Associations Between Maternal Involvement and Sibling Dramatic Play, Narrative, and Creativity

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ABSTRACT

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The present study examined the associations between maternal involvement, sibling dramatic play, narrative, and creativity in two play sessions (mother present and mother not present). Twenty-four sibling dyads ranging in age from 5 to 8 years (older sibling *M* age = 8.2 yrs., younger sibling *M* =5.2yrs.) and mothers from 2- parent, middle class backgrounds participated in the study. The dyads were observed for two 5-minute play sessions (mother present and mother not present) playing with a 50 piece farm set however they wished. The participants were observed for the frequency of descriptive language (total number of adjectives and total number of different adjectives), maternal language, (e.g., guidance), object use, and object transformations. Ratings on 5-point Likert scales were also conducted for degree of sibling collaboration, pretense, and maternal interaction. Finally, the themes of the play were coded (set-up, typical, creative). Sibling dyads engaged in more creative narrative themes, pretense, and object transformations in the mother not present session than in the mother present session. Also, older siblings used more adjectives overall and a greater number of different adjectives in the mother present session. A significant difference was also found in the frequency of the narrative theme regarding set-up, specifically siblings engaged in more set-up in the mother present session. The findings are discussed for implications for theory and practice.

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Dedication

This research is dedicated to all parents, educators, psychologists and creative minds alike. Let this research encourage each and all in future endeavors to creatively solve whatever lies ahead of you.

Table of Contents

List of Tables

List of Appendices

Appendix

Introduction

An individual's views of children's play have several connotations, ranging from positive to negative. Play is often regarded by educators and parents as fun, or as a way to release pent-up energy, but often as unnecessary or incidental to childhood development. One must examine the positive aspects of dramatic play to see how children use play to create a personal narrative, which may develop the mind. Within narrative lies an individual sense-making process unique to each person. Dramatic play is based on the creation of narrative, which allows children to make sense of themselves and of the world around them. Frequently, research has examined pretend play and narrative as separate entities. By looking at them as a whole one can see how they are inextricably linked and pertinent to the child's emotional, social, and creative development. Research also supports the theory that dramatic play and narrative serve as useful tools in the social, emotional and cognitive development of humans and, therefore should be utilized by both parents and educators (Mellou, 1994).

The purpose of this thesis is to examine the influence that mother's involvement may have on children's dramatic play and play narratives. If play is an emotional, creative, expression of the child's mind, how does the presence or absence of the mother in a play session affect the quality of play and scaffolding between siblings? Does the mother's level of involvement in helping the children to set up play materials influence the children's subsequent pretense? These questions can be investigated through an examination of research.

The introduction reviews the research and professional literature relevant to the study. The review begins with a discussion of play and the various interpretations that

exist. Next, narrative is defined and the empirical research regarding this topic is reviewed. The implications of creativity and imagination within play and narrative are discussed. Finally, the mother's role in pretend play will be discussed.

Researchers often use the terms pretend, dramatic play, make-believe, fantasy or pretense to describe social play that occurs with one child (solitary pretense) or with more than one child (social pretense or socio-dramatic play). Essentially, all terms describe the same activity, so for the purpose of this paper they will be used interchangeably.

Defining Play

A singular definition of play does not exist because there are several different types of play that occur throughout a child's development. The actions affecting dramatic play often depend upon several factors; such as, age, gender, intelligence, personality, social class, cultural, ethnic and family background (Mellou, 1994). In order to understand the nature of play it is necessary to first define play and its different phases that influence a child's social, emotional, and cognitive development. Rubin, Fein, and Vandenberg (1983) define "*play as a behavioral disposition that occurs in describable and reproducible contexts and is manifest in a variety of observable behaviors*" (p. 698).

Play has been categorized according to the following cognitive and social levels. The first form of cognitive play to emerge (between the ages of six months to two years) is functional or sensori-motor play. Functional play is characterized by simple muscular or sensory-motor activities and is based upon the child's need to activate his or her physical environment (Piaget, 1962).

The second type of cognitive play is constructive play. Smilansky and Shefatya (1990) define constructive play as a form of play where the child learns about the

different uses of play materials: the child moves from a practical activity to activity that results in "creation" (p. 2). In constructive play, the child may execute a plan and maintain his or her play for longer periods of time.

The most developmentally advanced stage of cognitive play is games-with-rules, which typically is advanced and remains with the individual into adult life (Piaget, 1962). Smilansky and Shefatya (1990) separate games-with-rules into two categories. The first category contains table games (e.g., board games, dice, dominos) and the second category contains physical games (e.g., hide and seek, ring around the rosy, kick the can).

The last form of cognitive play to be discussed is dramatic or pretend play, which is the focus of the current study. Pretend play can begin as early as age two and continue until approximately age six (Piaget, 1962), but does not decline after age 6. It may peak in early childhood but certainly exists into the elementary years. In dramatic play, the child may consciously imitate certain gestures and act out pretend scenarios. Dramatic play allows the child to experience human relationships actively through symbolic representation. In dramatic play, the child uses his/her abilities and can be an actor, observer, and interactor with other children or also play alone (Smilansky & Shefatya, 1990). By nature, dramatic play may be more focused on social interactions and less on objects for some children, although others are very much focused on objects (Asendorpf, 1991; Coplan & Rubin, 1998). Nevertheless, within dramatic play, children are using cognitive skills when they transform objects and create pretend scenarios (Piaget, 1962). The transformation of ideas and objects into symbols may help children clarify and understand their world. A further in-depth exploration of pretend or dramatic play will

help to clarify the different skills learned through this activity and is addressed in the following section.

Examining different forms of social play is necessary to comprehend play and its role in development. Parten (1932) examined the sociological makeup of a classroom, or the developmental changes that children go through as they become social participants within group activities. Group activities within a classroom could include eating snacks, washing hands, or a class art activity. Parten's theory suggests that from age two onward, children make the transition from being nonsocial (uninvolved), to socially aware (onlooker observes others; solitary play; acts like others while not near them), to close proximity (acts in parallel with others, as two children perform similar actions such as when making a collage side by side, they are working on similar projects yet are separate in their creations), and finally to interactive (associates with others while not sharing a joint purpose, then sharing a joint purpose; when two children engage in a game of house, or when they play hide and seek). Thus, the child progresses from being asocial toward a stage when an experience is socially shared (Parten, 1932). The change can occur in the preschool years, so that a child is socially prepared for school by the age of five or six. Since many of today's children are enrolled in preschool and day care, they may experience these social developmental changes at an earlier age than previous years (Howes, 1987). Given the frequency of social pretend play, what are the theoretical views about this behavior? Thus, the following section examines the role of pretend play in children's development.

Theoretical Views of Pretend Play

The importance of children's play has a long tradition in childhood education. Friedrich Froebel (1782-1852), regarded as the creator of kindergarten, placed great importance upon children's play. Froebel believed that children learned best by expressing, doing, and creating, which in turn, lead to knowing (Szekely, 1980).

Jean Piaget (1896-1980) believed that children learned effectively by actively constructing their own knowledge. Therefore, Piaget argued that the environment and early play with concrete objects played a crucial role in children's cognitive development (Szekely, 1980). Being able to pretend, according to Piaget (1962), was based upon semiotic functioning whereby one object was substituted for another during play as the child gradually developed the increasing ability to separate "signified" from "signifier" (Piaget, 1962). In accommodation the child uses realistic ideas and fits them into existing schemes. In assimilation the child attaches meaning to ideas, which helps the child to master these ideas and behaviors. The relationship between accommodation and assimilation is reciprocal. Once a child has mastered an idea it typically becomes a learned behavior.

Play by nature is imaginative, dream-like and often based upon unrealistic ideas or experiences. The goal of pretend play is to try on different roles and to "play" with reality as it pertains to a specific context and to the players involved. Play is a universal activity, but the themes brought up and dealt with in a play session may have different meanings to the participants involved. Often in play children have yet to master the ideas and experiences in which they are engaged. For example, a child may play hospital and

take on the role of the doctor who administers vaccinations to the teddy bear or "patient." In reality, the child may have just received vaccinations so the child may be using the play session to explore what he or she knows exists in reality, but explores this idea in an unrealistic fashion. By examining this idea in an unrealistic way (i.e., administering a pretend shot to a teddy bear), the child is using somewhat new knowledge in a playful way to attempt to further understand this advanced concept. When other children engage in the same play session with the child, they observe what the child is doing and the other children may begin to play with ideas that they have not quite mastered and in return the children discuss, negotiate, and create pretend scenarios around what they believe vaccinations to be. Thus, through social dialogue and playful practice the children explore themes and ideas they have not quite yet mastered. Therefore, in play, the primary object is to mold reality to the desire of the cognizer, in other words, to assimilate reality to various schemas with little concern for precise accommodation to that reality (Flavell, 1963). The process of play becomes more important than the end creation. Thus, Piaget believes that in play unlike other situations assimilation reigns over accommodation (Flavell, 1963).

Vygotsky stated that dramatic play occurs when children create imaginary situations where they are free from concrete objects, real actions and their own voices (Vygotsky, 1978, 1986). Vygotsky (1966) argued that to make the transition from a concrete relationship with reality to purely symbolic thought, the must child depend on objects to act as pivots. For example, when a child pretends that a banana is a telephone, he or she uses an object (the banana) as a pivot to separate the meaning of the banana from a telephone. The ability to separate a symbol from an object represents a higher level of

intellectual understanding (Elder & Perderson, 1978). If a child is capable of understanding both the symbol and the object he or she can pretend and embellish beyond the realistic properties, which may advance the child into a higher level of understanding and meaning making. Dramatic play offers children an opportunity to act out inner thoughts, emotions, and fears, but within dramatic play children have the opportunity to create a space that is completely their own based upon their own construction and negotiation with play partners. For this reason, Vygotsky (1986) believed, that dramatic play was a precursor to creativity and art making.

Mellou (1994) described that five basic qualities are developed within dramatic play. Dramatic play: (1) provides personal expression and catharsis of inner desires; (2) helps the child to distinguish between reality and fantasy; (3) provides for children's social adaptation; (4) is a dynamic for learning; and (5) improves cognitive development, specifically creativity. In order to understand what children are specifically learning in play, it is important to examine Mellou's five concepts in detail. First, the action, movement and energy involved in dramatic play may be an outlet for children's feelings and fears. Acting out real life tensions may help children cope with these issues and often makes them less afraid of stressful events or thoughts. If the child is able to pretend, and talk about issues, and is able to practice these ideas within play through actions and in a realistic and unrealistic fashion, often the problems or fears dissipate as the child finds an outlet through play. Thus, the child finds it easier to express his or her inner fears and thoughts through play because it serves as a costume or disguise (McCaslin, 1981).

Second, dramatic play offers children an opportunity to enact fantasies or ideas that he or she holds within. Acting out these fantasies in the social and real context allows

children to sort these ideas into realistic or unrealistic categories. When the child is able to try on different roles, and express him or herself and is able to see what he/she enjoys, what makes sense to the child, and what is socially accepted. These discoveries help children enhance their knowledge of not only themselves, but of the world around them.

Third, Mellou argues that dramatic play helps children adapt socially. Dramatic play offers a personal means of communication and cooperation at an age when social growth is just beginning to advance (Isaacs, 1938). Children talk more during free play than at any other time of the day (Lesseman, Rollenberg, & Rispens, 2000). Observing children during free play it becomes apparent that dramatic play requires children to verbalize thoughts so they can be put into action. Children talk about what they will play, how they will play, and who will act out each role. Within the play period, problems often arise that require resolution through communication. Language used in play may improve children's ability to form words into complete sentences (McKimmey, 1993).

Furthermore, research shows that children who engage in complex play develop more elaborate language (McKimmey, 1993). Language is a form of communication, but also a sense making tool. Research shows that, for young children, the security of knowing how to feel about what is being said is an important component for making things meaningful (Egan, 2001). Bost and Martin (1957) found that much of the content of children's dramatic play was devoted to playing out social roles and relationships, with a focus on the clarification of social reality. Within dramatic play children can try and explore social roles, (i.e., being a mother or a father), which may help them to define themselves within the social world. Therefore, play makes life meaningful and understandable for children.

Fourth, Mellou's research also demonstrated that three dynamic types of learning occurred within dramatic play. The first type of learning is cognitive because children developed meaning through drama. Dramatization may lead to the development of ideas, which may result in recognition or knowing (Bryon, 1982). By facilitating the dramatic tendencies of children, one is using one of the most powerful instruments to humanize learning, to encourage the imagination, and thus enable children to understand other experiences that are different from their own and to sympathize with other points of view (Mellou, 1994).

