engaged in was gender-appropriate to the parents' sex (Leaper & Gleason, 1996), the third hypothesis was:

3. Children will be more verbally interactive with a parent when the type of block play they engage in together is appropriate to the parents' sex.

For example, children will engage in more verbal behaviors with their fathers if they are building towers together, but will they be more verbally interactive with their mothers if they are building houses?

Furthermore, it was expected that since doll play encourages parents to be more verbal with their toddlers than play with vehicles (O'Brien & Nagle, 1987), which in turn encourages more imaginative sounds from parents, parents who include more LEGO doll figures in their block play, will engage in more verbal behaviors with their children than parents who include more LEGO vehicles. Therefore the fourth hypothesis was:

4. Parents who include more LEGO doll figures in their constructions will be more verbal (use greater frequencies of language features) than those who include more LEGO vehicles.

Method

Participants

The present study included twenty-four 2-parent English-speaking families and their school-aged children. Twelve of the families were observed with their sons, while the remaining twelve were observed with their daughters, in an attempt to provide an equal number of male and female children. The children ranged in age from 60 to 83 months (M = 69.9 months, SD = 5.62). The birth order of the children within each family observed was not considered for the purposes of this study. All subjects were recruited from various day care centers and/or elementary schools on the island of Montreal.

Procedure

Permission to solicit participants for study was requested from various day care centers and elementary schools on the island of Montreal. If permission to continue was granted, a short information pack summarizing the nature of the study, parental consent to participate in the study and their permission to obtain demographic information, was distributed to the school's or day care's administration (see Appendix A). Twenty-four families were selected for this study and an attempt was made to ensure the presence of an equal number of families with sons and daughters.

Before they engaged in the target task, each parent-child dyad experienced a warm-up task. Specifically, participants were introduced to the LEGO "Town" blocks during a 2-minute free exploration session that allowed them to familiarize themselves with the materials. This warm-up exercise was pilot-tested on two families, one with a son and another with a daughter.

The families met with the experimenter in their homes, where they were asked to

engage in play with their child using a set of LEGO blocks. Each parent was assigned the same task but was observed separately with their child. Every child was observed playing for 10 minutes with the father and for an additional 10 minutes with the mother. Each 10-minute play session for every parent-child dyad, was videotaped. The order of the mother and father was counterbalanced to control for order effects.

Materials

A LEGO "Town" block set consisting of 500 pieces was used for the purposes of this study. The many different pieces enabled the construction of objects within an urban setting. Among the numerous pieces included in the set were:

- The building blocks themselves, ranging in length between 1.5– 8 cm.
- 8 building plaques
- 2 arches
- Large and small windows
- Doors
- Picket fences
- People: blocks with heads of males and females, body blocks, 1.5 cm blocks with eye illustrations, 3 cm. blocks with illustrated smiles
- Blocks for vehicle building: 2-wheeled and 4-wheeled blocks, car windows, trailer hitches
- Small and large propellers
- Garden accessories: flower tops, stems and blocks with illustrations of watering pots
- One block with an illustration of a tool set

Introductory Activity

Each family, both parents and child, engaged in a 2-minute warm-up activity prior to their block play sessions. The purpose of this warm-up activity was to familiarize all the subjects with the various LEGO pieces that were to complement their block configurations during the target task. In essence, this warm-up activity served as an initiation or free exploration of the LEGO materials.

All the LEGO pieces were placed before each family in separate plastic containers, according to similarities. Therefore, all the wheels were placed together, all the doors, windows, etc. This sorting strategy aimed at facilitating subjects' search for pieces during their block play and to eliminate any time wasted searching for pieces. Parents and their children were then given 2 minutes to explore the pieces together before the play sessions began.

Target Task

Parent-child observations. Once the introduction was completed, the observer introduced each family to the next task by stating the following: " Now that you have become familiar with the blocks, I ask you to collaboratively build something with your child using these blocks." Furthermore, the observer also reminded each family that due to the collaborative nature of their play, each parent-child dyad was expected to communicate with each other during the entire duration of their block play.

Unlike the warm-up activity where both parents explored the blocks with their child, both parents were asked to build with their child separately for the target task. Therefore, each child was observed playing with his mother and father on two separate occasions.

Each parent-child dyad was allocated 10 minutes for their block play session. A timer was used to efficiently monitor the beginning and end of each play session. Every parent-child dyad was warned after 8 minutes had expired, in order to encourage them to gradually complete their block configurations. Once each parent-child dyad had completed their block construction and the final product had been examined by the observer, each dyad was asked to take apart their construction and place all the pieces back in their initial containers. This helped the observer prepare for the next parent-child block session. The order of the task for parents was counterbalanced to control for order effects.

Final product. After the 10-minute block play session was concluded and every dyad had completed their block configuration, the observer asked the parent and the child to describe to her what they had built. Although quite informal, this short "question period" served a clarification function in order to eliminate any reservations the observer had with respect to the block configurations. In addition, this enhanced the validity of the target activity, seeing that a 4-wall structure can be easily misinterpreted as a house, castle or "tall" building.

Measures

Language measures. Working from the videotapes, the coding of parent-child utterances commenced as the play session began. Fathers', mothers' and children's speech utterances were classified using a combination of O'Brien and Nagle's (1987) categories of utterances and the Psychosocial Processes Coding Scheme (PPCS) (Leaper, 1991; Leaper & Gleason, 1996). A list of the utterance classifications that were used,

along with a few examples can be found in Appendix B. Furthermore, all utterances were recorded using an event sampling observational strategy (see Appendix C).

Block Play Measures

(1) Type of block play. Varma (1980) reported five different types of block play that occurred among boys and girls. She maintained that *stacking, building* and *knocking down block structures* were primarily associated with boys' block play whereas *cleaning up blocks* and *play*, where blocks were secondary to other toys or items, were more girl-oriented. A list of the five types of block play along with a few examples can be found in Appendix D. Based on these five types of block play, event sampling was used to record the block play of boys, girls, mothers and fathers (see Appendix E). For the purposes of *stacking,* each time a block was stacked by a child or parent, it was recorded.

(2) Type of block configurations. A timer marked the end of the 10-minute session. At this point, each dyad's block configurations were evaluated based on a combination of Erikson's (1951), Cramer and Hogan's (1975) and Budd, Clance, and Simerly's (1985) findings on children's block constructions. Appendix F offers a complete list of all the prominent block configuration features that were investigated as a result of their findings. For example, boys' block configurations were often characterized by height and its downfall, motion, as a result of more vehicle usage, towers, roads and sidewalks. Girls' block constructions were often enclosed, interiors of houses, adorned with gates and arches and the inclusion of doll figures in their play. For recording purposes, a checklist depicting all of the characteristics of boys' and girls' block configurations was used to evaluate the final block construction of every dyad (see Appendix G).

Reliability

For the purposes of obtaining inter-rater reliability on the parent-child block play sessions, an assistant was trained over a 2-month period. Both the author and assistant independently coded at random 25 % (N=6) of the total sample of recorded play sessions. Agreement was calculated by computing the total number of agreements over the total number of agreements + disagreements. For this present study, agreement was reached at 80%.

Results

The following section is divided into five parts: (1) descriptive information for the entire sample on the different parent/child measures, (2) correlations between children's age and sex with mother, father and child behaviors, (3) correlations between mother and father behaviors, (4) gender differences in mother, father and child behaviors, (5) the results pertaining to the research questions addressed in this study along with some exploratory analyses.

Descriptive Data for Entire Sample

The means, standard deviations and range of scores for children and parents on the various measures are reported in Tables 1, 2, 3, and 4. All the tables are found at the end of the Results section. A range of verbal utterances was found for mothers and fathers (see Table 1). A range of block play behaviors was also observed (see Table 2). The maternal and paternal "knock down" block play variable was never observed and thus was dropped from further analyses. However, children demonstrated this block play behavior with their fathers but not their mothers, as is apparent in Table 4. A similar range of scores was apparent for fathers and mothers on the following variables: (1) play, (2) height, (3) decorative items and (4) doll figures (see Table 2). Overall, mothers appeared to be more verbal than fathers based on mean total verbal utterances. A range of verbal utterances and block play behaviors was also found for children. A similar range of scores was apparent for child/mother and child/father dyads on the following variables: (1) suggestions and (2) directives (see Table 3). From such descriptive data, it was reasonable to conclude that these were active play sessions for both parents and children.

Correlations between Age of Child and Mother, Father and Child Behaviors

First, to examine whether there was a link between children's age and mother and father behaviors, correlation statistics were employed (see Tables 5 and 6). Results indicated the following positive correlations with children's age: (1) mothers' confirming statements during play sessions, and (2) fathers' masculine block constructions. Fathers' use of decorative items and female block constructions were negatively correlated with age.

Further correlations were analyzed to assess children's behaviors during the play sessions and children's age (see Table 7 and 8). Results of child with mother dyads indicated the following positive correlations with children's age: (1) children's stacking, and (2) children's masculine block play. For child/father dyads, children's attentionals, stacking and masculine block constructions were positively correlated with age. However, children's use of decorative items and female block constructions were negatively correlated with children's age. This strong relationship between the masculine block constructions and block play (stacking) of child/father, child/mother dyads and children's age may be indicative of children's increasing awareness of gender stereotypes as they get older.

Correlations between Sex of Child and Mother, Father and Child Behaviors

To examine whether any relationship existed between children's sex and mother, father or child behaviors, correlations were employed on all parent and child variables. For maternal behaviors (see Tables 5 and 6), requests and building were positively correlated with children's sex, indicating that mothers were more likely to engage in these behaviors with boys. Maternal stacking however was negatively correlated with

children's sex, indicating that mothers' stacking was more likely to occur with girls.

Further correlations were analyzed to assess paternal behaviors with children's sex (see Tables 5 and 6) and results indicated the following positive correlations: (1) stacking, (2) height, (3) downfall and (4) masculine block constructions. Thus, fathers were more likely to engage in these behaviors with boys. Paternal interpretations, building, decorative items, doll figures, enclosures, home interiors and female block constructions were significantly and negatively correlated with children's sex. These findings indicate that fathers were more likely to engage in these behaviors with girls. In sum, based on these correlations, these findings could suggest that fathers, more than mothers make greater distinctions concerning children's sex during their play.

Additional findings (see Tables 7 and 8) indicated that in child/mother dyads, children's praise was positively correlated with child sex, indicating that boys praised more with mothers. However, children's questions during play with mom were negatively correlated with child sex, indicating that girls asked more questions with mothers than boys. Furthermore, children's behaviors during play with fathers revealed interesting results. During play with fathers, children's stacking, knocking down, height, downfall and masculine block constructions were positively correlated with children's sex. These results indicate that boys were more likely to engage in these behaviors with fathers than girls. However, children's questions, building, use of decorative items, doll figures, enclosures, home interiors and female block constructions were negatively correlated with children's sex, indicating that girls were more likely to engage in these behaviors with fathers.

Research Questions

Children's gender-typed block play and block constructions with parents. The first research question sought to reveal whether children would engage in gender-typed block play and build gender-typed block configurations during play with their parents. A series of 2 X 2 ANOVAS were used to test this hypothesis. Two groups were created for gender-typed block play and block constructions. Female block play with mother and father was defined by play behaviors such as clean up and play, while masculine block play with mother and father was defined by play behaviors such as stacking, building and knocking down. Furthermore, female block constructions with mother and father included the use of decorative items, doll figures, enclosures and home interiors, while masculine block constructions included features such as height, motion, roads/sidewalks and downfall.

First, a 2 X 2 ANOVA was conducted where the type of female block play employed by children with either mother or father was the dependent variable, while children's sex was the independent variable. No significant main effects or interactions were found for girls and boys on feminine block play measures (see Table 9). Second, a 2 X 2 ANOVA where masculine block play with mother or father was the dependent variable and child sex was the independent variable was conducted. Again, no main effects or interactions were found for girls and boys on masculine block play measures. As a result, girls did not engage in female block play with mothers and fathers and boys did not engage in masculine block play with mothers and fathers. Therefore, the prediction that children would engage in gender-typed block play with parents was not supported.

Third, a 2 X 2 ANOVA where female block constructions with mother or father

was the dependent variable and child sex was the independent variable was conducted (see Table 9). A significant main effect for female block constructions was revealed and an interaction of female block constructions X sex of child. To investigate the interaction, one-way ANOVAs were conducted and revealed that girls built more female block constructions with fathers than boys, $F(1, 22) = 18.94$, $p < .001$, M for girls = 13.00, M for boys = 3.92. No significant findings were evident in female block constructions with mothers built by boys and girls $F(1, 22) = .24$, *ns*.

Fourth, to investigate masculine block constructions with mother and father, a 2 X 2 ANOVA where masculine block constructions with mother and father was the dependent variable and child sex was the independent variable was conducted. Main effect for masculine block play was significant $F(1, 22) = 15.79$, $p < .001$ but not a significant interaction, $F(1, 22) = 1.32$, *ns*. However, given the strong significant correlations between child sex and masculine block constructions with father, a decision was made to explore the interaction effect. In fact, one-way ANOVAs indicated that boys were more likely to engage in masculine block constructions with fathers than girls, $F(1,22) = 4.48$, $p < .05$, M for boys = 3.83, M for girls = 2.25, whereas no significant differences were evident in boys and girls masculine block constructions with mother, $F(1,22) = .98$, *ns*, M for girls = .92, M for boys = 1.42. In sum, these last ANOVAs provide partial support for children's sex-typed block constructions with mothers and fathers therefore hypothesis one was only partially supported.

Parental encouragement of sex-typed block play. The second hypothesis sought to explore whether fathers more than mothers, would encourage their children to engage in sex-appropriate block play and build block constructions deemed most appropriate for

their sex. One-way ANOVAs were conducted to test this hypothesis. Sex-typed block play and block constructions were separated into feminine and masculine categories. Father and mother encouragement was defined by a total score based on praise, imaginative sounds, suggestions, confirmation, attentionals and directives for each parent. The results indicated no significant effects for father encouragement for boys to engage in masculine typed block play and build masculine block constructions with fathers, as well as no significant effects were reported between father encouragement for girls to engage in feminine block play with fathers (see Table 10). However, a trend was noted for father encouragement for girls to build feminine block constructions. In addition, no significant findings were revealed for maternal encouragement of sex-typed block play and block constructions for both boys and girls (see Table 11). Thus, the prediction that fathers more than mothers would encourage children to engage in sex-appropriate block play behaviors via praise, imaginative sounds, suggestions, confirmation, attentionals and directives was not supported.

Children's verbal interactions and block play appropriate to parents' sex. The third question addressed was whether children would be more verbally interactive with a parent when the type of block play they engaged in together was appropriate to the parents' sex. Bivariate correlations were used to test this hypothesis. Results (see Table 12) indicated that boys' total verbal utterances with mothers were positively correlated with female block play with mom, indicating that the more sex-appropriate the block play for mothers, the more verbally interactive boys were with mothers. However no significant correlations were found between: (1) girls' total utterances with mothers and female block play with mothers, (2) boys' total utterances with fathers and masculine

block play with fathers, and (3) girls' total utterances with fathers and masculine block play with fathers. Thus, the prediction that children would speak more with mothers and fathers if the block play they engaged in together was appropriate to the parent's sex was partially supported.

Analyses were broken down further by examining the total of children's verbal utterances with mothers and fathers in relation to sex-appropriate block constructions. Although no significant correlations were revealed, two trends were reported (see Table 12). First, a positive correlation between girls' total utterances with fathers and masculine block construction with fathers and second, a negative correlation between boys' total utterances with mothers and female block constructions with mothers.

Doll figures, vehicles and parent verbal interaction. The fourth and final question addressed whether parents who included more doll figures in their block constructions would be more verbally interactive than parents who included more vehicles in their final block constructions. Bivariate correlations were used to test this hypothesis (see Table 13). Correlations indicated that there were no significant relationships between parents' verbal interactions and their use of doll figures or vehicles in their final block constructions. Therefore, the hypothesis was not supported.

Further Analyses

Correlations between mother and father behaviors. Further correlations were analyzed to assess mother and father behaviors in relation to one another (see Tables 14 and 15). Results indicated that both mothers' and fathers' verbal utterances were positively correlated for negations and total utterances. In addition, mother and father final block configuration features were positively correlated for the downfall category.

However, the use of height in maternal and paternal block constructions was significantly negatively correlated. A trend also revealed that maternal and paternal building and home interiors were negatively correlated.

Correlations between child with mother and child with father behaviors. In order to examine any link between children's behaviors during play with mothers and fathers, correlation statistics were employed (see Tables 16 and 17). First, child behaviors during play with mothers were positively correlated with children's behaviors during play with fathers on the following verbal utterance measures: (1) suggestions, (2) confirm, (3) request, (4) questions, (5) directives, (6) attentionals, (7) imaginative sounds, (8) negate, and (9) total utterances. A trend revealed that children's praise and interpretations with mothers were positively correlated with that of fathers. As depicted, significant positive correlations were revealed on all verbal utterance measures, with the exception of praise and interpretations, indicating that children engage in consistent verbal behaviors with both parents during play.

Analyses also indicated positive correlations between child with mother and child with father dyads on variables such as stacking, play, downfall and masculine block play. The only significant negative correlation revealed was with respect to children's use of height in their constructions with mothers and fathers. Thus, this suggests that the more children built up higher constructions with fathers, the less likely they were to do so with mothers and vice versa. Meanwhile, a trend revealed a negative correlation between children's use of home interiors with mothers and fathers.

Differences between mother and father utterances and final block configurations. In order to investigate any differences between mother and fathers paired sample *t*-tests

were conducted on all verbal utterance variables. The following comparisons between mothers and fathers were significant (see Tables 18 and 19). First, an investigation of parents' verbal utterances revealed significant findings for four behaviors: (a) interpretations, (b) requests, (c) questions, (d) negations. Examination of the means (see Table 1) indicated that mothers made significantly more interpretations, requests, questions and negations than did fathers. In addition, the *t*-test for total utterances was significant and means indicated that mothers spoke significantly more than fathers during the play sessions (see Table 1). Second, mothers' and fathers' final block configuration features were investigated using paired sample *t*-tests (see Table 19, means reported in Table 2). Mothers were observed to use significantly more decorative items and doll figures in their final block configurations with their children, whereas fathers were observed using significantly more motion, downfall and roads or sidewalks. Meanwhile, a trend also revealed that fathers made height a more prominent feature in their final block constructions than mothers. In addition, although no significant differences were found for block play behaviors, a trend revealed that fathers cleaned up ($p = .07$) and engaged in more play ($p = .09$) than mothers. To summarize, results indicated that mothers' and fathers' sex was linked with the types of block constructions they built with their children.

Differences in children's verbal utterances and block play. The purpose of these analyses was to investigate whether any differences were observed on all verbal utterances and block play behaviors between child/mother and child/father dyads. Similar to the parent findings, significant differences were also reported for children (see Table 20, means are reported in Table 3). First, analyses for verbal utterances revealed that

children playing with their mothers were found to make more (a) suggestions, (b) interpretations, (c) confirmations, (d) directives and (e) negations than when they played with their fathers. Children were also reported to be significantly more talkative overall with their mothers than with their fathers. Finally, a trend revealed that children asked more questions ($p = .09$) more frequently with mothers than fathers.

Second, the block play behaviors for each parent/child dyad were investigated by employing paired sample *t*-test comparisons (see Table 21, means are reported in Table 4). The only significant finding revealed by these analyses was that children knocked down block structures significantly more with fathers as this type of block play never occurred with mothers.

Third, paired sample *t*-tests were conducted for each dyad's final block configuration features. Children were observed to include significantly more motion, downfall and roads/sidewalks features in their block constructions with their father. In addition, a trend was noted ($p = .06$) for height in block constructions and play with fathers than mothers. Conversely, features such as decorative items and doll figures were more frequently present in children's block constructions with their mother than father. Finally, paired sample *t*-tests revealed that children use significantly more female block configuration features with mothers and significantly more masculine block configuration features with fathers. In sum, these analyses indicate that children's play styles were congruent with their parents' gender.