The second type of learning that occurred is social. Children must communicate and negotiate with one another to produce active engaging play (Howe, LeFebvre, Petrakos, & Rinaldi, 2005). By doing so, a dialogue is created and children add onto one another's ideas. Interaction with other children can help to explain thoughts and feelings allowing children to know how others feel similarly and to see alternative perspectives. The third tool learned is drama as a form of art and a tool for children's own learning (Bryon, 1982). Mellou's final point is that, overall, dramatic play improves children's cognitive development, especially creativity, through interaction, transformation, and imagination. Within pretend play children try out and model elements of the world that surround them. They interact with peers, transform themselves, and engage themselves imaginatively. Through these actions they gain knowledge, develop new ideas and combine familiar ideas with unknown concepts (Mellou, 1994). The combining of new knowledge with concepts previously unknown helps children to express themselves in a creative manner.

Sutton-Smith (1972) suggests that there are four basic modes of knowing 'imitation', 'exploration', 'testing', and construction.' Thus:

> Imitation...relies on a mimicry of the externals only and is usually all that those of inferior status have available to them. Exploration is at a slightly higher level of information control because the knower now gets to handle and manipulate the objects of knowledge. In testing, the knower tries out what he or she can do themselves and thus validates their own personal control over the situation. Finally in construction there is a personal synthesis of the different arrays of information into a novel scheme of the knower (Sutton-Smith, 1972, p. 33).

Essentially, within play these four basic modes of knowing are utilized. Children use imitation in pretense when they dress up as firefighter, pretend to be a mother, or use a banana as a phone. Within imitation the child manipulates elements from his/her physical surroundings. In exploration they transform reality. This exploration leads to the testing of ideas and allows for opportunities to practice what they know. Construction in play is the creative narrative or pretend scenario that evolves throughout the course of a play session. Within construction a child uses what he or she knows and may manipulate it in a new manner, especially in interaction with peers or siblings. The child may create an elaborate setting, which will be enacted by assigning roles to siblings or playmates and directed or explained as the play ensues. By doing so he or she creates or constructs a new way of knowing. Mellou (1993) found that the first three modes of learning (imitation, exploration, testing) are elements related to the creative process as they relate to reciprocal interaction, transformation, and imagination. The last mode of knowing (construction) was directly related to creativity because it incorporates the synthesis of information and originality. As is evident, each of the four learning modes are present and utilized within children's dramatic play. Also, associated with pretend play is the opportunity for children to create shared meanings.

Shared Meanings. During pretend play siblings elicit shared meanings, which affect negotiation and enactment in pretense (Howe, Petrakos, & Rinaldi, 1998). Shared

thinking is often defined as, "*involving symmetrical involvement with more or less equal power and roles in decision making*" (Habermas, as cited in Rommetveit, 1985, Piaget; 1965).

Piaget (1962) and Vygotsky (1978) defined the process of creating a common theme or reference point in pretense as intersubjectivity or joint understanding. It is within this process that children collaborate with one another to negotiate rules, ideas, and themes that guide their play (Howe et al., 2005). Shared meaning or thinking in play is created to overcome ambiguity and uncertainty in communication. Ambiguity and uncertainty in play permits multiple explanations, both public and private, as well as varying contexts and opportunities to adjust in the combined effort to construct shared imaginative experiences (Sutton-Smith, Fantuzzo, Coolahan, Mendez, & McDermott, 1998). Göncü (1993) also argued that intersubjectivity is a purposeful process between children (or play partners) in play, which reflects changes due to the progression or exchange of knowledge between children. In play, the exchange of information between children related to roles, joint action, dialogue and scenario reflects the shared knowledge created between those engaged in pretense (Göncü, 1993).

Also, evident is that the ability to create shared meanings (e.g., by extending and building upon their play partner's ideas). Children must first be able to understand the other child's thoughts, feelings, or beliefs (Howe et al., 2005). Therefore, learning may be most effective when children play a role in constructing knowledge and meaning together. Essentially, shared meanings within play experiences help the child's cognitive, emotional, empathetic, and communicative developmental skills. For example, Howe et al. (1998) found that sibling dyads who frequently engaged in pretend play exhibited an

understanding of social and emotional concepts and knowledge, specifically their own and that of their sibling. This may be due to the fact that because siblings grow up in the same family and know one another closely, they therefore have a shared body of knowledge that may aid their abilities in social pretense (Dunn, 1988). Older siblings may be apt to create scaffolds for younger siblings, which might enhance collaborative play and the use of shared meanings (Howes, 1992; Vygotsky, 1965; Zukow, 1989) and comprehension of internal states (e.g., thoughts, and feelings of others). Later, the literature pertaining to siblings, pretense, narrative and creativity will be reviewed in depth. One of the key elements defining pretense is narrative and this literature will now be reviewed.

Narrative

Similar to play, a single definition of narrative does not exist. The difficulty of defining narrative stems from the fact that there are several different forms of narrative. Narratives take on many different shapes and they can be defined in terms of textual forms (i.e., the components of a written story) and a verbal dialogue (i.e., verbally telling a story, or storytelling). Each narrative form is influenced by context and the individual narrating the story, how he or she structures the content of the story, and also socio-cultural conventions. In order to better understand what narrative is, it is important to review a few of the narrative definitions that do exist. Stein and Albro (1997) define narrative as a larger cognitive domain, "*meaning narrating rests on the cognitive abilities to organize content (i.e., the relation between goals, actions and outcomes) and structure (i.e., episodes) into a coherent whole (i.e., connecting the episodes). Stories are causally organized, goal-directed texts*" (p. 1). Therefore, the ability to tell or write stories

involves cognition, human intentionality, and action (Stein & Albro, 1997). Others define narrative as a "*personalized and often emotive expression or interpretation of knowledge, as history, anecdote or story; or link between mental dimension and emotional dimension*" (Soul Dynamics, 2005). Simply stated, in one form or another narrative is story telling. Neither of the above definitions encompasses all aspects of narrative; however each of them, in one way or another, enables one to ask specific questions related to narrative, and then allows us to follow up on those particular questions. Simultaneously, these definitions restrain this domain of knowledge and reduce it to what one considers relevant (Bamberg, 1997). Thus, narrative as a domain of knowledge is universal to all yet broad in its meaning. For instance, narratives are often based upon children's personal experiences rather than on logical or categorical abilities (Glaubman, Kashi, & Koresh, 2001). Each individual's experiences and perceptions of experience are different and unique. In order to better understand the broad nature of narrative, the empirical research related to narrative will be reviewed briefly in the following section. Empirical research has made distinctions between the many forms of narrative and the role they play in the development of the child. Within narrative research there are two fields of interest, which include those who approach narrative from a formalist perspective, and those who analyze children's narratives from an interpretative perspective (Nicolopoulou, 1996). The difference between the two research camps is differentiated and will be discussed in this section so that one can gain a better perspective of narrative and the related research.

Formalist narrative research. Formalist researchers approach narrative by analyzing the thematic content of children's stories to elicit the underling patterns of

symbolism associated with an individual's development (Nicolopoulou, 1996). One of the most widely known formalist narrative research studies was conducted by Pitcher and Prelinger (1963), who assembled an extensive collection of stories told by children aged 2 to 5 years old and analyzed what the stories revealed about the child's psychosexual development and symbolic meaning making abilities. Applebee (1973, 1978) followed in this tradition and reanalyzed Pitcher and Prelinger's (1963) data, but from a different perspective. Applebee found that children's stories were a source of information informing the listener or reader about children's expectations of what a story is, how it is organized, and what ability the child has to create a complex plot structure (Nicolopoulou, 1996). Applebee called the above elements, "narrative structure". Within his research, Applebee created a systematic approach to analyzing children's narratives and attempted to link the complexity of children's narrative structure with children's cognitive development. In his analysis of children's narratives (written and verbal), Applebee argued that children's narratives go through a series of six stages that can be mapped onto similar stages of conceptual development put forward by Vygotsky and Piaget (Nicolopoulou, 1996).

Other formalist researchers have examined the structural and cognitive components of children's narratives by analyzing the changing structure of narratives children created using pre-established sequences or story stems (e.g., Botvin, 1977; Botvin & Sutton-Smith, 1977; Botvin, & Mahoney, 1976; Sutton-Smith, 1979, 1981). The researchers were interested in the structure the children added to the provided story stems, but not the developmental patterns used to explain children's narrative activity. These authors argued that the stories of younger children should not be regarded on their

own, as they only illustrated the children's deficits in narrative competency when compared to older more cognitively advanced children and adults (Nicolopoulou, 2006).

Still, other formalist researchers, known as psycholinguistic researchers (Black & Wilensky, 1979; Brown & Yule, 1983; Kintsch & van Dijk, 1978; Mandler, 1984; Rumelhart, 1975, 1977; Schank & Abelson, 1977; Stein & Glen, 1979, 1982; van Dijk & Kinsch, 1983; Wilensky, 1983) analyzed the grammar used in stories to determine what aspects influenced the child to recognize, comprehend and recall particular narratives. Other psycholinguistic researchers (Givon, 1979, 1982, 1983; Halliday & Hasan, 1976; Hopper, 1979; Hopper & Thompson, 1980; Silverstein, 1985) analyzed the linguistic structure and linguistic devices (e.g., lexical, syntactic, or semantic) to see the processes by which language is communicated (Nicolopoulou, 1996). Lastly, much psycholinguistic research (e.g., Bates & MacWhinney, 1982; Bowerman, 1982, 1985; Karmiloff-Smith, 1979) has focused on how the young child acquires language. Psycholinguistic research has enhanced our knowledge of how narrative information is processed and structured, but has failed to analyze the symbolic and imaginative quality that is associated with narrative. Without looking at these qualities we have little insight into the emotional meaning behind children's narratives and more importantly why children are interested in telling and creating stories (Nicolopoulou, 1996). To understand these issues better a review of the literature associated with interpretive narrative research will now be addressed.

Interpretive narrative research. Compared to the formalist narrative research movement, interpretive narrative research is harder to define as a structured research movement. Interpretative narrative research attempts to examine the processes by which

people create meaning pertaining to the world and to their own individual experience; the ways in which these processes emerge and how they are related to the human mind and to the culture at large are also of interest (e.g., Bruner, 1986, 1990, 1992; Cole, 1990; Stigler, Shweder, & Herdt, 1990; Wertsch, 1991). The guiding principle of interpretive research is that the construction of meaning is a key factor in the study of human behavior and is a central condition of human thought and action (Nicolopoulou, 1996).

Bruner argues that psychology "must be organized around those meaning-making and meaning-using processes that connect man to culture" (1990, p. 12). More recently, Bruner has encouraged researchers of "cultural psychology" (as he terms it) to recognize the crucial role of "narrative as a form not only of representing but of constituting reality" (1992, p. 233). Thus, Bruner's ideas suggest that narrative along with logical scientific thought is one of two distinct modes of ordering reality, and one that plays a central role in our efforts to make sense of the human world (Bruner, 1986).

The work of other interpretive researchers has also shed light on how narrative is a tool for humans in making experience meaningful and comprehensive. Feldman's (1989, 1994; Bruner & Feldman, 1996; Feldman, Bruner, Kalmar, & Renderer, 1993; Feldman, Bruner, Renderer, & Spitzer, 1990) work exhibits constructive examples of how the interpretive research approach can inform empirical studies of narrative. In his work, with both children and adults, Feldman found that there are distinct narrative "genres" that people use within their narratives. These "genres" use inner logic in a variety of diverse contexts and help people make sense of their own world and the perspective of others. According to Feldman, these narrative "genres" provide individuals with essential mental modes for ordering, organizing and interpreting their own and

others' experiences. Narrative genres and the cognitive models they utilize are influenced by several factors, such as: each individual has access to different genres to address certain problems or situations (Feldman, 1989, 1994). Secondly, different subcultures within the culture at large generate different narrative genres (Bruner & Feldman, 1996). For instance, Labov's (1972, 1982) research evaluated how, "linguistic forms themselves have social meanings and are the objects of social evaluation and that these social meanings and evaluations are critical in explaining linguistic usage, diversity, and change" (p. 372). This is evident because ways of speaking or expressing are important indicators of social identity. This research illustrates how culture (i.e., the neighborhood a person originates from, or the family he or she is raised in or the ways of speaking common to that place or group) does indeed affect a individual's way of speaking, or expressing him or herself. In these ways a person's culture affects his or her learning.

Third, age affects developmental shifts in the cognitive patterns of interpretive understanding that characterizes narrative genres (Feldman et al., 1993). For example, younger preschool aged children use narrative or storytelling as a way to experiment with ideas that they have not yet quite mastered. In contrast, older or school aged children often use story not to experiment with ideas they do not know but rather to illustrate what they do know.

Lastly, Feldman was able to show how shared narrative models (i.e., a family story or fable) developed within miniature subcultures (i.e., a classroom, family, and circle of friends) are central to maintaining the identity, structure and relationships within a particular group. A miniature subculture in a nursery school classroom may include a theme that a child mentions within dramatic play. These play themes often extend into

the classroom curriculum, and can serve as a learning component, while uniting the class as a community through a common shared theme. In sum, essentially, narrative "genres" are modes of knowing or understanding. As Feldman states, this provides support for the view that narratives are, "an important and ubiquitous part of the cognitive tool kit, on which humans depend, and therefore the mastery of narrative models must be one of the central tasks of cognitive development in any culture" (Feldman et al., 1993, p. 340).