Sex differences in mother, father and child behaviors. In order to investigate any sex differences between mother, father and child behaviors, one-way analyses of variance were conducted on all verbal utterances, block play and block configuration variables.

Mothers (see Tables 22 and 23, means are reported in Tables 24 and 25) were observed using significantly more requests and engaged in more building with boys than girls. Alternatively, mothers were observed engaging in more stacking with girls than boys. Meanwhile, a trend revealed that mothers made more imaginative sounds with girls than boys. Furthermore, analyses revealed some significant results for fathers (see Tables 22 and 23, means are reported in Tables 26 and 27). First, fathers were observed engaging in more stacking with boys than girls and included more height and downfall features in their final constructions with boys. Two trends also revealed more paternal requests and clean up during block play with boys than girls. Conversely, fathers were observed making more interpretations and engaged in more building with girls than boys. In addition, significant results were reported for fathers and daughters on the final block configuration features. First, fathers were observed building significantly more feminine block constructions with girls than boys. Furthermore, they were observed using more decorative items, enclosures, doll figures and home interiors significantly more with girls than boys. In sum, these findings may be indicative of fathers' stronger encouragement of gender-typed play with their children than mothers.

Children's behaviors were also subject to sex differences (see Tables 28 and 29). First, girls were reported to ask more questions than boys with both mothers and fathers (means are reported in Tables 30 and 31). Second, girls were observed to build and use more decorative items, doll figures, enclosures and home interiors in their constructions with fathers than mothers. Overall, girls were observed to build significantly more female block configurations with fathers. A trend also revealed that girls gave more directives and made more imaginative sounds with mothers than fathers. Significant findings were

also revealed for boys (means are reported in Tables 32 and 33). Boys were observed to stack and knock down more with fathers than mothers. In addition, boys used more height and downfall in their final block configurations with fathers than mothers. The only significant finding with respect to boys' play with mothers was that boys used more praise with mothers than fathers. Furthermore, a trend revealed that boys engaged in more play with mothers than fathers. In sum, these findings suggest that children engage in more gender-typed behaviors with fathers than mothers.

Table 1

Means and Standard Deviations for Mother and Father Verbal Utterances

	Mother Utterances			Father Utterances		
Variables	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Praise	5.46	4.75	0-19	6.25	3.70	0-15
Suggestions	12.54	5.59	4-24	12.92	4.77	6-26
Interpretations	8.29	3.46	1-16	4.54	3.12	0-11
Confirm	13.50	7.04	3-36	14.04	6.40	2-23
Request	13.13	4.48	5-19	7.63	3.89	2-16
Questions	22.63	9.12	5-49	13.63	5.81	6-33
Directives	3.54	3.93	0-18	4.46	3.13	1-10
Attentionals	6.17	3.17	2-13	5.13	2.98	0-14
Imaginative Sounds	2.88	2.09	0-7	3.71	2.05	1-9
Negate	2.29	2.61	0-11	1.04	1.20	0-4
Total Utterances	90.42	25.75	36-142	73.33	16.20	44-99

Table 2

Means and Standard Deviations for Mother and Father Block Play Measures

	Mother Behaviors			Father Behaviors		
Variables	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Block Play						
Stacking	15.04	8.91	5-36	15.50	7.97	0-28
Building	12.25	5.96	1-26	11.21	6.58	1-22
Clean Up	3.46	2.69	0-10	4.88	2.47	0-9
Play	1.25	1.39	0-6	2.13	1.78	0-6
Female Block Play	4.71	2.91	0-12	7.00	3.43	0-14
Masculine Block Play	27.29	10.31	12-55	26.71	8.24	1-38
Block Configuration Features						
Height	.33	.48	0-1	.67	.48	0-1
Motion	.75	1.07	0-4	1.83	1.49	0-6
Downfall	.01	.28	0-1	.25	.53	0-2
Roads/Sidewalks	.00	.00	0-0	.29	.46	0-1
Decorative Items	4.83	4.05	0-12	2.21	3.26	0-12
Doll Figures	2.42	1.21	0-4	1.13	1.36	0-4
Enclosures	5.38	2.95	0-13	4.67	4.34	0-14
Home Interiors	.79	.51	0-2	.46	.88	0-4
Female Block Constructions	13.42	5.69	4-23	8.46	6.82	0-20
Masculine Block Constructions	1.17	1.24	0-4	3.04	1.97	0-8

Table 3

Means and Standard Deviations for Child Verbal Utterances

	Child with Mother			Child with Father		
Variables	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Praise	1.17	1.31	0-4	1.29	1.78	0-7
Suggestions	8.50	3.88	1-15	6.96	3.11	1-15
Interpretations	5.88	3.64	0-15	3.96	2.58	0-10
Confirm	14.67	5.50	2-28	11.08	5.07	1-25
Request	3.08	3.22	0-14	2.75	2.83	0-9
Questions	4.50	3.05	0-12	3.63	2.67	0-10
Directives	2.25	2.45	0-9	1.25	2.03	0-9
Attentionals	4.50	3.08	0-11	3.63	2.60	0-12
Imaginative Sounds	4.83	4.29	0-15	4.38	3.29	0-14
Negate	5.04	4.57	0-20	3.63	4.62	0-19
Total Utterances	54.42	18.32	5-96	42.54	16.34	3-78

Table 4

Means and Standard Deviations For Child Block Play Measures

	Child with Mother			Child with Father		
Variables	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Block Play						
Stacking	15.08	10.05	5-52	18.04	12.60	3-61
Building	13.21	5.83	2-25	12.96	7.99	4-41
Knock Down	.00	.00	0-0	.25	.53	0-2
Clean up	4.92	2.87	1-11	5.21	3.04	1-14
Play	2.96	3.57	0-17	4.33	3.62	0-15
Female Block Play	8.04	3.93	2-18	9.54	4.59	3-21
Masculine Block Play	28.29	9.06	12-57	31.25	14.39	14-85
Block Configuration Features						
Height	.33	.48	0-1	.67	.48	0-1
Motion	.75	1.07	0-4	1.83	1.49	0-6
Downfall	0.01	.28	0-1	.25	.53	0-2
Roads/Sidewalks	.00	.00	0-0	.29	.46	0-1
Decorative Items	4.83	4.05	0-12	2.21	3.26	0-12
Doll Figures	2.42	1.21	0-4	1.13	1.36	0-4
Enclosures	5.38	2.95	0-13	4.67	4.34	0-14
Home Interiors	.79	.51	0-2	.46	.88	0-4
Female Block Constructions	13.42	5.69	4-23	8.46	6.82	0-20
Masculine Block Constructions	1.17	1.24	0-4	3.04	1.97	0-8

Table 5

Correlations Between Mother and Father Utterances and Children's Age and Sex

	Mother Utterances		Father Utterances	
Variables	Age	Sex	Age	Sex
Praise	.13	-.08	.11	.14
Suggestions	-.11	-.24	-.01	.05
Interpretations	-.14	.01	.07	-.42*
Confirm	.43*	-.09	.02	.09
Request	.00	.47*	-.21	.36
Questions	.32	.12	-.34	-.26
Directives	-.38	-.08	-.02	.20
Attentionals	-.31	.05	.18	.19
Imaginative Sounds	-.03	-.35	-.14	.23
Negate	-.05	-.08	.18	-.25
Total Utterances	.11	-.01	-.11	.08

Note. * $p < .05$. ** $p < .01$.

Table 6

Correlations Between Parent Block Play Measures and Children's Age and Sex

	Mother Behaviors		Father Behaviors	
Variables	Age	Sex	Age	Sex
Block Play				
Stacking	-.24	-.53**	.23	.60**
Building	.08	.41*	-.13	-.76**
Clean Up	-.15	-.14	.29	.40
Play	-.09	.12	-.13	.02
Female Block Play	-.18	-.07	.14	.30
Masculine Block Play	-.16	-.22	.11	-.03
Block Configuration Features				
Height	.23	-.18	.22	.71**
Motion	-.12	.24	.35	.11
Downfall	.25	.30	.38	.48*
Roads/Sidewalks	.00	.00	.02	.09
Decorative Items	.12	-.08	-.49*	-.51*
Doll Figures	-.34	.00	-.01	-.41*
Enclosures	.09	-.10	-.33	-.45*
Home Interiors	.13	.08	-.28	-.53**
Female Block Cons.	.07	-.11	-.48*	-.68**
Male Block Cons.	.04	.21	.43*	.41*

Note. * $p < .05$. ** $p < .01$. Cons = constructions

Table 7

Correlations Between Child Utterances and Children's Age and Sex

	Child with Mother		Child with Father	
Variables	Age	Sex	Age	Sex
Praise	.09	.46*	-.24	.17
Suggestions	-.13	-.22	-.32	-.40
Interpretations	-.30	-.11	-.07	.31
Confirm	.03	.06	.09	.08
Request	-.18	.08	-.15	.18
Questions	-.32	-.47*	-.26	-.53**
Directives	-.06	-.38	.13	-.29
Attentionals	-.13	-.14	.41*	-.08
Imaginative Sounds	.08	-.38	.16	.07
Negate	.21	.01	.04	-.01
Total Utterances	-.12	-.24	-.01	-.08

Note. * $p < .05$. ** $p < .01$.