Fox's (1993) research illustrates the qualities of Feldman's narrative genres. Preschool children's spontaneous stories were tape-recorded both in their homes and when they were playing alone. The tape-recordings illustrated that when children were playing alone they were able to imagine an audience or listener, indicating that children were able to utilize perspective-taking, which is a universal trait yet unique to each individual (i.e., similar to what Feldman terms individual access). Fox found that the children changed roles frequently, specifically they would explicitly take on the role of storyteller by using different tones of voice when speaking and forms of addressing the "audience," and again by speaking as an all knowing third-person narrator who asked questions of the story, or as a first-person narrator who would often explain the story. Fox also found that children drew inspiration from the culture around them when creating these stories. Fox states, "the inter-textual nature of the children's stories included features drawn from books, television, films, radio and other sources. These findings highlight the view that play is a form of social communication reflecting children's knowledge of the world in explicit cultural terms, and that through story, children are able to make this knowledge known" (p. 17). Also, evident in Fox's research is that children's stories were affected by context, namely the stories told in the home or in the

school classroom depicted stories of an oral culture (Mallan, 1991). Examination of the oral stories told by preschoolers revealed more about their knowledge of the world, their social environment and their linguistic and communicative capabilities (Mallan, 1991). As is evident, children draw from various sources to create their stories, thus their stories are diverse and rich containing a multitude of information related to various aspects of development. The issues raised in Fox's research illustrate qualities of Feldman's narrative genres, because both lines of research exhibit skills or narrative "genres" utilized by children in storytelling, such as comprehension, creativity, and perspective-taking. Each of these narrative modes has specific characteristics that elicit different outcomes based upon the theme or question asked and the context in which the narrative occurs. In the next section, the implications that play and narrative have for children's development will be discussed.

Play and Narrative

In the past decade, a great deal of research has been conducted exploring the relationship between pretend play and narrative and their role in children's development. Play and narrative have gained attention independently of one another, but also mutually for their connections to topics such as socialization, cognition, imagination, social competence, and education (e.g., Bamberg, 1997; Bruner, 1992; Fireman, McVay, & Flanagan, 2003; Roskos & Christie, 2000; Saracho & Spodek, 1998).

Children's pretend or dramatic play focuses precisely on the enactment of narrative scenarios. When observing children's play it can be quite useful to view pretend play and storytelling as complementary modes of narrative activity, ranging from rational descriptions of narratives in storytelling to their imaginative re-enactment in pretend play

(Nicolopoulou, 1996, 2002, 2005). Vygotsky's symbolic views of play are useful when examining narrative because both play and narrative activity are vehicles of children's creative expressive imagination, but at the same time they are used as tools to master to reality (Nicolopoulou, 1996). As Nicolopoulou states:

> We might even say that children's fantasy play can be seen as the enactment of narratives, in a way that is complementary to their discursive exposition in stories. In fact, the line between the two is not always easy to draw in childhood. Each, in its own way is a form of symbolic action through which fantasy becomes a tool for grappling with reality. Children's narrative activity, like their fantasy play, should be studied as an expression of their symbolic imagination that draws from and reflects back upon the interrelated domains of emotional, intellectual, and social life (Nicolopoulou, 1996, p. 199).

Both pretend play and story telling offer children freedom from the literal truth-and-the-facts so that they can reflect and experiment upon less firm ground. As Bruner states, when telling stories children can, "explore the timeless world of human existence, intention, and emotion-the basics" (Bruner, 1986, p. 575). Thus, narrative may serve as the missing link for self awareness and personal development. Perhaps, it is fair to say that play and narrative can function as complementary expressions of children's symbolic imagination that originate from and reflect upon the inter-related domains of emotional, intellectual, and social life (Nicolopoulou, 2005).

When looking at play and narrative together it is important to define which activities constitute play and/or narrative activities. By using their imagination and creativity children may create stories through acting, drawing, telling, and playing. As Nicolopoulou states, "children and narratives capture the range of the subject, which includes narratives written for children, told to children, constructed by adults with children, and composed and told by children, and narratives enacted by children in

fantasy play" (Nicolopoulou, 1996, p. 179). Jerome Bruner's narrative research has shown that story telling speech portrays how people view reality. Bruner argues, that there is no original reality, rather only a person's perception of what reality is or could be. The narrative format, although a universal tool, remains unique in meaning making to each of us (Bruner, 1988). Bruner believes that, narrative serves as a "tool kit" for deciphering reality and is formed at a young age (Bruner, 1988). Thus, children's narratives serve as autobiographies and incorporate material from both real and imagined worlds. Similar to pretend play, story worlds offer children freedom from the literal truth-and-the-facts so that they can reflect and participate in an experimental way. Bruner states that in narrative, "the ways of telling and the ways of conceptualizing that go with them become so habitual that they finally become recipes for structuring experience itself, for laying down routes into memory, for not only guiding the life narrative up to the present but directing it into the future" (Bruner, 1988, p. 582). Continuous repetition of experience, which often occurs in storytelling and in dramatic play, may help children to reflect upon experience and learn about themselves and the world. Often one is not able to decipher reality unless he or she also explores his/her internal thoughts and emotions (Bruner, 1988).

Other research has examined the similarities between the nature of pretend play and narrative. The creative nature of both pretend play and narrative often provides children with the opportunity to explore both realistic and unrealistic ideas, thoughts and emotions. Children use narrative in dramatic play to describe and communicate with the world and the people around them. Fantasy acted out in dramatic play is viewed by several researchers and educators as a predecessor to oral storytelling and story writing

(Crowie, 1984; Galda, 1984). Research has shown that children's play at its most developed level has evolved into a cooperative multidimensional activity that produces interrelated action sequences and highly imaginative themes (Christie, 1991). Within pretend play children use verbal stories and abstract ideas in physical re-enactment. Thus, they are using multiple variations to express their inner thoughts and emotions. Often the play narratives they create stem from the creative imaginary part of their psyche, thus they use these ideas experimentally in play with other children to create new play narratives or play themes. Fein argues, "as children begin to use the symbolic tools of their culture to create their own imagined events-as they begin to play, draw and tell stories-their understanding of these inner worlds are shaped and revealed" (Fein, 1987, p. 181). The creative role that siblings and mothers have in facilitating play and narrative will be reviewed later on in within this proposal. Other research has examined the practical benefits that play and narrative provide for young children.

Within narrative children can tell stories about events that have happened to them, thus they learn to create autobiographical narratives (Welch-Ross, 1997; Nelson & Fivush, 2004). Autobiographical narratives reveal information related to a child's self esteem, personality and the quality of attachment to the primary care-giver (Cassidy, Cassidy, & Shaver, 1999). Also, play narratives provide the child with a safe place to explore emotions, perceptions, and knowledge. Other research has examined the positive effects that narrative and play have in fostering children's imagination and creativity.

In their research Glaubman, Kashi, and Koresh (2001) conducted observations of children's pretend play in a number of different Israeli kindergarten and preschool classes to examine the level of creativity and imagination within children's play narratives. The

need for this type of research stemmed from the lack of free play periods in classrooms, only a few children playing within the dramatic play centers, and the lackluster, repetitive play themes observed in the children's dramatic play. In order to facilitate enhanced creativity and imagination within the children's pretend play narratives, the researchers created an intervention for the children. The intervention included slowly increasing the imaginative use of play objects within unstructured social interactions. The researchers evaluated narrative quality (i.e., complexity, structure, content) and the level of imaginative object use (i.e., organization of ideas, flexibility, complexity, originality, innovation, and fantasy). The step-by-step intervention allowed children the opportunity to develop their play themes and work on their negotiations with peers within dramatic play. In particular situations the teacher would recommend a creative peer who was further advanced in his/her imaginative abilities so that the other children could learn from the more advanced peer (Fein, 1987). The teachers also were required to provide the children with at least 45 minutes of free play a day and to help facilitate the play by asking open-ended questions and introducing ideas about objects, a locality, and an action or a picture that could be used in play or influence the children's play. The researchers found that the intervention was successful, which meant that improvement in the children's play narratives occurred as a result of their intervention because it helped activate the children's abstract and creative thinking (Glaubman et al., 2001).

Glaubman et al., (2001) indicated that the more children were able to use their imagination, if they felt the freer to enact their ideas in a fantasy manner. Also, evident was that the children became more involved with their peers and were more creative in their play narratives. Another interesting result was that most of the teachers who

implemented the intervention continued to use the same skills throughout the school year as a routine class activity. Thus, this research reaffirms that by strengthening children's imagination skills through intervention the quality of narrative and pretend play most likely will improve.

This overview of research warrants the importance placed on symbolic activities such as narrative play in the social, emotional and cognitive development of the child. This research also exhibits how different factors such as skilled play partners, (adults, peers and/or siblings) affect children's creative, narrative, and dramatic play abilities. The next section will review the small body of literature related to imagination and/or creativity and examine how activities such as play and narrative foster creativity and imagination within children.

Creativity

Creativity, similar to play and narrative, is difficult to define, because there are several different theoretical views on what creativity encompasses. To understand creativity two basic questions must be considered: How is creative performance different from ordinary performance? What conditions affect creative performance (i.e., individual abilities and characteristics, and social environments)? Another problem related to defining creativity is that there are several different types of creativity. For example, an individual can be talented or creative within the fields of science, mathematics, the fine arts, and literature. Therefore, several of the earliest definitions of creativity, which will now be reviewed have focused on the creative process. Koestler (1964) suggested that the creative process was, "the displacement of attention to something not previously noted, which was irrelevant in the old and is relevant in the new context; the discovery of hidden

analogies as a result" (p. 119). In this definition, the creative process is defined by connecting two previously unrelated thought processes in a new manner, which produces a new insight, idea, or invention (Amabile, 1996). Other theorists have attempted to define creativity by focusing on the thought processes associated with creative actions. Gestalt psychologists (e.g., Wertheimer, 1945) thought that creativity occurred when the individual comprehended the basic parts of a problem and their relationship to a final solution. One cannot creatively solve a problem unless he/she initially comprehends the components of the problem. Therefore, the creative thinker will use his or her knowledge to solve a problem and the solution may prove to be different from other peoples' intended solutions. Newell (1962) stated that "creative activity appears simply to be a special class of problem-solving activity characterized by novelty, unconventionality, persistence, and difficulty in problem formulation" (p. 66). Some developmental psychologists (Singer & Singer, 1999) define creative imagination as a form of human thought characterized by the ability of the individual to reproduce images or concepts originally derived from the basic senses, but now reflected in one's consciousness as memories, fantasies, or future plans" (p. 16).

Creative or imaginative thought produces images and dialogues both personal and public related to both the past and to the present. These thoughts can manifest themselves in an abstract manner as pure thought or ideas or in physical form through story, music, a play scenario, and visual artistic creation. Essentially, the above definitions inform us that creativity is a unique way of thinking that allows an individual to comprehend different elements of a problem. Creativity may enhance the individual's ability to think, visualize and create an alternative solution.

The above definitions serve as a means to understanding what creativity is, how it is a different form of thinking or behaving from ordinary experiences and the importance it plays in problem solving. The next section will examine the links between play, narrative, and the role creativity has on the development of the child.

Play and creativity. To understand children's creativity fully, one must distinguish creativity from intelligence and talent. Researchers have expressed dismay about whether creativity in young children could be differentiated from other cognitive skills (Ward, 1974). More recent studies have shown that elements of creative capacities can indeed be distinguished from intelligence (Moran, 1983). For example, conversations with distinguished writers, inventors, artists, and scientists showed that their early experiences with play in their childhood or their adult uses of playful, imagery-based or narrative thought are important features of their creative process (Root-Bernstein & Root-Bernstein, 1999; Singer & Singer, 1990).

Moving from retrospective reports to observing children, Fein (1987) stated that there are four symbolic activities within children's pretend play that highlight their advanced creative imaginative abilities. Fein stated that around the age of two or three the child's play departs from simply replicating what he/she sees (i.e., imitating sweeping when the mother sweeps) to being able to initiate a wide range of substitutions of objects. These substitutions are different from pure replication. The first transformation is *decontextualization*: the child is able to imitate a sequence in a context other than that in which it usually occurs. For example, the child's sweeping of the house no longer occurs during cleaning time, but may occur whenever he or she sees imaginary dirt. The second transformation is *object substitution.* In object transformation, the child is able to use a

variety of objects to signify a missing object. For example, a broom, or wooden stick may represent the broom. Eventually the child is able to use his or her imagination to represent missing objects. In the third transformation, *self-other transformations* the child is capable of using realistic objects (i.e., dolls) to represent an additional role within the play scenario. Also, evident within this transformation is the child's ability to use non-realistic objects to represent dolls, such as blocks being used to represent a doll. Thus, by age three or four the child can use almost anything to symbolize a role or object in any situation. The freedom from objects and the creative use of objects represents creativity and imagination within play. The last transformation is *collective symbolization.* In this transformation objects can represent different unrelated elements. The only condition in this transformation is that all the players involved understand the roles, substitutions and themes associated with the play narrative and work together to negotiate the ongoing themes. These elements will be examined in greater detail in the present study.

The last transformation illustrates the path that children's play takes from simple replication to elaborate themes that evolve from creative transformations. Within collective symbolization children create themes, transform objects and negotiate with one another to create play scenarios that are suitable for all participants. Of course, the transformations or symbolic phases of development may vary in degree from child to child since some children may be more naturally inclined to be creative thinkers. The four transformations detailed above illustrate the imaginative creative processes that play and narrative offer children. Essentially, within imaginative creative experiences such as pretense and play narratives the child develops cognitive, affective, communicative and symbolic thinking skills.

Other researchers have explored how children's play or playfulness is linked to creativity (Lieberman, 1965; Lieberman, 1977; Wallach, 1970) and may exhibit a tendency towards creativity later in life (Clark, Griffing & Johnson, 1989; Schmukler, 1982-1983; Russ, Robins, & Christiano, 1999). Howard-Jones, Taylor, and Sutton (2002) evaluated the effect that play had on young children's creativity during a subsequent activity. Participants in this study consisted of 52 children aged 6-7 years old, who were randomly assigned to two groups. Group A was supervised by a teacher, although interaction with the adult was minimal, and the children were encouraged to indulge in free play with salt dough. The children were only instructed to "Do whatever they wanted with it." Group B was instructed to complete a handwriting exercise that incorporated copying text from a chalk board. After 25 minutes both groups were accompanied to another classroom and were given art materials to make a collage. The following day the same procedure was repeated with the activities counterbalanced across the two groups. The collages were evaluated by a panel of judges who analyzed the number of different colors used, and the total number of pieces of tissue paper used to construct the collage. The researchers found that the nature of a preceding task (structured writing task versus free-play) influenced the creative value of children's outcomes in a subsequent task as judged by an outside panel. Essentially, the children's collage creations were enhanced after the free play sessions. The increase in productivity might be due to the relaxed mental state of the children after playing with the salt dough session than after a structured writing project. Also important to note is that the children were motivated to play and perhaps were not motivated to participate in a structured writing assignment.

The above study emphasizes the importance that play has on the development of creativity and how creativity research can inform educational practices.

Creativity and narrative. Other researchers have examined the role that narrative fosters in children's creative development. In a study conducted by Lindqvist (2003), it was found that children used narratives in their play. Children's verbal and play stories were built around the fairy tale formula because the author believed it informed children how to act in a dramatic manner. Lindqvist introduced a play theme, *Alone in the Big, Wide World (*Lindqvist, 1992, 1996) at a preschool in Sweden. The aim of the study was to examine the relationship between play and art and how children used these creative techniques to develop cultural awareness. The children spent the course of the preschool year acting out and learning Lindqvist's story. Several key findings evolved to support Lindqvist's theory that in fact children did use play, narrative, and art to form cultural awareness. For example, Linsqvist reported that it was easier to develop play curriculum if children shared a common play world or theme, such as *Alone in the Big, Wide World.* Also, when adults dramatized the action of the play children were more apt to understand its meaning. Acting out the play created a dialogue between teachers and children. In this sense, children were able to decipher abstract ideas associated with the meaning of the play by using physical actions. Also, apparent was that children used dramatic play in the same way as art that is as an aesthetic tool to make and decipher meaning (Lindqvist, 2003). This research serves as evidence that narrative quality in pretend play, especially its imaginative character, is responsible for developmental functions of play.

These studies illustrate the importance that play, narrative, and play partners have in forming creative, imaginative children. As noted previously by Fein (1987) within

collective symbolization children create themes, transform objects and negotiate with others to create imaginative play scenarios that are creative, extend beyond reality and are cognitively advanced. What was once simply cleaning the floor with the mother becomes an imaginative experience created by the child that teaches the child through clarification and construction. Therefore, as illustrated, creativity, a unique way of thinking, is necessary and important in several areas of a child's development. The following section will review the role that play partners (i.e., the mother, a sibling) have upon children's pretend play, narrative construction and creativity.

The Role of Siblings and Mothers in Pretend Play

In this section, the influence that mothers and siblings have upon a child's pretend play episodes will be reviewed. Mothers and siblings influence the quality and content of the child's pretending in different ways. For example, what role do mothers and siblings play in the creation of the child's early development of pretending?

Mothers' role in pretend play. Research has recognized that parents who engage in pretend play with their children have a direct influence on their children's play (Rubin, Vandenberg, & Fein, 1983; Stern, 1985). Mothers encourage their toddlers to play at a level slightly higher than what the toddler is able to accomplish when playing alone. Children, therefore, perform at higher levels of pretense when they play with their mothers (Beizer & Howes, 1992). Also evident is that toddlers' joint pretend play with their mothers is more continious (Dunn &Wooding, 1977; Slade 1987), complex (Finesse 1987; Slade, 1987), and diverse (O'Connell & Bretherton, 1984) than solitary pretending, suggesting that mothers' participation has an affect on the structure and content of early pretend episodes (Haight & Miller, 1992). Essentially, toddlers (children under age three)

initially engage in pretend play with their mothers to learn skills related to pretend playing, but after the age of three (when many children have mastered the basic skills of pretense), children prefer to play with siblings and peers rather than their mother.

Theoretical research also supports the benefits of joint mother and child pretend play. For example, Vygotsky believed that children's cognitive development was shaped by experiences with adults or other people more skilled than the child (i.e., mother or older sibling). At first, the adult is responsible for the child's learning by demonstrating problem-solving techniques, but eventually with scaffolding the child is able to direct his/her own learning. Often young children are unable to understand roles or actions from simply observing and imitating adults, therefore, the child benefits from explanation, direct guidance, and parental support (Smilansky & Shefatya, 1990). When mothers engage in pretend play with children they are able to demonstrate actions, explain reasons behind actions, and answer questions raised by the child, especially concerning appropriate behavior. Also, they may help children to organize the play materials so as to facilitate the emotional or cognitive concepts associated with object use and pretense. In addition, maternal involvement in pretend play may create opportunities for the mother to break down complex ideas to their simplest form so that the child can jointly participate with the adult. This is beneficial because once the child is able to master the parts of a complex idea he or she gains an understanding regarding the components of a whole idea or process (Smilansky & Shefatya, 1990). Therefore, the child can embellish or display traits of creativity and imagination in relation to object uses and pretend play roles. These types of parental involvement in play may enhance the child's perceptions of reality, acceptable social relationships, appropriate behavior, and other cognitive skills, such as

creativity and imagination. Nevertheless, we know little about how maternal involvement with somewhat older children influences their play.

Another factor that affects the quality of mother-child of pretend play is the different degree of involvement of the mother in the pretend play with her child(ren). For example, many infants and young children are self-directed learners, who need their mother to initially "watch them" when they are involved in a learning activity such as pretend play (Elkind, 2007). Rogoff and Gauvain (1986) suggest that adult supervision and child participation together in a learning experience make a difference in the child's learning. Initially observing and encouraging and then engaging with the child in learning activities may be most useful because it helps the child to develop concentration, attention and promotes their desire to learn. Therefore, the way that a mother engages in play affects how the child will play and what qualities the child will learn through play. One issue that has not been addressed in the literature is how mothers interact with older children (5-8 year olds) during play sessions.

Another factor that affects the child's pretend play with a mother is the child's cognitive development. As noted previously, Haight and Miller (1992) found that children after the age of three preferred to play with siblings and peers instead of their mother. Perhaps, after acquiring certain ideas and concepts through play with the mother, children are eager to exhibit these skills with play partners who will appreciate or enhance these concepts in a more reciprocal and playful manner. Therefore, a question that will be addressed in the proposed study is what happens when mothers are present during a play session with older children, which is designed to promote pretend play.

Importantly, how do mothers help (or not) the siblings to set up and organize a play session?

The sibling's role in pretend play. Researchers have examined the sibling relationship to investigate how a child's interaction in alternative social networks (with a sibling vs. the mother) contributed to social and cognitive development (Hartup, 1980; Lewis & Rosenblum, 1975). Interest in sibling interactions originates from the notion that sibling exchanges are different from parent-child interactions (Baskett & Johnson, 1982; Lamb, 1978a, 1978b). Several factors affect the quality of the sibling relationship, such as parenting styles, quality of sibling relationship, and birth order (Dubrow & Howe, 1998; Howe et al., 1998). There are stylistic differences in play with a mother versus with a sibling (e.g., Dunn & Dale, 1984; O'Connell & Bretherton, 1984).

The quality of the sibling relationship and the context of pretend play may serve to facilitate children's understanding of emotions, behavior, internal states, and perspective taking skills (Howe, 1991). Other research has examined these ideas. For example, Dunn and Kendrick (1982b) found a link between internal state communications (e.g., repetition of emotional states in play) and positive behavior elicited from the older sibling to the younger sibling. Dunn et al. (1982b) also reported that context and relationship quality were important, as older siblings in an attached and harmonious sibling relationship exhibited more affective and internal state language with a younger sibling during pretend play episodes. Also evident is the fact that when siblings play together they may demonstrate their comprehension of internal states more with one another than with their mother (Dunn, 1988). This is important because, as previously discussed, if a child understands the components in a process and is able to participate in

the learning activity he or she is more likely to find the experience meaningful and will benefit more from the learning experience. Essentially, play between siblings helps to create opportunities for the child to practice perspective taking skills, to express internal state emotions, and to create shared meanings, all of which may lead to successful, sustained and creative play scenarios.

Dunn (1986) found that play between siblings (versus play with the mother) may facilitate collaboration between the children. For example, siblings take complementary roles; their play exhibits a close blending of actions, and themes. It was found that mothers usually act as observers of their children's pretend play and rarely engage as a play partner in their children's imaginative play endeavors, whereas in Dunn's (1986) research, play between siblings exhibited more creative themes such as entering into other worlds (i.e., entering outer space, a world of monsters, the bottom of the sea, to desert islands or to the moon). In contrast, play scripts with mothers take on more day-to-day themes related to domestic tasks (i.e., bedtime, grocery shopping, and cooking). Therefore, research supports the belief concept that the sibling may be a more appropriate or desired play partner than the mother. Nevertheless, both mothers and siblings may play a positive role in influencing young children's thinking and pretense skills. Given this, the present study will examine the play between an older sibling and a younger sibling first with the mother present then alone when the two siblings play together without the mother.

The Present Study

As outlined, pretend play, narrative and creativity are important and influential in young children's development. The literature reports that the quality of dramatic play,

creativity and narrative are influenced by social and cultural factors (Dunn, 1986, 1988). Research also supports the theory that dramatic play and narrative are beneficial for children's social, emotional and cognitive development (Mellou, 1994). Missing from the literature is an examination of 5- to 8-year-olds dramatic pretend play in the context of the mother and sibling. As was noted previously, pretend play peaks for most children between the ages of 3-6 years and may dissipate after 5 years of age. Yet, this is not to say that it disappears from the child's life completely (Piaget, 1962). Also, there is limited literature on the role of the mother in facilitating play with children of this age (5- to 8 -years-old). Therefore, the proposed study investigated the following research questions. How does the mother structure the set-up of play for the siblings, specifically, how involved is she (e.g., observer-observes but does not engage with her children, collaborator-actively engages and collaborates with her children by helping to construct a barn and/or creating a pretend play scenario, director-tells the children on how to construct the barn and on how to play with the barn rather than asking them how they would like to play)? And, how do the negotiations between siblings revolve around the mother's engagement or set-up? Lastly, how do these exchanges affect pretense and creativity in the play session between siblings? In this study, samples of 24 mother-sibling dyads served as the participants. There were two play sessions; the first session included the mother present with the two siblings for a 5-minute play session. The task of the first part of the play session was to assemble a farm set. After the initial five minutes the mother was not present and the siblings were left to play alone for another five minutes. The transcripts were coded for maternal language (e.g., questioning), the mother's role, and the creativity of the children's play. The coding was done by using

various rating scales, and coding schemes, which are discussed in detail in the appendices section.

Three hypotheses were proposed. The first hypothesis was that there would be a difference in sibling behavior between the two different play sessions (mother present versus mother not present). Specifically, it was anticipated that siblings would engage in more instances of collaboration, pretense and creativity when they played alone together versus when they played with their mother. Creativity was defined by the use of descriptive adjectives, object use, object transformations, and creative narrative themes. This hypothesis was supported by the work of Dunn (1986, 1988), Fein (1987), and Howe (1991).