Table 8

Correlations Between Child Block Play and Children's Age and Sex

	Child with Mother		Child with Father	
Variables	Age	Sex	Age	Sex
Block Play				
Stacking	.54**	-.11	.41*	.62**
Building	.03	.15	-.07	-.55**
Knock down	.00	.00	.22	.48*
Clean Up	-.25	-.24	.08	-.21
Play	-.09	.35	-.12	.31
Female Block Play	-.34	.10	-.04	.10
Male Block Play	.62**	-.02	.33	.25
Block Configuration Features				
Height	.23	-.18	.22	.71**
Motion	-.12	.24	.35	.11
Downfall	.25	.30	.38	.48*
Roads/Sidewalks	.00	.00	.02	.09
Decorative Items	.12	-.08	-.49*	-.51*
Doll Figures	-.34	.00	-.01	-.41*
Enclosures	.09	-.10	-.33	-.45*
Home Interiors	.13	.08	-.28	-.53**
Female Block Cons.	.07	-.11	-.48*	-.68**
Male Block Cons.	.04	.21	.43*	.41*

Note. * $p < .05$. ** $p < .01$. Cons.= constructions

Table 9

2 X 2 ANOVAs for Girls' and Boys' Gender-Typed Block Play with Mothers and Fathers

Variables	*df*	*F*	*p*
(1) Female Block Play with Parent by Child Sex			
Female Block Play	1,22	2.13	*ns*
Female Block Play X Child Sex	1,22	.01	*ns*
(2) Male Block Play with Parent by Child Sex			
Male Block Play	1,22	1.57	*ns*
Male Block Play X Child Sex	1,22	2.59	*ns*
3) Female Block Const. with Parent by Child Sex			
Female Block Const.	1,22	9.31	.006
Female Block Const. X Child Sex	1,22	5.93	.02
(4) Male Block Const. with Parent by Child Sex			
Male Block Const.	1,22	15.79	.001
Male Block Const. X Child Sex	1,22	1.32	*ns*

Note. const. = constructions. *ns* = not significant

Table 10

Analyses of Variance for Father Encouragement and Boys' and Girls' Sex-Appropriate Block Play and Constructions

Activity	*df*	*F*	*p*
Girls			
Block Play	2, 9	1.13	*ns*
Block Constructions	2, 9	15.68	.06[+]
Boys			
Block Play	2, 9	1.17	*ns*
Block Constructions	2, 9	1.68	*ns*

Note. *ns* = not significant. [+] $p < .10$

Table 11

Analyses of Variance for Mother Encouragement and Girls' and Boys' Sex-Appropriate Block Play and Constructions

Activity	*df*	*F*	*p*
Girls			
Block Play	2, 9	.41	*ns*
Block Constructions	2, 9	1.77	*ns*
Boys			
Block Play	2, 9	.07	*ns*
Block Constructions	2, 9	.68	*ns*

Note. *ns* = not significant

Table 12

Correlations Between Total Child Utterances and Parent Sex-Appropriate Play

	Girl Utterances	Boy Utterances
Activity	*r*	*r*
Female Block Play with Mother	.43	.62*
Female Block Construction with Mother	-.27	-.51^{+}
Male Block Play with Father	.22	-.25
Male Block Constructions with Father	.52 $^{+}$	-.30

Note. * $p < .05$. $^{+}p < .10$

Table 13

Correlations Between Total Doll Figures and Vehicles in Block Configurations and Total Parent Utterances

	Mother Utterances	Father Utterances
Variables	*r*	*r*
Doll Figures	.03	.18
Vehicles	.19	.07

Table 14

Correlations Between Mother and Father Utterances

Variables	*r*
Praise	-.04
Suggestions	.17
Interpretations	.10
Confirm	.37
Request	.22
Questions	.30
Directives	.20
Attentionals	.03
Imaginative Sounds	.22
Negate	.55**
Total Utterances	.46*

Note. * $p < .05$. ** $p < .01$.

Table 15

Correlations Between Mother and Father Block Play Measures

Variables	*r*
Block Play	
Stacking	-.29
Building	-.35 +
Clean Up	-.01
Play	-.14
Female Block Play	.15
Male Block Play	.26
Block Configuration Features	
Height	-.44*
Motion	-.11
Downfall	.72**
Decorative Items	.17
Doll Figures	-.32
Enclosures	.01
Home Interiors	-.36 +
Female Block Constructions	.03
Male Block Constructions	-.00

Note. * $p < .05$. ** $p < .01$. + $p < .10$

Table 16

Correlations Between Child with Mother and Child with Father Utterances

Utterances	*r*
Praise	.35 +
Suggestions	.51*
Interpretations	.39 +
Confirm	.49*
Request	.73**
Questions	.63**
Directives	.44*
Attentionals	.42*
Imaginative Sounds	.44*
Negate	.91**
Total Utterances	.77**

Note. * $p < .05$. ** $p < .01$. + $p < .10$

Table 17

Correlations Between Child with Mother and Child with Father Block Play Measures

Variables	*r*
Block Play	
Stacking	.47*
Building	-.05
Clean Up	.32
Play	.57**
Female Block Play	.34
Masculine Block Play	.56**
Block Configuration Features	
Height	-.44*
Motion	-.11
Downfall	.72**
Decorative Items	.17
Doll Figures	-.32
Enclosures	.01
Home Interiors	-.36 $^{+}$
Female Block Constructions	.03
Masculine Block Constructions	-.00

Note. * $p < .05$. ** $p < .01$. $^{+}$ $p < .10$

Table 18

Paired Samples t-tests for Mother and Father Verbal Utterances

Variables	*t*	*df*	*p*
Praise	-.63	23	ns
Suggestions	-.27	23	ns
Interpretations	4.16	23	.001
Confirm	-.35	23	ns
Request	5.15	23	.001
Questions	4.79	23	.001
Directives	-.99	23	ns
Attentionals	1.19	23	ns
Imaginative Sounds	-1.58	23	ns
Negate	2.79	23	.01
Total Utterances	3.59	23	.002

Note. ns = not significant

Table 19

Paired Samples t-tests for Mother and Father Block Play Measures

Variables	*t*	*df*	*p*
Stacking	-.17	23	ns
Building	.50	23	ns
Clean Up	-1.89	23	.07 +
Play	-1.79	23	.09 +
Female Block Play	-2.71	23	.01
Male Block Play	.25	23	ns
Height	-2.00	23	.06 +
Motion	-2.75	23	.01
Downfall	-2.15	23	.04
Roads/Sidewalks	-3.08	23	.01
Decorative Items	2.71	23	.01
Doll Figures	3.02	23	.01
Enclosures	.67	23	ns
Home Interiors	1.40	23	ns
Female Block Constructions	2.77	23	.01
Male Block Constructions	-3.95	23	.001

Note. ns = not significant. + $p < .10$

Table 20

Paired Samples t-tests for Child with Mother and Child with Father Verbal Utterances

Utterances	*t*	*df*	*p*
Praise	-.34	23	ns
Suggestions	2.15	23	.04
Interpretations	2.65	23	.01
Confirm	3.29	23	.003
Request	.72	23	ns
Questions	1.73	23	.09 *
Directives	2.05	23	.05
Attentionals	1.38	23	ns
Imaginative Sounds	.55	23	ns
Negate	3.47	23	.002
Total Utterances	4.90	23	.001

Note. ns = not significant. * $p < .10$

Table 21

Paired Samples t-tests for Child with Mother and Child with Father Block Play

Variables	*t*	*df*	*p*
Stacking	-1.23	23	ns
Building	.12	23	ns
Knock Down	-2.30	23	.03
Clean Up	-.42	23	ns
Play	-2.01	23	.06 +
Female Block Play	-1.49	23	ns
Male Block Play	-1.21	23	ns
Height	-2.00	23	.06 +
Motion	-2.75	23	.01
Downfall	-2.15	23	.04
Roads/Sidewalks	-3.08	23	.01
Decorative Items	2.71	23	.01
Doll Figures	3.02	23	.01
Enclosures	.67	23	ns
Home Interiors	1.40	23	ns
Female Block Constructions	2.77	23	.01
Male Block Constructions	-3.95	23	.001

Note. ns = not significant. + $p < .10$

Table 22

Analyses of Variance for Mother and Father Utterances and Sex of Child

	Mother			Father		
Utterances	*df*	*F*	*p*	*df*	*F*	*p*
Praise	1,22	.14	ns	1,22	.42	ns
Suggestions	1,22	1.30	ns	1,22	.06	ns
Interpretations	1,22	.00	ns	1,22	4.79	.04
Confirm	1,22	.16	ns	1,22	.17	ns
Request	1,22	6.10	.02	1,22	3.30	.08^{+}
Questions	1,22	.30	ns	1,22	1.55	ns
Directives	1,22	.13	ns	1,22	.95	ns
Attentionals	1,22	.06	ns	1,22	.78	ns
Imaginative Sounds	1,22	2.90	.09^{+}	1,22	1.20	ns
Negate	1,22	.15	ns	1,22	1.45	ns
Total Utterances	1,22	.00	ns	1,22	.14	ns

Note. ns = not significant. $^{+}p < .10$

Table 23

Analyses of Variance for Mother and Father Block Play Measures and Sex of Child

	Mother			Father		
Variables	*df*	*F*	*p*	*df*	*F*	*p*
Stacking	1,22	8.61	.01	1,22	12.27	.001
Building	1,22	4.56	.04	1,22	29.49	.001
Clean Up	1,22	.46	ns	1,22	4.09	.06^{+}
Play	1,22	.34	ns	1,22	.01	ns
Female Block Play	1,22	.12	ns	1,22	2.15	ns
Male Block Play	1,22	1.11	ns	1,22	.02	ns
Height	1,22	.71	ns	1,22	22.00	.001
Motion	1,22	1.32	ns	1,22	.29	ns
Downfall	1,22	2.20	ns	1,22	6.60	.02
Roads/Sidewalks	1,22	.00	ns	1,22	.19	ns
Decorative Items	1,22	.16	ns	1,22	7.72	.01
Doll Figures	1,22	.00	ns	1,22	4.35	.05
Enclosures	1,22	.23	ns	1,22	5.62	.03
Home Interiors	1,22	.16	ns	1,22	8.59	.01
Female Block Constructions	1,22	.24	ns	1,22	18.94	.001
Male Block Constructions	1,22	.98	ns	1,22	4.48	.05

Note. ns = not significant. $^{+}$ $p < .10$

Table 24

Means and Standard Deviations for Mother Utterances with Girls and Boys

	Girls			Boys		
Utterances	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Praise	5.83	6.34	0-19	5.08	2.61	0-10
Suggestions	13.83	6.15	6-24	11.25	4.90	4-22
Interpretations	8.25	4.25	1-16	8.33	2.64	3-13
Confirm	14.08	9.21	3-36	12.92	4.25	7-21
Request	11.08	4.03	5-18	15.17	4.06	6-19
Questions	21.58	8.22	8-33	23.67	10.19	5-49
Directives	3.83	5.04	0-18	3.25	2.60	0-9
Attentionals	6.00	3.33	2-13	6.33	3.14	2-12
Imaginative Sounds	3.58	2.43	0-7	2.17	1.47	0-4
Negate	2.50	3.21	0-11	2.08	1.98	0-7
Total Utterances	90.58	29.25	40-142	90.25	23.04	36-122