The second hypothesis had three parts and concerned sibling interaction when the mother was not present. (a) The first part was that sibling dyads who were more collaborative, would engage in more frequent pretense. For example, Dunn (1986) found that play between siblings alone (vs. when the mother is present) facilitated more instances of collaboration. Thus, a positive association was expected between sibling collaboration and pretense when siblings played without their mother. (b) The second part of hypothesis two was that there would be a positive association between creativity (e.g., use of descriptive adjectives, object use, object transformations, and creative narrative themes) and sibling collaboration. This hypothesis was supported by the work of Dunn (1986, 1988), Fein (1987), and Howe (1991). For example, when siblings collaborated with one another there might have been more opportunities for creativity, and sharing of ideas to evolve. (c) The third part of hypothesis two was that there would be an association between pretense and creativity. For example, siblings who engaged in

more pretense would likely be associated with more examples of creativity. Dunn (1986, 1988) found evidence of this through the complementary roles that siblings engaged in while in pretend play scenarios. Mothers' roles were typically observers, whereas, siblings engaged in complementary roles that blended actions and themes. Pretend play between mothers and children revolved around domestic themes (e.g., playing store, grocery shopping or cooking), while play between siblings employed creative and otherworldly themes (e.g., entering outer space, superhero's saving the world or a world of made up monsters). Essentially when siblings played together they were more apt to display what they knew. Also, when siblings played together they may have been more likely to explore the concepts that they wished to clarify further more openly. Therefore, a positive association was expected between pretense and creativity.

The third and final hypothesis was that positive maternal engagement (maternal language and maternal interaction rating scale, see Appendices E and F) would be positively associated with positive (e.g., collaboration, and ongoing pretense) and creative negotiations (e.g., creativity in object use, object transformations, use of descriptive adjectives, and creative themes) between siblings when they played alone. This hypothesis was based on the findings of previous research that demonstrated positive associations between children's cognitive development and positive experiences with adults or peers more skilled than the child (Beizer & Howes, 1992; Rogoff & Gauvain, 1986; Dunn & Dale, 1984; Vygotsky, 1978). In the present study, mother's degree of maternal interaction was based on a rating scale from 1 (none) to 5 (frequent) (maternal interaction coding scheme, Appendix F). Maternal language (maternal language coding scheme, Appendix E) included clarifying and extending children's play

themes through open and closed questions, directives, initiatives, response, praise, and scaffolding would be considered as positive interactions. Scaffolding included but was not limited to examples when the mother assisted the children either physically by showing the children how to assemble pieces of the barn or verbally when she gave the children hints or cues as to how they might assemble the barn or how to play with their sibling. Thus, a positive association was expected between maternal interaction, behavior and language (e.g., questions, directives, initiatives, responses, praise and scaffolding) and sibling interactions (e.g., collaboration, and ongoing pretense, creativity in object transformations, creative narrative themes and the use of descriptive adjectives) when the mother was not present.

Method

Participants

Participants for the present study were originally recruited by Howe (2003) via birth announcements in the local newspaper and by word-of-mouth. The sample included 24 sibling dyads and their mothers. The participants were Caucasian, English-speaking, two parent families living in a midsized, Canadian city. The sibling's ages were as follows: older siblings *M* age = 8.2 years, *SD* = 7.26 months; younger sibling *M* age = 5.3 years, *SD* = 2.32 months. Gender make up of the dyads included 6 girl-girl, 6 boy-boy, 7 girl-boy, and 5 boy-girl pairs. Parents' levels of education (fathers *M* =14.2 years; mothers *M* = 13.6 years) and job status was representative of a middle-class Canadian community. This data collection previously received ethical approval (see Appendix A).

Procedure

The sample dyads included two play sessions. In the first play session, the mother and siblings were supplied with a colorful, 50 piece, wooden farm set. The wooden pieces included animals, trees, fences, large barn pieces, small barn pieces and a silo. The siblings and mother were encouraged to play with and assemble the farm set any way they wanted. After 5 minutes, the mother was asked to leave the room. The second play session began and the two siblings were allowed to play with the assembled farm set any way they chose alone. The two sessions were videotaped and later transcribed for verbal and behavioral interactions.

Measures

Mother and sibling play sessions. Both play sessions (mother present/siblings playing alone) have been videotaped, transcribed, and have been coded for the following.

Pretend play rating scale. The children's language and behaviors in the 24 dyads were coded. The transcripts were then coded for the following information. First, in each transcript, the total number of conversational turns was recorded. This was done by counting the reciprocal verbal exchanges between the siblings and mother; for example, a turn was counted when a child spoke directly to the other sibling or mother and when he or she stopped speaking. Then a proportional score was created for all the variables associated with language. This was done by dividing each language variable by the number of conversational turns for both siblings and the mother. Second, the transcripts were rated for the degree of pretense using Howe's (1998) pretend play rating scale (e.g., 1-no evidence of pretense, 2-a brief example of pretense, 3-parrallel pretend play, 4-joint pretend play, 5-joint pretend play which has one theme and enactment of a story).

(Definitions of the rating scale are included, see Appendix B). The dyads were then coded according to these 5 categories and a mean score was created for the play variables in each of the two play sessions.

Creativity. As noted previously, both play sessions were coded for creativity of the play and was determined from three measures. First, creativity included imaginative use of language, such as the use of adjectives in the play session. The transcripts were then used to determine the number of different adjectives (and the total number) used within the two play sessions. Second, included in the assessment of creativity was narrative themes. The play material may have dictated the farm theme, however an assessment of themes was made. For example, what themes were present in the play sessions? Play themes that used the farm theme in a typical or standard manner included but were not limited to the following (e.g., "Oh a cow. The cow goes in the barn. Mooo;" or (the younger sibling discovers a dog in the barnyard while the siblings are talking. "No this is a dog. It stays out," (the younger sibling moves the dog out of the fenced area) (as cited in Howe et al., 1998, Family 22). Creative themes were defined as those themes that went beyond the typical farm themes or built upon the farm theme in some unusual way (e.g., "The horse belongs on the rooftop of the barn"). Creative themes that went beyond the typical farm theme resembled Fein's (1987) idea of *decontextualization*, because the child was able to imitate a sequence in the context other than which it normally occurred. For instance, in this example the child was able to pretend the horse lived on top of the roof because they recognized that on a farm in real life the horse normally lived in a field or in a barn, but by using their imaginative abilities they chose to have the horse live on top of the roof. Other unusual themes that creatively extended the farm theme included

but were not limited to the following (e.g., "I've got an idea. (Sibling picks up tree and playfully bounces it off the farm roof) "How about if the tree goes here?" (places the tree on the farm roof). Younger sibling replies, "No, I know, I know, the tree could go on here." (places the tree on top of silo piece) (as cited in Howe et al., 1998, Family 22). Each conversational turn was coded for the presence of typical and unusual themes.

The final element of creativity to note is how the mother and siblings used (e.g., all pieces are used to correctly assemble the farm) and or transformed objects or the farm set pieces (e.g., the roof of the barn becomes the mud of the farm yard). When the children transformed the objects they illustrated Fein's (1987) ideas of *object substitution* and *self-other transformations* because the children used a variety of objects, such as the roof of the barn to signify a missing object (i.e. the mud) and in doing so they exhibited their ability to substitute objects and created transformations out of missing objects either through transforming an actual piece of the farm set or by utilizing their imagination and "creating" an object with no actual object present. The culmination of Fein's (1987) ideas would be when dyads combined the above abilities (e.g., *decontextualization, object substitution, and self-other transformations*) together to create *collective symbolization.* In *collective symbolization* the players involved collectively created a scenario that encompassed creative themes, transformed objects and in doing so negotiated with one another together to create a highly imaginative play scenario that was suitable to all people involved (e.g., a tornado comes and knocks the horse off the barn, creates a flood in the pond and takes all the animals away with it). In order to obtain this information both the transcripts and video of the play sessions were utilized to count the frequency of transformations. Also, included in object use and transformation was the number of

pieces used. Two checklists were created in order to record this information. (see Appendix C and D). Since most pieces were used in the set-up there was a second count of the number of pieces used once the set-up was completed.

Mothers' language. First, the transcripts describing the mother and siblings play sessions together were coded for maternal language. The following six categories were noted (e.g., questions, directives, initiatives, responses, scaffolding, praise) (See Appendix E for detailed examples). Also, noted was to whom the mother directed her language (e.g., younger sibling, older sibling, or both siblings).

Second, a 5-point Likert rating scale ranging from 1(no interaction) to 5 (active verbal and physical involvement) was used to determine maternal engagement. The same 5-point Likert rating scale was used every 30 seconds to evaluate the mothers' involvement with the children (See Appendix F). Maternal interaction was defined as the degree of engagement exhibited by mothers during the five minutes of farm play. The five rating points used to measure maternal engagement were as follows. First, there was no interaction (e.g., the mother did not speak to or interact in any way with the siblings). Second, there was occasional interaction (e.g., the mother made occasional, isolated comments or remarks and may have responded to a child's questions, comments, or actions. Occasionally, the mother may have moved a piece without responding to the child, but was mostly observing the siblings' interaction). Third, there was moderate interaction (e.g., the mother may have made suggestions about the play or how the children could interact and there may have been a sequence of verbalizations, questions or comments. The mother may have handled pieces for periods or handed pieces to the children, but says little). Fourth, there was active verbal involvement (e.g., the mother

directed the play by telling the children what and how to do things or engaged in an ongoing, steady conversation regarding the farm play. The mother may have occasionally touched or demonstrated with the pieces, but she was usually not physically involved). Fifth, there was active verbal and physical involvement (e.g., the mother was verbally and physically involved in the farm play. She may have helped set up the farm, and made suggestions regarding the direction of the play. There is no doubt she was highly involved).

Sibling collaboration. The video tapes of the sibling alone play sessions were used to determine the collaboration between the siblings (See Appendix G). A 5-point Likert rating scale ranging from one to five was used every 30 seconds to rate collaboration between the siblings. Collaboration was defined as the degree of cooperation, working together, or engagement between siblings, more specifically, the degree that siblings played together, shared ideas, materials and cooperated with one another (Howe & Recchia, 2005). The scale used ranged from 1-5 with five separate categories defined. First, there was no collaboration (e.g., the siblings played separately as if in solitary play, there was no interaction, or sharing of ideas, themes, materials or cooperation, or the interactions they shared were negative). Second, there was minor collaboration (e.g., the siblings as a whole play separately, or they briefly collaborated playing together or sharing information about the play). Third, there was moderate collaboration (e.g., there were some instances of playing together, sharing information, materials, creating "stories" or discussing materials, and cooperation). In this category the siblings played next to each other as if in parallel play and there was some evidence (i.e., play themes) that the siblings engaged and connected with one another. Fourth, there was

frequent collaboration. In this category there were several examples of playing together (e.g., both siblings put animals inside the fence, building one farm, creating one "story" about the farm), sharing materials, and cooperation. A shared sense of engagement is evident between the siblings. Fifth, there was a level of high collaboration. In this category, during most of the play session the siblings collaborated with one another by sharing materials and ideas. Often in the category the siblings created a "story" together. It was apparent that the siblings had a shared goal for the play and were engaged in one another's play.

Interrater Reliability.

The primary researcher, along with an independent coder who was unfamiliar with the purposes of the study, conducted interrater reliability for coding of the object use, object transformation, maternal language variables, narrative theme, total adjective use, and total different adjective use. Five of the 24 dyads (25%) dyads were used for the purpose of reliability. The interrater reliability percentages of agreement were calculated by computing the sum of all agreements divided by sum of agreements and disagreements. The percentages for the coding were: object use (.86), object transformation (.90), maternal language variables (.86), narrative theme (.91), total adjective use (.84), and total different adjective use (.84). An overall strong Cohen's *kappa* was calculated across the 24 dyads ($k = .84$), which indicated that the researcher achieved high reliability. Reliability for the sibling pretense and collaboration had previously been coded by two raters on 25% of the families. The interrater reliability percentages of agreement were calculated by computing the sum of all agreements divided by sum of agreements and

disagreements. The reliability for the sibling collaboration were (.90), (k = .82), and pretend play (.84), (k = .72).

Results

The results of the study are presented in the following order: (a) preliminary data considerations, (b) descriptive statistics (c) quantitative analyses of hypotheses, and (d) other exploratory analyses.

Preliminary Data Considerations

First, the data were verified and preliminary formation of variables was conducted. As described below, in order to analyze each of the hypotheses, proportional scores for the verbal variables that accounted for the number of conversational turns during the two play sessions, were created, specifically for the following variables: the number of adjectives used, the number of different adjectives used, narrative theme-typical, narrative theme-creative, and for narrative theme-set-up for both play sessions (mother present and mother not present). Frequency scores were used to describe both the number of objects used and object transformations that occurred in each play session. Lastly, three different rating scales were used every 30 seconds to evaluate the siblings' quality of collaboration, and the siblings' quality of pretense along with the rating the quality of the mothers' interactions. All three of these rating scales ranged from 1 as the lowest rating to 5 as the highest rating and mean scores were used in the analyses.

Descriptive Statistics

Means, standard deviations, and ranges for the sibling variables in mother present and mother not present sessions are found in Table 1 (all tables are found at the end of the Results Section). A paired sample t-test was used to compare the number of

conversational turns in the two sessions, $t = -2.62\ (23), p < .015$. Therefore, the conversational turns variable was significant, meaning siblings exhibited more conversational turns when the mother was not present than when the mother was present. This information indicates that a wide range in sibling behavior was observed in this study. Given the significant difference we controlled for the amount of conversation in the language variables (total adjectives used, total number of different adjectives used, narrative theme-typical, narrative theme-creative, narrative theme-set-up) by creating a proportional score for the mentioned variables (see Table 1). Given the infrequent coding of narrative-off task, this variable was dropped from the study.

The means and standard deviations for the maternal variables are found in Table 2. Again in order to control for the amount of language, proportion scores were created for the maternal variables that involved language (for the number of adjectives used, the number of different adjectives used, questions-open, questions-closed, directives-verbal, responses-positive, responses-negative, responses-neutral, responses-elaborate, scaffolding, praise, and description). Lastly, frequency scores were used for maternal object use and object transformation variables.

Hypotheses Analyses

Hypothesis 1: Difference in sibling behavior in mother present and mother not present play sessions. This hypothesis predicted that there would be a difference in sibling behavior between the two play sessions. That is, that siblings would exhibit a higher frequency of collaboration, pretense and creativity when they played alone versus when they played with their mother.

In order to test this hypothesis, paired sample *t*-tests were conducted (see Table 1 for descriptive information) between sibling behavior with mother present then with mother not present (see Table 3 for *t*-tests). The independent variables were the play session conditions: mother present and mother not present. The dependent variables were the frequency counts concerning object use and object transformation, as well as the proportion scores used for total adjective use, and the number of different adjectives, the narrative themes (creative, typical, set-up) and the mean ratings used for the sibling collaboration and sibling pretense rating scales.

Findings showed that there were no significant differences between the mother present and mother not present condition in regards to object use for either younger or older sibling. However, findings showed that there were significant differences between the mother present and mother not present condition with respect to object transformation. Specifically, in the mother not present play condition older siblings engaged in significantly more object transformations than in the mother present condition. Findings indicate that there were trends detected between younger siblings' object transformation use in the two play sessions with more observes when the mother was not present. Trends were also found in the total number of adjectives used and in the number of different adjectives used between the two conditions; older siblings used more adjectives overall and a greater number of different adjectives in the mother present condition than in the mother not present condition. No differences were evident for younger siblings total adjective use and number of different adjective use across the two sessions.

No difference was evident in typical narrative themes across the two sessions (see Table 3). However, a significant difference was found regarding creative narrative themes. Analyses indicated a greater number of creative themes occurred in the mother not present condition than in the mother present condition. A significant difference was also found in the frequency of the narrative theme set-up, specifically siblings engaged in more set-up in the mother present session. Finally, a significant difference was also found in sibling pretense; it appeared that siblings engaged in more frequent pretense in the mother not present condition than in the mother present condition. Findings indicate that the sibling collaboration was not significantly different in the two play sessions. In sum, findings from the study partially supported hypothesis 1.

Hypothesis 2A: Sibling collaboration and pretense when the mother was not present. This hypothesis predicted that sibling dyads who were more collaborative, would engage in more frequent pretense when the mother was not present. Thus, a positive association was expected between sibling collaboration and pretense when siblings played without their mother.

In order to analyze the relationship between sibling collaboration and pretense when the mother was not present, a Pearson correlation was conducted. The findings revealed a significant correlation between sibling collaboration and pretense when the mother was not present, $r = .56$, $p < .01$ (all tests reported here are 2-tailed), thus supporting the hypothesis. Interestingly, the association between collaboration and pretense when mother was present was not significant, $r = .02$, *ns.* Further analyses indicated sibling collaboration was not significantly associated across mother present and mother not present conditions, $r = .11$, *ns*. Therefore, sibling collaboration was not

consistent between the two conditions. In contrast, pretense was significantly correlated across the two sessions, $r = .55$, $p < .01$ suggesting some consistency in sibling pretense across the sessions.

Hypothesis 2B: Sibling collaboration and creativity when mother was not present. The second part of hypothesis two was that there would be a positive association between creativity (e.g., use of descriptive adjectives, object use, object transformations, and narrative themes-typical, creative and set-up) and sibling collaboration. For example, when siblings collaborate with one another there are more opportunities for creativity, and sharing of ideas to evolve. In order to analyze the relationship between sibling collaboration and creativity when the mother was not present Pearson correlations were conducted (see Table 4 for correlations of sibling collaboration and creativity when the mother is not present). Findings indicated that there were no significant correlations between collaboration in regards to both older and younger siblings and object use and collaboration. Also, there were no significant correlations between collaboration with regards to both older and younger siblings and object transformation. However, significant associations were found between collaboration and older siblings and the number of adjectives used when the mother was not present, but there were no significant findings found for younger siblings. Other significant findings included the older siblings' total number of different adjectives used and sibling collaboration, but again there was no significance for younger siblings. The remaining variables, which included narrative theme-typical, narrative theme-creative and narrative theme-set-up, were not significantly correlated with sibling collaboration. This hypothesis received partial support.

Hypothesis 2C: Pretense and creativity when the mother was not present. The third part of hypothesis two was that there would be an association between pretense and measures of creativity. For example, siblings who engaged in more pretense would likely be associated with more examples of creativity. In order to analyze the relationship between sibling collaboration and creativity when the mother was not present Pearson correlations were conducted (see Table 4 for correlation of pretense and creativity when the mother is not present). Results indicated that there were no significant findings between pretense in both older and younger siblings with the following variables: object use, object transformation, the number of adjectives used, the total number of different adjectives used and the narrative theme-typical. However, findings did indicate positive significance between pretense and the narrative theme-creative. There was also a significant negative correlation between narrative theme-set-up and pretense. In sum, the hypothesis received partial support.

Hypothesis 3A: Associations between maternal language variables.

This hypothesis predicted that positive maternal engagement (maternal language and maternal interaction rating scale, see Appendices E and F) would be positively associated with positive sibling interactions (e.g., collaboration, and ongoing pretense) and creative negotiations (e.g., creativity in object use, object transformations, use of descriptive adjectives, and creative themes) between siblings when they play alone.

First, in order to analyze the maternal language variables, intra-correlations were performed between the maternal variables (e.g., questions, directives, responses, scaffolding, praise, description and collaboration). Pearson Correlations between the maternal language variables showed which variables were highly correlated with one

another and therefore, if it would be possible to reduce the number of maternal variables. After performing the intra-correlations among the maternal variables, it was apparent that some variables were highly correlated (see Table 5). Thus, the similar maternal variables were collapsed into more relevant categories. The categories were collapsed with other relevant variables, as well as, who the behaviors were directed to (e.g., older sibling + younger sibling + both older and younger sibling) in order to gain more statistical power. The three new collapsed maternal language variables included: (a) overall positive responses = positive/yes responses plus neutral responses plus praise responses, (b) overall negative response = negative/no responses plus ignore responses; (c) guidance = open and closed questions plus verbal and physical directives plus collaboration, description, scaffolding and elaborate responses. Lastly, also it is important to note who the variables were directed towards. In order to decipher this information the following three categories (e.g., OS-older sibling, YS-younger sibling, and OYS-both older and younger sibling) were created for the new maternal language variables and proportional scores were created for each new variable in order to account for the language that occurred in each play session.

Next, a Pearson correlation was performed in order to analyze the hypothesis that positive maternal engagement (i.e., maternal language variables) would be positively associated with the mothers' rating of interaction. This hypothesis was partially supported (see Table 6 for results). Essentially, there were significant findings between the mothers' rating of interaction and the amount of guidance provided for older siblings, younger siblings, and both the older and younger siblings simultaneously. There were also significant findings found between positive responses directed to older siblings and

maternal ratings of interaction. However, there were no significant findings between positive responses directed to younger siblings, and both older and younger siblings and the mother's rating of interaction. There were also no significant findings in the negative response category with older siblings, younger siblings and with both older and younger siblings and mothers' interaction rating score.

The next part of hypothesis three predicted that positive maternal engagement (e.g., maternal language variables-guidance, positive response, negative response) would be positively associated with positive sibling interactions (e.g., sibling collaboration and ongoing pretense) between siblings when they played alone (See Table 7). In order to do this, Pearson correlations were performed between the maternal language variables and sibling collaboration and pretense ratings when the mother was not present. Results indicated that there were no significant findings found in regards to sibling collaboration and guidance for older siblings, younger siblings, and both older and younger siblings. For the positive maternal responses directed to both siblings simultaneously there was a positive significant association with sibling collaboration. There were no significant findings found between the maternal language variables and sibling collaboration in the following categories: positive response-older sibling, and younger sibling; and negative response-older sibling, younger sibling, and older and younger sibling.

In order to test for significance between the maternal language variables (e.g., guidance, positive response, and negative response) and ongoing pretense, a Pearson correlation was performed between the maternal language variables and the rating of pretend play when the mother was not present. Results indicated that there were significant findings between maternal guidance directed the younger sibling and sibling

pretense when alone. There were no other significant findings in the other categories (guidance-older sibling, older and younger siblings; positive response-older sibling, younger sibling, older and younger siblings; and negative response-older sibling, younger sibling, and both older and younger sibling).

The last part of hypothesis three predicted that positive maternal engagement (maternal language variables) would be positively associated with creative negotiations (e.g., creativity in object use, object transformations, use of descriptive adjectives, and creative themes) between siblings when they played alone. In order to examine this hypothesis, a series of Pearson correlations was performed between the maternal language variables and the creative measures (see Table 8). Significant results were found between maternal guidance of the older sibling and the older siblings' object transformations when the mother was not present. Significant results were also found in the positive response variable with the younger sibling and the younger siblings' object transformation when the mother was not present. Other significant findings included maternal negative responses with the younger sibling and the narrative theme-typical when the mother was not present. Also, significant findings were evident for maternal negative responses to the younger sibling and the narrative theme-set-up. The last significant finding to report was the positive association between younger siblings' total adjective use with maternal negative responses. There were no other significant findings to report.

Additional Analyses

Associations between maternal language and sibling variables when mother was present. Finally, associations between positive maternal engagement (maternal language and maternal interaction rating scale), and positive sibling interactions (e.g., collaboration, and ongoing pretense) and creative sibling negotiations (e.g., creativity in object use, object transformations, use of descriptive adjectives, and creative themes) when they played with the mother present were examined. First, Pearson correlations were performed regarding the maternal language variables (guidance, positive response and negative response) with sibling collaboration and pretense both when the mother was present (See Table 7). The findings for when the mother was present indicated a significant positive correlation between positive maternal responses directed at both older and younger siblings simultaneously with sibling collaboration. There were no other significant findings regarding the other maternal language variables with sibling collaboration and pretend play when the mother was present.

Next, Pearson correlations were performed between positive maternal engagement (maternal language and maternal interaction rating scale, see Appendices E and F) and creative negotiations (e.g., creativity in object use, object transformations, use of descriptive adjectives, and creative themes) between siblings when the mother was present (see Table 9). There were significant negative correlations in mothers' guidance response to younger siblings and the younger sibling's total adjective use, and also with the younger siblings' total different number of adjectives used. Similarly, significant negative correlations were found with maternal guidance to both the older and younger sibling together and younger siblings' total and different adjective use. Another

significant negative correlation was found between maternal positive responses with younger siblings and object use of the older siblings. A significant positive correlation was found between maternal positive responses to younger siblings and younger siblings' object transformations. Lastly, a positive correlation was found between negative maternal responses and younger siblings' object transformations. There were no other significant findings to report regarding maternal language variables and creative measures when the mother was present.

Associations between maternal questions and maternal interaction, pretend play, and sibling collaboration in both sessions. Lastly, to explore the associations between different types of questions (i.e., open and closed), Pearson correlations were performed between maternal language variables (open-ended and closed-ended questions), the maternal interaction score, pretend play and sibling collaboration both when the mother was present and when the mother was not present (See Table 10) . Maternal interaction was highly correlated with both open-ended and closed-ended questions that were directed to the older sibling, the younger sibling and both the older and younger sibling together. Open-ended and closed-ended questions directed to the older sibling, the younger sibling and both the older and the younger sibling together by the mother were not significantly associated with sibling collaboration when the mother was present. However, maternal open-ended questions that were directed to both the older and younger siblings together were significantly associated with sibling collaboration when the mother was not present. No other significant findings were found between open-ended and closed-ended questions in regards to sibling collaboration when the mother was present and when the mother was not present. Open-ended questions directed to the

younger sibling were found to be significantly associated with pretend play when the mother was present. No other significant results were significant in regards to pretend play when the mother was present and when the mother was not present.