Table 25

Means and Standard Deviations for Mother Block Play Behaviors with Girls and Boys

	Girls			Boys		
Variables	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Stacking	19.67	9.83	5-36	10.42	4.76	5-23
Building	9.83	4.73	1-20	14.67	6.26	2-26
Clean Up	3.83	3.04	0-10	3.08	2.35	0-7
Play	1.08	1.00	0-3	1.42	1.73	0-6
Female Block Play	4.92	3.06	2-13	4.50	2.88	2-18
Male Block Play	29.50	12.09	12-43	25.08	8.07	19-57
Height	.42	.51	0-1	.25	.45	0-1
Motion	.50	1.00	0-3	1.00	1.13	0-4
Downfall	.00	.00	0-0	.17	.39	0-1
Roads/Sidewalks	.00	.00	0-0	.00	.00	0-0
Decorative Items	5.17	4.37	0-12	4.50	3.87	0-10
Doll Figures	2.42	1.31	0-4	2.42	1.16	0-4
Enclosures	5.67	3.68	0-13	5.08	2.11	2-8
Home Interiors	.75	.62	0-2	.83	.39	0-1
Female Block Const.	14.00	7.27	4-23	12.83	3.76	7-19
Male Block Const.	.92	1.16	0-4	1.42	1.31	0-4

Note. Const. = Constructions

Table 26

Means and Standard Deviations for Father Utterances with Girls and Boys

	Girls			Boys		
Utterances	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Praise	5.75	3.47	2-13	6.75	4.00	0-15
Suggestions	12.67	5.45	6-26	13.17	4.22	6-18
Interpretations	5.83	2.98	2-11	3.25	2.80	0-11
Confirm	13.50	6.26	2-23	14.58	6.78	2-22
Request	6.25	2.56	2-10	9.00	4.57	4-16
Questions	15.08	7.20	7-33	12.17	3.76	6-17
Directives	3.83	2.62	1-9	5.08	3.58	1-10
Attentionals	4.58	1.98	0-7	5.67	3.75	1-14
Imaginative Sounds	3.25	1.91	1-6	4.17	2.17	1-9
Negate	1.33	1.37	0-4	.75	.97	0-3
Total Utterances	72.08	14.04	44-99	74.58	18.67	45-94

Table 27

Means and Standard Deviations for Father Block Play Behaviors with Girls and Boys

	Girls			Boys		
Variables	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Stacking	10.83	5.20	4-21	20.17	7.63	0-28
Building	16.08	4.94	5-22	6.33	3.77	1-12
Clean Up	3.92	2.54	0-8	5.83	2.08	3-9
Play	2.08	1.88	0-6	2.17	1.75	0-5
Female Block Play	6.00	3.86	3-21	8.00	2.73	4-17
Male Block Play	26.92	6.99	14-49	26.50	9.65	19-85
Height	.33	.49	0-1	1.00	.00	1-1
Motion	1.67	1.50	0-6	2.00	1.54	1-6
Downfall	.00	.00	0-0	.50	.67	0-2
Roads/Sidewalks	.25	.45	0-1	.33	.49	0-1
Decorative Items	3.83	3.86	0-12	.58	1.24	0-4
Doll Figures	1.67	1.61	0-4	.58	.79	0-2
Enclosures	6.58	3.60	0-14	2.75	4.29	0-14
Home Interiors	.92	1.08	0-4	.00	.00	0-0
Female Block Const.	13.00	5.41	4-20	3.92	4.80	0-17
Male Block Const.	2.25	1.86	0-7	3.83	1.80	2-8

Note. Const. = Constructions

Table 28

Analysis of Variance for Child with Mother and Child with Father Utterances and Sex of Child

	Child with Mother			Child with Father		
Utterances	*df*	*F*	*p*	*df*	*F*	*p*
Praise	1,22	5.77	.03	1,22	.63	ns
Suggestions	1,22	1.11	ns	1,22	4.10	.06^{+}
Interpretations	1,22	.25	ns	1,22	2.40	ns
Confirm	1,22	.09	ns	1,22	.16	ns
Request	1,22	.14	ns	1,22	.74	ns
Questions	1,22	6.39	.02	1,22	8.44	.01
Directives	1,22	3.75	.07^{+}	1,22	2.08	ns
Attentionals	1,22	.43	ns	1,22	.15	ns
Imaginative Sounds	1,22	3.65	.07^{+}	1,22	.09	ns
Negate	1,22	.00	ns	1,22	.00	ns
Total Utterances	1,22	1.37	ns	1,22	.13	ns

Note. ns = not significant. $^{+}$ $p < .10$

Table 29

Analysis of Variance for Child with Mother and Child with Father Block Play and Sex of Child

	Child with Mother			Child with Father		
Variables	*df*	*F*	*p*	*df*	*F*	*p*
Stacking	1,22	.27	ns	1,22	13.62	.001
Building	1,22	.53	ns	1,22	9.47	.01
Knock Down	1,22	.00	ns	1,22	6.60	.02
Clean up	1,22	1.31	ns	1,22	1.02	ns
Play	1,22	2.99	.09^{+}	1,22	2.27	ns
Female Block Play	1,22	.21	ns	1,22	.23	ns
Male Block Play	1,22	.01	ns	1,22	1.52	ns
Height	1,22	.71	ns	1,22	22.00	.00
Motion	1,22	1.32	ns	1,22	.29	ns
Downfall	1,22	2.20	ns	1,22	6.60	.02
Roads/Sidewalks	1,22	.00	ns	1,22	.19	ns
Decorative Items	1,22	.16	ns	1,22	7.72	.01
Doll Figures	1,22	.00	ns	1,22	4.35	.05
Enclosures	1,22	.23	ns	1,22	5.62	.03
Home Interiors	1,22	.16	ns	1,22	8.59	.01
Female Block Const.	1,22	.24	ns	1,22	18.94	.00
Male Block Const.	1,22	.98	ns	1,22	4.48	.05

Note. ns = not significant. Const. = constructions. $^{+}p < .10$

Table 30

Means and Standard Deviations for Girls' Utterances with Mothers and Fathers

	Mother			Father		
Utterances	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Praise	.58	1.00	0-3	1.00	1.28	0-4
Suggestions	9.33	3.82	1-15	8.17	3.64	1-15
Interpretations	6.25	4.65	0-15	3.17	2.08	0-7
Confirm	14.33	7.08	2-28	10.67	5.45	1-21
Request	2.83	2.66	0-10	2.25	2.26	0-8
Questions	5.92	3.29	0-12	5.00	3.07	0-10
Directives	3.17	2.92	0-9	1.83	2.52	0-9
Attentionals	4.92	3.42	0-11	3.83	3.35	0-12
Imaginative Sounds	6.42	5.12	0-15	4.17	4.02	0-14
Negate	5.00	5.05	0-20	3.67	5.12	0-19
Total Utterances	58.75	23.00	5-96	43.75	19.87	3-78

Table 31

Means and Standard Deviations for Girls' Block Play with Mothers and Fathers

	Mother			Father		
Variables	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Stacking	16.17	7.71	6-34	10.42	6.80	3-24
Building	12.33	7.14	2-25	17.25	8.24	10-41
Knock Down	.00	.00	0-0	.00	.00	0-0
Clean Up	5.58	3.06	1-11	5.83	3.74	1-14
Play	1.75	1.91	0-6	3.25	2.60	0-7
Female Block Play	7.67	3.63	2-13	9.08	5.26	3-21
Male Block Play	28.50	8.47	12-43	27.67	10.04	14-49
Height	.42	.51	0-1	.33	.49	0-1
Motion	.50	1.00	0-3	1.67	1.50	0-6
Downfall	.00	.00	0-0	.00	.00	0-0
Roads/Sidewalks	.00	.00	0-0	.25	.45	0-1
Decorative Items	5.17	4.37	0-12	3.83	3.86	0-12
Doll Figures	2.42	1.31	0-4	1.67	1.61	0-4
Enclosures	5.67	3.68	0-13	6.58	3.60	0-14
Home Interiors	.75	.62	0-2	.92	1.08	0-4
Female Block Const.	14.00	7.27	4-23	13.00	5.41	4-20
Male Block Const.	.92	1.16	0-4	2.25	1.86	0-7

Note. Const. = constructions

Table 32

Means and Standard Deviations for Boys' Utterances with Mothers and Fathers

	Mother			Father		
Utterances	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Praise	1.75	1.36	0-4	1.58	2.19	0-7
Suggestions	7.67	3.92	1-13	5.75	1.96	3-10
Interpretations	5.50	2.39	2-11	4.75	2.86	1-10
Confirm	15.00	3.59	10-21	11.50	4.87	6-25
Request	3.33	3.80	0-14	3.25	3.33	0-9
Questions	3.08	2.07	0-6	2.25	1.14	1-5
Directives	1.33	1.50	0-4	.67	1.23	0-4
Attentionals	4.08	2.78	0-10	3.42	1.68	1-6
Imaginative Sounds	3.25	2.60	0-8	4.58	2.54	0-8
Negate	5.08	4.27	1-17	3.58	4.29	0-16
Total utterances	50.08	11.46	31-65	41.33	12.67	25-72

Table 33

Means and Standard Deviations for Boys' Block Play with Mother and Father

	Mother			Father		
Variables	*M*	*SD*	*Range*	*M*	*SD*	*Range*
Stacking	14.00	12.22	5-52	25.67	12.59	14-61
Building	14.08	4.29	5-21	8.67	5.05	4-23
Knock Down	.00	.00	0-0	.50	.67	0-2
Clean Up	4.25	2.63	1-8	4.58	2.11	1-9
Play	4.17	4.45	0-17	5.42	4.25	0-15
Female Block Play	8.42	4.34	2-18	10.00	3.98	4-17
Male Block Play	28.08	10.00	19-57	34.83	17.44	19-85
Height	.25	.45	0-1	1.00	.00	1-1
Motion	1.00	1.13	0-4	2.00	1.54	1-6
Downfall	.17	.39	0-1	.50	.67	0-2
Roads/Sidewalks	.00	.00	0-0	.33	.49	0-1
Decorative Items	4.50	3.87	0-10	.58	1.24	0-4
Doll Figures	2.42	1.16	0-4	.58	.79	0-2
Enclosures	5.08	2.11	2-8	2.75	4.29	0-14
Home Interiors	.83	.39	0-1	.00	.00	0-0
Female Block Const.	12.83	3.76	7-19	3.92	4.80	0-17
Male Block Const.	1.42	1.31	0-4	3.83	1.80	2-8

Note. Const. = Constructions

Discussion

Employing the premises that fall under the theoretical umbrella of Social Learning Theory, the present study was designed to investigate mothers' and fathers' block play with their sons and daughters. Essentially, the study aimed at investigating whether parents encouraged sex-stereotyped block play with their children. Discussion of the findings will focus on: (a) analyses and interpretations of the research questions and exploratory findings, (b) limitations of the study, (c) directions for future research and (d) implications for parents and teachers.