Table 1

Means, Standard Deviations and Ranges for Sibling Variables in Mother Present and Mother Not Present Play Sessions (n = 24)

Variable		*M*	*SD*	*Range*
Total Number Conversational Turns	MP	68.54	27.34	15-113
	MNP	86.54	38.05	21-167
Object Use	OS-MP	20.63	4.56	14-31
	YS-MP	15.79	5.26	6-25
	OS-MNP	19.54	6.90	6-31
	YS-MNP	15.29	6.11	7-27
Object Transformation	OS-MP	.38	.77	0-3
	YS-MP	.38	.71	0-2
	OS-MNP	1.4	2.1	0-8
	YS-MNP	.96	1.8	0-8
Total Adjective Use	OS-MP	.16	.16	0-19
	YS-MP	.12	.09	0-14
	OS-MNP	.25	.23	0-60
	YS-MNP	.16	.15	0-36
Total Different Adjective Use	OS-MP	.09	.11	0-10
	YS-MP	.07	.06	0-14
	OS-MNP	.14	.13	0-24
	YS-MNP	.08	.09	0-16
Narrative Theme-Typical	MP	.07	.04	1-10

	MNP	.08	.07	0-13
Narrative Theme-Creative	MP	.03	.03	0-5
	MNP	.12	.08	0-21
Narrative Theme-Set Up	MP	.12	.10	1-13
	MNP	.04	.05	0-7
Narrative Theme-Off Task	MP	.25	.53	0-2
	MNP	1.9	3.1	0-11
Sibling Collaboration	MP	1.6	.52	1-5
	MNP	1.8	.67	1-5
Sibling Pretense	MP	1.1	.11	1-5
	MNP	2.1	.72	1-5

Note. OS = Older Sibling, YS =Younger Sibling, MP = Mother Present, MNP = Mother Not Present. Also, mean scores and standard deviations for Total Adjective Use, Total Different Adjective Use, Narrative Theme-Typical, Narrative Theme-Creative, and Narrative Theme-Set-Up are based upon proportion scores that have been divided by the total number of conversational turns in each session.

Table 2

Means, Standard Deviations and Ranges of Maternal Variables (n = 24)

Variable		*M*	*SD*	*Range*
Object Use		6.3	7.5	0-24
Object Transformation		0	0	0
Total Adjective Use		.13	.14	0-29
Total Different Adjective Use		.08	.07	0-20
Questions-Open	OS	.00	.01	0-3
	YS	.00	.02	0-3
	OYS	.00	.02	0-4
Questions-Closed	OS	.02	.03	0-7
	YS	.01	.02	0-5
	OYS	.02	.03	0-7
Directives-Verbal	OS	.02	.03	0-6
	YS	.01	.01	0-3
	OYS	.00	.01	0-2
Directives-Physical	OS	1.1	2.5	0-11
	YS	.42	.83	0-3
	OYS	.79	1.6	0-7
Responses-Positive	OS	.02	.02	0-5
	YS	.03	.05	0-8
	OYS	.01	.01	0-3
Responses-Negative	OS	.00	.01	0-3

	YS	.02	.00	0-1
	OYS	.01	.00	0-1
Responses-Neutral	OS	.01	.01	0-3
	YS	.01	.01	0-3
	OYS	.00	.00	0-1
Responses-Elaborate	OS	.01	.01	0-4
	YS	.01	.01	0-2
	OYS	.00	.00	0-1
Scaffolding	OS	.03	.04	0-6
	YS	.02	.02	0-6
	OYS	.01	.02	0-3
Praise	OS	.01	.01	0-2
	YS	.00	.01	0-2
	OYS	.00	.01	0-2
Description	OS	.01	.02	0-4
	YS	.01	.02	0-2
	OYS	.02	.03	0-10
Collaboration with OS and YS	OS	.29	1.0	0-5
	YS	.21	.51	0-2
	OYS	.38	.88	0-3
Mother Interaction Mean		2.4	.92	1-5

Note. OS = Older Sibling, YS = Younger Sibling, OYS = Both Older and Younger Sibling. Also, mean scores and standard deviations for Total Adjective Use, Total Different Adjective Use, Questions-Open, Questions-Closed, Directives-Verbal, Responses-Positive, Responses-Negative, Responses-Neutral, Responses-Elaborate, Scaffolding, Praise, and Description are based upon proportion scores that have been divided by the total number of conversational turns in the play session.

Table 3

Sibling Interaction Paired Sample t-tests Between Mother Present and Mother Not Present (n = 24)

Variable		M	N	*T*	*df*	*P*
Total Number Conversational Turns	MP	68.54	24	-2.6	23	.01
	MNP	86.54	24			
Object Use	OS-MP	20.63	24	.65	23	*ns*
	OS-MNP	19.54	24			
	YS-MP	15.79	24	.28	23	*ns*
	YS-MNP	15.29	24			
Object Transformation	OS-MP	.38	24	-2.2	23	.04
	OS-MNP	1.4	24			
	YS-MP	.38	24	-1.8	23	.08
	YS-MNP	.96	24			
Total Adjective Use	OS-MP	.16	24	-1.8	23	.09
	OS-MNP	.25	24			
	YS-MP	.12	24	-1.0	23	*ns*
	YS-MNP	.16	24			
Total Different Adjective Use	OS-MP	.09	24	-1.7	23	.09
	OS-MNP	.14	24			
	YS-MP	.07	24	-.71	23	*ns*
	YS-MNP	.08	24			

Narrative Theme-Typical	MP MNP	.07 .08	24 24	-.92	23	*Ns*
Narrative Theme-Creative	MP MNP	.03 .12	24 24	-.54	23	.01
Narrative Theme-Set-Up	MP MNP	.12 .04	24 24	3.4	23	.02
Sibling Collaboration	MP MNP	1.6 1.8	24 24	-1.4	23	*Ns*
Sibling Pretense	MP MNP	1.1 2.1	24 24	-7.4	23	.01

*All analyses are two-tailed

Note. OS = Older Sibling, YS =Younger Sibling, MP = Mother Present, MNP = Mother Not Present

Table 4

Pearson Correlations Between Siblings' Collaboration, Pretense, and Creativity When Mother was Not Present (n = 24)

Sibling & Variable	Sibling Collaboration	Pretense
Object Use		
OS-	.01	-.26
YS-	-.08	-.03
Object Transformation		
OS-	.14	.33
YS-	-.19	.14
Total Adjective Use		
OS-	.61**	.27
YS-	.30	.06
Total Different Adjective Use		
OS-	.45*	.27
YS-	.33	.09
Narrative Theme-Typical		
MNP-	-.08	-.14
Narrative Theme-Creative		
MNP-	.23	.44*
Narrative Theme-Set-Up		
MNP-	-.39	-.43*

$^{t}p < .10$ * $p < .05$** $p < .01$

*All analyses are 2-tailed.

Table 5

Pearson Correlation Intra-correlations of the Maternal Language Variables

	Open Questions	Closed Questions	Physical Directives	Verbal Directives	Positive Response	Neutral Response	Negative Response	Ignore Response Response	Elaborate Response Response	Scaffolding	Collabor-ation	Description	Praise
Open Questions													
Closed Questions	.45*												
Physical Directive	.76**	.60**											
Verbal Directives	.64**	.54**	.62**										
Positive Response	.49*	.38	.28	.33									
Neutral Response	.18	.38	.06	-.13	.39								
Negative Response	-.03	.19	-.07	-.04	.15	.25							
Ignore Response	-.23	-.02	-.14	.02	-.01	-.25	-.17						
Elaborate Response	-.09	.18	-.04	.11	-.04	-.03	.32	.00					
Scaffolding	.22	.25	.11	.52**	.33	.07	.23	.09	.49*				
Collaboration	.59**	.41*	.76**	.33	.76**	.12	-.19	-.16	-.23	.08			
Description	.52**	.57**	.52**	.77**	.32	-.15	.04	-.21	.13	.22	.25		
Praise	.12	.35	.13	.15	.29	.51*	-.04	-.14	.00	.13	.18	.15	

$^{t}p < .10$ * $p < .05$** $p < .01$

*All analyses are 2-tailed.

Table 6

Pearson Correlations of Maternal Language Variables with Maternal Interaction Score (n = 24)

Maternal Variables	Mother Interaction
Guidance	
OS-	.86**
YS-	.70**
OYS-	.85**
Positive Response	
OS-	.63**
YS-	.05
OYS-	.19
Negative Response	
OS-	.09
YS-	.25
OYS-	-.23

$^{t}p < .10$ * $p < .05$** $p < .01$

*All analyses are 2-tailed.

Note. OS = Older Sibling, YS =Younger Sibling, OYS = Both Older and Younger Sibling.

Table 7

Pearson Correlations of Maternal Language Variables with Sibling Collaboration and Pretend Play When Mother was Not Present and When Mother was Present (n = 24)

Maternal Variables	Sibling Collaboration		Pretend Play	
	MNP	MP	MNP	MP
Guidance				
OS-	.01	-.08	.28	.18
YS-	.20	-.19	.41*	.22
OYS-	.05	-.14	-.14	-.28
Positive Response				
OS-	.33	-.03	.30	-.09
YS-	.02	.02	.01	.05
OYS-	.45*	.42*	.22	.03
Negative Response				
OS-	.06	-.02	.22	.29
YS-	-.18	-.17	-.19	-.13
OYS-	.03	.15	-.01	.11

$^{t}p < .10$ * $p < .05$** $p < .01$

*All analyses are 2-tailed.

Note. OS = Older Sibling, YS =Younger Sibling, OYS = Both Older and Younger Sibling. MNP = Mother Not Present, MP = Mother Present

Table 8

Pearson Correlations between Mother Language Variables and Creative Variables when the Mother was Not Present

	Object Use OS	Object Use YS	Object Transformation OS	Object Transformation YS	Narrative Theme-Typical	Narrative Theme-Creative	Narrative Theme-Set-Up	Total Adjective Use OS	Total Adjective Use YS	Total Different Adjective Use OS	Total Different Adjective Use YS
Guidance											
OS-	-.06	.24	.46*	.01	.03	.01	-.14	.21	-.15	-.02	-.02
YS-	-.36	.15	.32	.05	-.04	.24	-.21	.29	-.06	.05	.07
OYS-	-.12	.01	.36	-.20	-.05	-.08	-.00	.05	-.01	-.09	-.09
Positive Response											
OS-	-.32	.24	.28	-.15	-.14	.14	-.24	.38	.05	.05	.06
YS-	.06	.38	.30	.60**	.15	.28	.22	-.20	.23	-.28	.15
OYS-	.31	.02	.09	.02	-.08	-.08	-.15	.12	.03	-.08	-.02
Negative Response											
OS-	.15	.05	-.06	-.18	.18	.29	.00	.23	-.01	-.02	.00
YS-	.21	.12	-.19	.08	.65**	.28	.51*	-.07	.47*	-.17	.39

OYS-	.20	.30	-.14	-.11	-.06	-.20	.08	.14	-.12	.13	-.01

$^{t}p < .10$ * $p < .05$** $p < .01$

*All analyses are 2-tailed.

Note. OS = Older Sibling, YS =Younger Sibling, OYS = Both Older and Younger Sibling.

Table 9

Pearson Correlations between Mother Language Variables and Creative Sibling Variables when the Mother was Present

	Object Use OS	Object Use YS	Object Transformation OS	Object Transformation YS	Narrative Theme-Typical	Narrative Theme-Creative	Narrative Theme-Set-Up	Total Adjective Use OS	Total Adjective Use YS	Total Different Adjective Use OS	Total Different Adjective Use YS
Guidance											
OS-	-.10	-.21	-.26	-.06	.21	-.05	-.24	-.11	-.32	-.21	-.36
YS-	-.02	.05	-.09	-.01	.20	-.03	-.29	-.16	-.43*	-.19	-.41*
OYS-	-.13	-.29	-.05	-.20	-.05	-.23	-.31	-.10	-.46**	-.15	-.53**
Positive Response											
OS-	-.15	-.05	-.01	.09	-.08	-.05	-.11	-.03	-.32	-.06	-.38
YS-	-.42*	.28	.23	.63**	-.20	.38	-.09	-.38	.23	-.32	.34
OYS-	.16	.30	.04	.16	-.21	.02	-.09	-.04	-.10	-.06	-.16
Negative Response											
OS-	-.29	.15	-.08	.38	-.17	-.20	.16	-.21	.13	-.21	.13
YS-	-.39	.04	.15	.52**	-.19	.18	.09	-.30	.15	-.25	.31
OYS-	.30	.13	-.10	-.11	-.06	-.08	.17	.23	.29	.18	-.01

$^{t}p < .10$ * $p < .05$** $p < .01$

*All analyses are 2-tailed.