In the present study, the hypotheses were divided into two sets of questions. The first two questions were primarily concerned with parent/child block play and block configuration measures, whereas the final two questions were geared at children's and parents' verbal utterances during the play sessions.

Block Play and Final Block Configurations

The first two predictions (hypotheses 1 and 2) involved investigating whether children would engage in sex-stereotyped block play with their parents' and whether mothers or fathers would be more encouraging of sex-stereotyped block play with their children.

Children's gender-typed block play and final block configurations with parents. First, it was hypothesized that children would engage in gender-typed block play and build gender-typed block configurations with their parents. This hypothesis was only partially supported. In the present study children did not engage in gender-typed block play. However, some interesting, but partial support with respect to final block configurations was found: both girls and boys were observed to build more gender-typed

block configurations with their fathers but not their mothers. That is, girls built more female block constructions with their fathers and not their mothers and boys built more masculine constructions with their fathers, and not their mothers. One of the reasons for this latter finding may be due to children's awareness about their parents' social expectations regarding gender-typed and cross-gender-typed play. Raag and Rackliff (1998) support this explanation by confirming that children perceived their gender-appropriate play to be viewed positively by both their parents. However, the present study only revealed significant findings with respect to girls' and boys' gender-typed block constructions with fathers and not their mothers. Similarly, although no significant differences were found with respect to children's gender-typed block play, boys did engage in two masculine block play behaviors namely, stacking and knocking down, significantly more with fathers but not mothers. If children actually believed that their sex-appropriate play would be embraced by both their parents equally, why did they only perform in this manner with fathers? A possible explanation could be that children sense a stronger paternal influence to adhere to gender-appropriate behaviors. Consistent with this premise are studies that reported fathers reinforced gender-stereotyped behaviors in their children more than mothers (Rosenberg & Hyde, 1993; Fagot & Hagan, 1991; Maccoby, 1990; Siegal, 1987; Block, 1983; Langlois & Downs, 1980). Interestingly, although some of the above studies were conducted twenty years ago, the present study continues to demonstrate that girls and boys created more gender-stereotyped block constructions with fathers than mothers.

However, it also supports the literature in that it reports fathers discriminating between the sexes more than mothers particularly with their sons, by engaging in

behaviors such as stacking, height and downfall, typical masculine behaviors, solely with boys, yet building, a typical masculine behavior with girls. This result leaves us with two possible implications: (1) fathers are stricter with respect to gender-stereotypes where boys are concerned and (2) that "fathers feel a special responsibility for masculinizing their sons" (Huston, 1983, p.439). A possible explanation for fathers being more stringent with their sons than daughters may be due to their fears of future outcomes for their children. That is, fathers may worry about their sons' being more psychologically well adjusted than their daughters. Consistent with this premise are the studies (Sandnabba & Ahlberg, 1999; Martin, 1990), which reported that boys with female personalities "sissies" were less positively regarded in society than girls with masculine personalities "tomboys".

A possible explanation for the insignificant findings with respect to children's gender-typed block constructions with mothers, is that children may not have felt pressured to adhere to gender-typed norms during play with their mothers. An example of this was evident in the present study as it revealed that boys knocked down block structures, a typical masculine block play behavior, with fathers but never with mothers. That is, children may be accustomed to engaging in a more flexible play repertoire with their mothers and thus were less inhibited during play. Previous research (Langlois & Downs, 1980; Tauber, 1979) indicated that mothers were less adamant than fathers about having their sons and daughters engage in sex-appropriate play and were more likely to encourage feminine- and masculine-typed activities with both sons and daughters. The present study also supported this notion in that it was found that mothers engaged in stacking, generally a more masculine-typed play behavior, more with girls than boys.

Based on speculation, perhaps by encouraging girls to engage in masculine block play, mothers were trying to instill a feeling of gender equality in girls.

This finding has important implications for families, which can be expanded on from a speculative perspective. If children were not consistent in the gender-typing of their block constructions with mothers and fathers, perhaps what was implied was that children were not always interested in engaging in gender-appropriate activities but did so to please their parents, particularly their fathers. In the present study, no child was coerced into building something they did not want to build. The block constructions were a team effort and both the parent and child contributed to its completion. Therefore, if children built gender-appropriate block configurations only with fathers, perhaps they felt they were expected to do so. Conversely with mothers, children may have created a block construction that was of more interest to them, rendering the entire play experience more enjoyable. In addition, if children felt the need to please a parent during play, then parents may have unconsciously taken away the pleasure that comes with the play experience for their children.

Although some interesting results were reported with respect to boys' and girls' final block constructions, children's block play with their parents yielded no overall significant findings. That is, boys did not engage in masculine block play with both mothers and fathers and girls did not engage in feminine block play with mothers and fathers. Instead, boys were found to engage in certain masculine play behaviors with fathers such as stacking and knocking down but girls engaged in building, a play behavior mostly considered masculine with fathers. In essence, these findings reveal that both girls and boys alike were found to engage in typically masculine block play

behaviors. This finding parallels previous research by Karpoe and Olney (1983), which demonstrated that in a limited toy situation, similar to the present study, consisting of blocks, doll figures, doll furniture and vehicles, boys and girls did not differ in their play patterns. Rather they played according to the gender association of the toys and not their own biological sex. Therefore, given that blocks are considered a predominantly masculine-typed toy and the children and their parents were all given a limited selection of pieces to play with, it follows that boys' and girls' play styles would be similar. That is, the play materials helped pull for particular behaviors. In this case, children's play styles were more characteristic of masculine-typed play behaviors in accordance with the gender-appropriateness of the toy. In sum, children engaged in similar play behaviors during the play sessions but differed in their final block constructions, particularly when playing with their fathers. These patterns of findings concur with the view of Budd, Clance, and Simerly (1985) who maintained that "the influence of social learning and sex-appropriate behavior as the prime determinants in play configurations (p. 577).

Parental encouragement of gender-typed block play. Second, it was hypothesized that fathers, more than mothers, would encourage sex-appropriate block play and block constructions in their children. Parental encouragement was defined by a total score based on utterances such as praise, imaginative sounds, suggestions, confirmation, attentionals and directives. This hypothesis was not supported. One reason for the non-significant findings could be that fathers were not overall very talkative with their children during play sessions. Instead, mothers were found to be significantly more verbally interactive with their children during play. Ironically however, mothers were not found to use of any of the six utterances that defined parental encouragement (e.g., praise,

suggestions, confirmation, attentionals, imaginative sounds and directives) more than fathers. Instead, mothers asked more questions, and made more requests, interpretations and negations than fathers. During play sessions, fathers generally used a more "hands-on" approach with their children rather than focusing on conversations with their children. As previously mentioned, the literature depicts fathers as reinforcing gender-stereotypes more than mothers. Thus, fathers may have interpreted their physically active approach as encouragement in itself. Unlike previous research however, (Kurth, 1986; Bellinger & Gleason, 1982) the present study did not reveal that fathers used more directives or asked significantly more questions (O'Brien & Nagle, 1987) in their speech to young children. A possible explanation for this may be that fathers simply want their children to perceive them as play companions and not as someone who will guide their actions through directives and questions during play.

Apart from the verbal utterances used as measures of parental encouragement, the premise of this hypothesis was supported by the present study. Fathers did engage in masculine-typed block play with sons and in feminine-typed block play with daughters, whereas mothers did not make this distinction, although parents did not differ on the verbal encouragement measures. Thus, a possibility that needs to be further investigated is the different ways fathers use to encourage sons and daughters to engage in gender-typed block play. Essentially, if verbal interactions are not key determinants of parental encouragement, what other ways are fathers employing to get their message across to their young children?

Children's verbal interactions during parent sex-appropriate play. Third, it was hypothesized that children would be more verbally interactive with a parent when the

type of block play they engaged in together was appropriate to the parents' sex. This hypothesis was only partially supported. The only significant finding was that boys were more verbally interactive with mothers when they engaged in female-typed block play together. A possible explanation for this finding was that boys spoke more with their mothers because they perceived the activity as within their mother's area of expertise. Conversations with mothers may have been more of a learning experience for boys and thus they may have displayed more interest in learning from their mothers. In support of this speculation, is a finding by Leaper and Gleason (1996) who reported that children were more verbally responsive to parents' play initiatives when the type of activity was appropriate to the parents' sex. For example, children did not follow mothers' initiatives during a car construction activity but were more likely to agree to mothers' initiatives during a pretend store activity. Similarly, children did not follow fathers' initiatives during the pretend store play activity but were more likely to agree with fathers during the car construction activity. Perhaps in the present study, boys perceived female-typed block play with mothers as a comfortable experience, thus enabling them to be freer to express themselves with mothers in a less inhibited manner than when with fathers.

Furthermore, it could be that boys were more willing to forgo their own personal preferences for their mothers and became increasingly involved in the female-typed block play. In support of this speculation, is a finding by Lindsey, Mize, and Pettit (1997) who reported that although boys preferred physical play in general, they were more likely to engage in pretense play in the presence of their mother than father. Similarly, the present study also reported a trend that revealed boys engaging in more play typically considered a female-typed activity with mothers. Perhaps if the sample population size were greater,

significant results may have emerged.

Next, boys' increased verbal interactions with mothers may have been supported by an interaction of two variables: the female-typed block play the dyads engaged in and maternal utterances. First, female-typed block play has been linked with greater communication between parents and children. Similarly, Leaper and Gleason (1996) found that a pretend store play activity, typically considered a feminine activity, elicited more speech between mothers, fathers and children than a car construction activity, a typical masculine activity. Furthermore, mothers' speech patterns may also be responsible for the increased verbal interactions in boys. The present study reported that mothers asked significantly more questions during play with their children than fathers. Perhaps the more frequent questions from mothers stimulated more conversations from boys because they were given something to respond to or elaborate on during play. If a conversation grows cold, a question from one of the contributors can revive the lines of communication. This speculation concurs with a statement by Bukatko and Daehler (1995) who maintained that "questions, in particular, serve to facilitate the occurrence of turn taking, the alternating vocalization by parent and child" (p. 274).

In addition, Kurth (1986) found that fathers used less common vocabulary in their speech with their children and as a consequence, others deem that fathers place more demands on their children than mothers (McLaughlin, White, McDevitt, & Raskin, 1983). A possible implication of these findings with respect to the present study may be that boys were more verbally responsive to mothers because they felt more at ease in their maternal conversations. Perhaps boys felt less inhibited speaking with mothers because mothers' speech did not exceed their own developmental level. That is, mothers'

speech was centered around the child's zone of proximal development and the maternal responsibility served simply as a measure of scaffolding, therefore encouraging the child and not intimidating him or her (Vygotsky, 1978).

Reduced intimidation could have also been a significant factor in the conversations of son and mother dyads. Boys may have felt more pressured with fathers to adhere to gender-stereotyped play and thus did not focus on maintaining conversations during their play together. Tomasello, Conti-Ramsden, and Ewert (1990) found that communication between fathers and their children was subject to various interruptions primarily on the fathers' part. They reported that fathers interrupted their children more frequently to ask for clarification, change topic and most importantly, ignored children's utterances if they did not comprehend what the child was trying to say. Considering the latter, is it not surprising that boys engaged in more talk with their mothers? The entire family unit is a cycle of interdependent interactions. That is, whatever one family member does, it affects the others. Therefore, if fathers do not demonstrate an effort to hear what a child has to contribute, that same child will probably turn to the other parent, in this case the mother, for the support he/she is seeking. This inner satisfaction a child may sense as a result, can also explain the present study's finding that boys used more praise with their mothers.

In sum, the combination of female-typed block play and maternal speech may have played a significant role in boys' verbal interactions with their mothers during an activity considered appropriate to the mothers' sex. However, if this combination reinforced speech in boys, why did it not yield any significant results for girls when they engaged in female-type block play with mothers? Based on speculation, various reasons

may account for this. First, female-typed block play was not such a novel experience for girls therefore, less encouragement was required from the parent. Also, this might limit girls' excitement and willingness to voice their ideas with mothers during play given that girls may have felt comfortable working on their own. In addition, because girls were accustomed to this type of play with their mothers, there was less need to ask questions, thus limiting the number of exchanges between mother and daughter. Perhaps the novelty of the female-typed play activity for boys, enhanced the amount of verbal interaction. Girls in contrast, were not so often subjected to novel play experiences given that with fathers, girls still engage in female-typed play behavior.

Doll figures, vehicles and parent verbal interaction. Finally, it was hypothesized that parents who include more doll figures in their block constructions would be more verbally interactive than parents who included more vehicles in their final block constructions. This hypothesis was not supported. Previous research (O'Brien & Nagle, 1987) indicated that when parents engaged in doll play with their children, they were highly verbal and encouraged verbalizations from their children. During play with vehicles however, parents used very little language. In the present study, parents and children were given a set of LEGO building blocks to play with that included the blocks necessary to build doll figures and vehicles. However, these doll and vehicle blocks were not prominent features in the block set and this may have steered each parent/child dyad to the other more elaborate features in the block set, namely the building blocks themselves. The present study revealed that girls used more dolls during play with their fathers, however no correlation was observed between the parents' verbal interactions with their children and doll figures. A possible explanation may be that parents and

children may have included dolls or vehicles in their constructions simply as accessories to complete their overall block configurations and not as the focal point of their play. That is, a doll could have been included in a home setting simply to depict someone living there. Perhaps if dolls were the focal point, then maybe the parent and child could pretend to impersonate them and therefore lead to more elaborate pretend conversations. However, the participants in this study simply included dolls and vehicles to accessorize the home, boat or building that they built.

In addition, the limited number of doll figure and vehicle blocks to assemble, compared to the vast selection of other building blocks and accessories in the set, may have accounted for the lack of significant findings. This speculation parallels previous research by Varma (1980), which demonstrated that before the intervention of an additional block area in a nursery school, girls spent a limited time with the blocks and when they did they engaged in feminine-typed block play such as cleaning up. However, when an additional block area was integrated in the nursery school, girls not only increased their time spent in the block area, but engaged in more stacking and building in block play. Therefore, what this implies is that the more building blocks girls had the more enticed they were to abandon female-typed block play and engage in masculine-type block play such as stacking and building. Similarly, the present study may have had such an effect on its participants as well. Perhaps, parent/child dyads may have become more involved with the majority of the play materials namely the building blocks and therefore engaging in more building and stacking but simply kept the "additional" features in the set such as the doll heads and bodies, wheels and flowers to use as accessories. Consequently, perhaps no significant results were found because parents and

children did not make them the focus of their block constructions. Future studies should consider examining parent and children's block play where doll figure and vehicle pieces are the most prominent features.

Limitations of the Study

Although the present study offers some new insights on mothers' and fathers' block play and speech during play with their sons and daughters, it is subject to some limitations. First, the sample size of twenty-four families is too small to represent all families with children between the ages of 60 - 83 months. Furthermore, it is difficult to generalize any sex differences in block play and utterances, particularly when the sample consisted of only twelve boys and twelve girls, as well as twelve mothers and twelve fathers.

Second, observing both parents with their child on the same day may have influenced the outcomes of the study. For instance, each parent was expected to engage in play with their child only once, however every child played with the same play materials twice: once with the mother and once with the father. Although the order of the mother and father sessions was counterbalanced to control for order effects, every child was asked to make something new using the LEGO blocks on two different occasions. This may have affected the child's temperament, creativity and enthusiasm to participate. In the future, perhaps observations could be done for each family on two separate occasions.

A third limitation of the study has to do with its quantitative nature. The present study measured frequencies of behaviors (i.e., block play behaviors and utterances) but did not look at the play sessions from a qualitative perspective. Obtaining qualitative information, particularly for parent/child utterances during play, would have allowed for

a more richer understanding of all the underpinnings that are embedded in conversations between parents and children, such as turn-taking, voice intonation, facial expressions and other physical actions, that sometimes speak louder than words.

Future Research Directions

The present study focused on sex differences in parents' block play and utterances with their sons and daughters, based on the underlying premises of Social Learning Theory. As a result, further research studies should focus on additional gender role concepts that are associated with observational learning and/or direct teaching.

First, future research should further investigate children's observational learning in conjunction with parents' gender roles in the home. Are children's gender stereotypes being reinforced by observing mothers and fathers in typical gender-typed roles and if so, are children translating this information into their play? Similarly, children's observational learning of gender-roles can be investigated in view of the media, particularly television, given that television viewing has been reported to be a reinforcer of sex-stereotypes (Signorielli, 1989). Finally, children's gender-role acquisition and parents' gender-stereotyped behaviors could be investigated in future research from a direct teaching perspective. Jerome Bruner (1996) perceived children as novice learners who can benefit from the skills of an expert teacher. This process, referred to as "scaffolding", could have implications on what parents encourage their children to do during play, as well as the subtle messages they could be sending their children. If parents become the models children look up to for directing their own behaviors, then any sex-stereotyped messages conveyed during play could affect children's perspectives on issues of gender. The importance of future research should investigate the teaching or

modeling behaviors of parents during play with their children is best highlighted in the following statement: "... modeling and imitating make possible the accumulation of culturally relevant knowledge, even the transmission of culture from one generation to the next" (Bruner, 1996, p. 54).

Implications for Parents and Teachers

The present study may have some important implications for both parents and teachers of young children. First, it can be recommended that parents give greater consideration to their own behaviors at home. That is, if fathers and mothers engage in gender-typed behaviors before their children, they are perhaps increasing the chances of their children storing those images in their repertoire of gender-appropriate behaviors. Parallel to this assumption is a finding by Turner and Gervai (1995) who reported that children who observed their parents engage in cross-sex behaviors were less likely to support gender-stereotypes. Furthermore, parents should also consider the not so subtle gender-typed messages they are conveying to their children by examining the toys they purchase for them, as well as the ways they decorate their children's room. In the same respect, parents can also screen their children's television viewing, to ensure that gender roles are equally represented in the programs children watch.

Finally, an important implication for child educators is to encourage and praise children's cross-sex behaviors. Given that children spend a significant amount of time in school, if cross-sex behavior is being consistently reinforced, there is a greater chance that the occurrence of such behaviors will increase. Furthermore, teachers can also include literature in the classroom that depicts female and male characters in equal roles. In sum, it is important that parents and teachers create a collaborative network that will

ensure that children are exposed to as many cross-sex behaviors as possible.

Conclusion

The present study revealed that sex differences were an integral part in many aspects of parents' block play with their children. Although not every prediction was supported, the present study revealed some interesting findings about the way boys and girls interacted with their mothers and fathers during block play and the way they spoke to one another. First, fathers were found to discriminate between the sexes more than mothers by engaging in more gender-stereotyped block play behaviors with their sons and daughters. However, they were not reported to be more verbally encouraging for their children to engage in gender-appropriate play. Perhaps this finding was influenced by the fact that in the present study mothers were found to be more verbally interactive during the play sessions. Conversely, the children in this study were overall consistent in their verbal behaviors with both parents.

Similarly, the present study also depicted that children engaged in more gender-typed behaviors with fathers than mothers. Perhaps the stronger paternal discrimination between the sexes was sensed by the children and therefore, they responded to what they believed was expected of them. However, the most significant sex differences were found in children's final block construction features rather than their overall block play behaviors. Children included more female block configuration features with mothers, whereas boys included more masculine block configuration features with fathers.

The present study has provided some preliminary insight into the block play of mothers and fathers with their sons and daughters, as well as their verbal interactions during play. Additional significant findings could have emerged had the sample size been

greater. However, based on the findings that the present study did reveal, it can be argued that gender discriminations were apparent in both the physical, as well as the verbal interactions of mothers and fathers with their sons and daughters during block play.

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APPENDIX A

Date 2001

Dear parents,

I am a student in the Masters Programme in Child Study at Concordia University. I am presently working on my thesis under the direction of Dr. Nina Howe. My thesis project concerns parents' block play with their sons and daughters and their verbal interactions during their play. Particularly, I am interested in investigating the different block constructions fathers and mothers will build with their sons and daughters using a set of LEGO blocks, as well as their conversations during their play. In essence, the aim of my study is to examine how fathers and mothers build block constructions with their sons or daughters and how they speak to them during their play experience. Every child will be observed playing separately with his/her mother and father during two different 10-minute play sessions. Each parent-child dyad will be asked to build anything he or she wishes together using the set of LEGO blocks provided. This project could prove to be beneficial to its participants seeing as it can encourage a better understanding of parent/child interactions.

My project has been defended and I have received the approval from my thesis committee, as well as from the Ethics Committee from the Education department at Concordia University in order to proceed. I am interested at observing dual parent families with either sons or daughters ranging in age from 5 to 6 years old. My observations will take place in your homes and will last at the most 60 minutes. The study presents no risk to its participants and anyone involved can withdraw at any time without penalty. Every play session between father and child and mother and child will be videotaped but will remain confidential, seeing that I will be the only individual who will be watching them solely for analytical purposes. Absolutely no names will be used in any publication because only the collective results will be disclosed. In addition, every family will be assigned a number by which it will be referred to during the course of the study. Each participating family will be sent a short summary of the findings after the completion of the study. In addition, information or anonymous quotes from the study may be made available for published papers or conference presentations.

I would like to thank you in advance for your time and collaboration. If you have any inquiries, you may contact me at the following number (514) 845-8031 or Dr. Nina Howe at (514) 848-2008.In addition, I can also be contacted via e-mail at elenazervas@hotmail.com. If you are interested in participating in this project, please sign the attached consent form and return it to the school's administration. Furthermore, please provide your telephone number so that I may personally contact you.

Elena Zervas

M.A. Child Study
Education Department
Concordia University
Montreal

CONSENT FORM TO PARTICIPATE IN RESEARCH

This is to state that I agree to participate in a program of research being conducted by Elena Zervas and under the direction of Dr. Nina Howe of the Education Department at Concordia University.

A. PURPOSE

I have been informed that the purpose of the research is to study parents' block play with their sons and daughters as well as their verbal interactions during their play. Particularly, this study aims at investigating the block constructions fathers and mothers will build with their sons and daughters using a set of LEGO blocks and the verbalizations that will occur during their play together. In essence, the aim of this study is to examine how fathers and mothers build different types of block constructions with their sons and with their daughters and how parents and children talk to one another during their collaborative play sessions. The study presents no potential risk to the participants' physical well being, psychological welfare and reputation. It can benefit its participants by enhancing their understanding of parent/child interactions.

B. PROCEDURES

The study will take place in your home at your convenience. Before they engage in the target task, each family will experience a warm-up task. Specifically, participants will be introduced to the LEGO blocks during a 10-minute free exploration session that will allow them to familiarize themselves with the materials. Once the introduction is completed, the families will be asked to collaboratively build something with their child using the set of LEGO blocks provided. Each parent will be assigned the same task but will be observed separately with their child. Thus, every child will be observed playing for 10 minutes with the father and for an additional ten minutes with the mother. All families will be informed of their freedom to discontinue the study at any time simply by verbally stating their desire to the researcher. The observer will also remind each family that due to the collaborative nature of their play, each parent-child dyad will be expected to communicate with each other during the entire duration of their block play. Once each parent-child dyad has completed their block construction, the observer will examine its final product by asking them to describe what they built in order to understand what their final construction truly represents. Then every dyad will be asked to take apart their construction and place all the pieces in their initial containers. Each 10-minute play session for every parent-child dyad will be videotaped to assist the observer with the analysis. All the tapes will remain strictly confidential with their sole viewer the observer herself. The videotapes will not be used as an illustration for other students. Each home visit will last approximately 60 minutes.

C. CONDITIONS OF PARTICIPATION

- I understand that I am free to withdraw my consent and discontinue my participation at anytime without negative consequences.
- I understand that my participation in this study is CONFIDENTIAL (i.e., the researcher will know, but will not disclose my identity).
- I understand that the data from this study may be published (i.e., only the results of the study may be published and the results of a particular family will be not disclosed).

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print)_____

SIGNATURE_____

WITNESS SIGNATURE_____

DATE_____

VERBAL CONSENT FROM THE CHILD PARTICIPANTS

This is an example of what will be said to the children in order to obtain their verbal consent to participate in the study:

" Hello, my name is Elena Zervas and I am student at Concordia University. I am here today to watch you and your mommy and daddy play with a set of LEGO blocks. First, you and your (mom, dad) will play for 10 minutes alone and build something together. After you're done, I will have you and your (mom, dad) tell me all about what you built. This will only take a few minutes. Then it's time to play with your other parent. Now, you and your (mom, dad) will play for another 10 minutes alone and build something together too, using the LEGO blocks I have for you. Again, after the 10 minutes are up, you will tell me what you and your (mom,dad) built together just like you did before. I would really like to see what you would build with your mommy and with your daddy. You can use as many blocks and whatever blocks you like and build whatever you want. I will let you know after 8 minutes are up so that you and your (mom, dad) can start putting your final touches on your LEGO construction. If you are not finished with your construction after the 10 minutes are up, it doesn't matter and please do not worry about it. Do you have any questions? **If the child says yes**, I will take all the time necessary to clarify inquiries. **If the child has no questions**, I will then proceed by asking, "***Would you like to participate in my study and build something with your mom and dad using LEGO blocks?***"

If the child says yes, then I will proceed and tell them, " If at any time you want to stop playing for any reason at all, please just let me know and we will stop, no problem."

If the child says no, then I will say thank you and leave.

DEMOGRAPHIC INFORMATION QUESTIONNAIRE

Questionnaire to be completed by both parents

Age of Father: _____

Age of Mother: _____

Number of family members: _____

Sex of Child participating in the study: **Boy** _____ **Girl** _____

Birth Date of Child _____

To be answered by the MOTHER:

1. **Number of years of education:** _____
2. **Occupation:** _____

To be answered by the FATHER:

1. **Number of years of education:** _____
2. **Occupation:** _____

To be answered by both parents:

1. **How much time per week on average do you spend playing with your child?**

   Mother _____ **Father** _____

2. **As a couple, what would you consider your total combined annual income?**

   a) **Less than 25, 000 $** _____
   b) **26, 000 -35, 000 $** _____
   c) **36, 000 – 45, 000 $** _____
   d) **46, 000 – 55, 000 $** _____
   e) **56, 000 – 65, 000 $** _____
   f) **66, 000 – 75, 000 $** _____
   g) **More than 76, 000 $** _____

APPENDIX B

Utterance Classifications

Utterances	DESCRIPTIONS
I. Suggestions	Statements recommending that something be done. Ex.: " Maybe this block fits here."
II. Interpretations	Statements concerning another's feelings, needs or wishes; making inferences about another. Ex.: "You like that color."
III. Praise	Statements that compliment or reward another. Ex.: " That is beautiful!"
IV. Confirm	Statements that express agreement Ex.: " Yes, that's the way to stack them".
V. Request	Statements that ask for information, call for direction or support. Ex.: How do you do this?"
VI. Questions	Any WH-questions (who, what, when, where, why) or questions that are answerable by a yes or no response. Ex.: " Did you see that?"
VII. Directives	Imperatives that tell another how to behave. Ex.: " Look at the tall tower."
VIII. Attentionals	Words or short phrases that serve to attract Another's attention Ex.: " Hey!" or " Look!"
IX. Imaginative Sounds	Utterances where one is pretending to make sounds of different toys, or to talk. Ex.: " Boum!" or " Vrooom!"
X. Negate	Statements that criticize, convey disagreement or disapproval. Ex.: " You put it the wrong way."

APPENDIX C

Coding Sheet For Parent and Child Utterances

Utterance Classifications	Parent M_____ F_____	Child G_____ B_____
Praise		
Suggestions		
Interpretations		
Confirm		
Request		
Questions		
Directives		
Attentionals		
Imaginative Sounds		
Negate		

APPENDIX D

5 TYPES OF BLOCK PLAY

Types of block play	DESCRIPTION
◘ **STACKING**	Every time a block is placed on top of another block.
◘ **BUILDING**	Any action, other than stacking, where two blocks are put together.
◘ **KNOCKING DOWN BLOCK STRUCTURES**	The act of deliberately breaking or tearing down a block structure.
◘ **CLEANING UP BLOCKS**	The act of placing the blocks back in their containers, placing them in piles or organizing them by color, size and other similar features.
◘ **PLAY**	The play with blocks is secondary to other toys or items in the set.

APPENDIX E

Coding Sheet for Block Play of Parent/Child Dyads

Type of Block Play	Parent M_____ F_____	Child B_____ G_____
Stacking		
Building		
Knocking Down Block Structures		
Clean Up		
Play		

APPENDIX F

Block Configuration Features

Features	Description
a) Height	Use of towers; the vertical is emphasized in relation to the horizontal
b) Motion	Characterized by the use of vehicles
c) Downfall	Knocking down of block structures
d) Roads/Sidewalks	Traveling surfaces
e) Decorative items	Use of arches or flowers
f) Doll figures	Assembling of the head and body block pieces
g) Enclosures	Use of doors, windows or picket fences
h) Home interiors	Configurations intended for habitation

APPENDIX G

Checklist for final block configurations

Features	Parent M___ F___ Child D___ S___
a) Height	
b) Motion	
c) Downfall	
d) Roads/Sidewalks	
e) Decorative items	
f) Doll figures	
g) Enclosures	
h) Home interiors	