Note. OS = Older Sibling, YS =Younger Sibling, OYS = Both Older and Younger Sibling.

Table 10

Pearson Correlations Between Maternal Language Variables and Maternal Interaction Mean, Pretend Play and Sibling Collaboration When Mother was Present and When Mother was Not Present

	Sibling Collaboration		Pretend Play		Mother Interaction
Open Questions	MP	MNP	MP	MNP	
OS-	-.03	.19	.11	.29	.59**
YS-	.12	.01	.44*	.33	.44*
OYS-	.03	.49*	-.11	.32	.45*
Closed Questions					
OS-	-.03	.02	.02	.08	.51*
YS-	-.34	.30	.02	.28	.43*
OYS-	-.24	-.23	-.33	-.33	.49*

$^{t}p < .10$ * $p < .05$** $p < .01$

*All analyses are 2-tailed.

Note. OS = Older Sibling, YS =Younger Sibling, OYS = Both Older and Younger Sibling. MP = Mother Present, MNP = Mother Not Present

Discussion

Both dramatic play and narrative play a significant role in children's development. Frequently, research has studied pretend play and narrative separately from one another, therefore more research is needed to enhance our understanding of the similarities and benefits of these domains of children's play. By examining narrative and play together it becomes evident how the two areas are linked to one another, if not intertwined and thus, quite significant to multiple facets of children's development. For example, research supports the theory that dramatic play and narrative serve as useful tools in the social, emotional and cognitive development of children (Mellou, 1994). Previously, there has been scant research examining how children use play to create a personal narrative that may help to develop the mind. Research findings have indicated that within narrative lies an individual sense-making process unique to each person (Bruner, 1990, 1992; Nicolopoulou, 1996, 2002, 2005). Similarly, dramatic play is based on the creation of narrative, which allows children to make sense of themselves and of the world around them (Nicolopoulou, 1996, 2002, 2005). Children's modes of pretense, such as dramatic play focus entirely on the enactment of narrative scenarios, which positively impact children's creative, social and emotional development (Fox, 1993). There is a small body of literature that examines the different factors that influence children's creative development; however, there is little empirical data on the associations between 5- to 8-year-olds dramatic pretend play with their mother and sibling and how this context may influence the quality of children's play interactions including creativity. Therefore, the primary purpose of this study was to investigate the influence that mother's involvement may have on children's dramatic play and play

narratives. Specifically, how does the presence or absence of the mother in a play session affect the frequency and quality of play and creativity between siblings?

Difference in Sibling Behavior in Mother Present and Mother Not Present Play Sessions

The first hypothesis that there would be a difference in sibling behavior between the two play sessions was partially supported. The findings show significant differences in some of the sibling variables between the mother present and mother not present play sessions, which supports the research of Dubrow and Howe (1998) and Lamb (1978a, 1978b) indicating that sibling interactions vary according to maternal presence. Specific findings for sibling collaboration, pretense and creativity are discussed below.

First, it was interesting to note that there were no differences in sibling collaboration in either condition (mother present and mother not present condition). This finding did not support Dunn's (1986) research that play between siblings (versus play with the mother) may facilitate more instances of collaboration between the children. Although this outcome was not found in the present study, Dubrow and Howe (1998) and Howe et al. (1998) argued that many factors affect the quality of the sibling relationship, such as context, parenting styles, quality of sibling relationship, and birth order. Also important to note is Dunn et al.'s (1982b) argument that context and relationship quality greatly affect sibling collaboration. Therefore, perhaps in the present study, the context and materials that the children were provided with did not differentially influence collaboration between the dyads. Thus, these factors (e.g., context, relationship quality, and play materials) among others may have affected sibling collaboration between siblings so that maternal absence or presence was not a factor.

Although there were no significant differences between the two play sessions in regards to sibling collaboration, there were significant differences in sibling pretense between mother present and mother not present conditions. Findings showed that siblings engaged in more frequent pretense in the mother not present condition than in the mother present condition. This finding may lend support to Howe et al. (1998) who found that sibling dyads who engaged frequently in pretend play exhibited an understanding of knowledge in general, but also demonstrated a mutual comprehension of social and emotional concepts related to the world and to their sibling. Perhaps, sibling dyads who were comfortable with social and emotional concepts engaged in more instances of pretense especially when the mother was not present, as they may have been better able to create and display their shared body of knowledge with their sibling. This shared knowledge may help children in their play with their sibling because together siblings may be able to play a more effective role in construction and meaning making (i.e., constructing a mutually creative play scenario). Perhaps, the presence of the mother interrupts the process or else the mother was focused on helping the siblings organize and set up the materials, which did not allow the siblings to co-construct a pretense scenario. In support of this interpretation, other research has demonstrated that the presence of the mother may inhibit sibling interaction (Howe et al., 1998). This idea is discussed in more detail below.

Additionally, findings showed that overall, siblings exhibited higher frequencies of creativity when they played alone without their mother present. This was evident with respect to the following creative measures, specifically, in the mother not present play condition older siblings and younger siblings engaged in significantly more frequent

object transformations than in the mother present condition. Overall, a greater number of creative themes occurred in the mother not present condition than in the mother present condition. It seems that the mother's presence may have somehow hindered the creative process between siblings and also the frequency of sibling-directed pretense. These findings support Dunn's (1986) research that play between siblings more often involves more creative themes comprised of original themes created together by siblings than play with mother. In contrast, Dunn (1986) demonstrated that play scripts with mothers take on more mundane day-to-day themes related to domestic tasks (i.e., bedtime, grocery shopping, and cooking). Essentially, play between siblings may facilitate opportunities for children to practice various skills important to create shared meanings, all of which may also be associated with successful, sustained and creative play scenarios. Apparently, this process of developing creative themes is hindered by the presence of an adult, in this case, the mother.

Another significant finding evident between the two conditions was the frequency of the narrative theme set-up. Specifically, siblings engaged in more set-up in the mother present session, which supports the research of Smilansky and Shefatya (1990) that children benefit from explanation, direct guidance, and parental support. Therefore, when mothers engage in play with their children they may be able to clarify ideas and actions and help the children organize the play materials. Thus, it may be fair to say that during the session when the mother was present the children required assistance from their mother in setting up the farm set or at least she may have been an active participant in the set-up. This finding may also support Fein's (1984) argument that adult scaffolding may help children to organize play materials and serve as a means to facilitate the emotional

or cognitive concepts associated with object use so that children are likely able to be creative in their subsequent pretend scenarios. These theorists may provide an explanation for why the siblings engaged in a higher number of object transformations when the mother was not present. In sum, the siblings were more likely to transform objects and create highly imaginative play narratives when their mother was not present.

Also, important to note is that trends were also found in the total number of adjectives used and in the number of different adjectives used between the two conditions; older siblings used more adjectives overall and a greater number of different adjectives in the session when the mother was present than in the condition when the mother not present. Perhaps older siblings used more adjectives with their mother present because they were deciding and discussing how to assemble the farm set and focused on the physical aspects of the play materials (e.g., red barn, pine trees). Considering that the older siblings were on average eight years old they might be the more skilled child in terms of their vocabulary and ability to express themselves verbally, which may suggest why there was no significant difference in the younger siblings' total and different adjective use between the two sessions. In conclusion, it might be possible that after the farm set was assembled the children were better able to pretend and embellish the scenarios with their sibling in the subsequent play session when their mother was not present, which would account for the higher frequencies of creative themes and pretense. However, it is not clear why the use of more descriptive language did not carry over into the mother not present condition.

Sibling Interaction When Mother was Not Present

The second set of hypotheses examined the sibling interaction in the session when the mother was not present. There were three parts to this hypothesis and each will be discussed separately.

Sibling collaboration and pretense. The hypothesis (2A) that sibling dyads who were more collaborative, would engage in more frequent pretense when the mother was not present was supported. There was a significant correlation between sibling collaboration and pretense when the mother was not present, but these variables were not correlated when the mother was present. These findings support Dunn's (1986) research that play between siblings (versus play with the mother) may facilitate more instances of collaboration between the children. Further analyses indicated that sibling collaboration was not consistent between the two conditions, whereas pretense was significantly correlated across the two sessions implying some consistency in sibling pretense across the two sessions. Thus, the findings inform us that the frequency of pretense was consistent regardless of whether the mother was present or not. In contrast, it seems that the presence of the mother affected the children's opportunities to collaborate with one another, perhaps because siblings were focused on collaborating with the mother but not with each other. Perhaps, as Dunn (1986) reported mothers usually act as observers of their children's pretense and rarely engage with their children thus in the present study mothers' involvement focused more on the set-up of play (i.e., the farm set). In turn, they were more comfortable watching and refrained from engaging in the actual pretense. Thus, mothers may have influenced the associations between sibling collaboration and

pretense in these ways, whereas when alone, sibling collaboration and pretense were associated.

Sibling collaboration and creativity. The second part of hypothesis two (2B) that siblings who collaborated with one another would be more likely to engage in creative language and behaviors (e.g., use of descriptive adjectives, object use, object transformations, and narrative themes-typical, creative and set-up) was partially supported. Significant findings were evident between collaboration and older siblings' total number of adjectives used and total number of different adjectives used; however there were no significant findings for younger siblings in both total and different number of adjectives used. Again, as previously stated, perhaps, the older siblings' age (8-year-olds) may have given them an advantage as they might be the more skilled sibling in terms of their vocabulary and ability to express themselves verbally, which may suggest why there were no associations with the younger siblings' total and different adjective use and collaboration. Or perhaps older siblings were using the play session without mother present to scaffold or discuss ideas with the less skilled younger sibling, thus explaining the two patterns of findings for older and younger siblings. Another possibility is that the older sibling may be taking the lead in play, and therefore, may be more likely to use descriptive language. Dunn's (1986, 1988) research found that when siblings played together they were more apt to display what they know, and they may have been more likely to explore concepts that they wished to clarify further. Perhaps, in the present study, the older sibling appeared to be doing just this, which might explain the associations of the older siblings' descriptive language and collaboration.

Lastly, findings indicated that there were no significant correlations between collaboration in regards to both older and younger siblings' object use, object transformation, narrative theme-typical, narrative theme-creative, and narrative theme-set-up. The present findings are generally not in line with Dunn (1986, 1988), Fein (1987), and Howe (1991) who argued that when siblings collaborate with one another there may have been more opportunities for creativity and sharing of ideas to evolve. Perhaps, the present study has revealed that sibling collaboration is only marginally associated with creativity. For example, perhaps the siblings engaged in forms of creativity that were not defined by the creative variables in the present study. Or perhaps the farm-set proved to be an ineffective tool to promote sibling collaboration. As such, the siblings were more concerned with setting up and distributing the pieces of the farm set equally between each other, and therefore did not engage in collaboration, which might have then led to more examples of creativity. Lastly, perhaps the siblings engaged in solitary or parallel play (i.e., setting up two separate farms) and therefore were not concerned with collaborating to create one farm or cohesive play scenario together. Future research is needed to clarify these findings.

Pretense and creativity. The last part of hypothesis two (2C) stated that there would be an association between pretense and creativity; specifically, there was some support to suggest that siblings who engaged in more pretense would be more likely to demonstrate examples of creativity. There was a positive significant association between pretense and the narrative-theme creative, which may lend support to Dunn's (1986, 1988) argument that when siblings engage in pretense together they are more likely to

create highly imaginative play scripts that employ creative and other worldly themes (e.g., entering outer space, superhero's saving the world or a world made up of monsters).

A significant negative correlation was also found between narrative theme-set-up and pretense. Essentially, this finding reveals that the more the siblings engaged in the narrative theme-set-up the less opportunity there was for the siblings to participate in pretense, or vice versa, the more pretense the siblings engaged in the less the siblings were involved in the narrative theme-set-up. This finding may lend support to Lesseman, Rollenberg, and Rispens' (2000) argument that children talk more during free play than at any other time of the day. For example, to create a successful play narrative children talk about what they will play how they will play, and who will act out each role. Therefore, it might be possible that the more the siblings engaged in the narrative theme-set-up the less time they had to actually play or to engage in pretense. On the contrary, perhaps the more the siblings engaged in pretense the less they wanted to step out of the pretend mode to discuss how to set-up or how to continue the play narrative. Lastly, perhaps because the play session was less structured (i.e., the researcher instructed the siblings to play however they wanted) and the materials (i.e., farm set) that were given to the children may have not promoted the siblings to engage in one consistent pretend theme. This may suggest that the farm set created an atmosphere, in which, children needed to come to a shared understanding. As illustrated by Gonçu (1993), the idea of intersubjectivity may have occurred; that is, the siblings spent a substantial amount of time exploring and negotiating the possible pretend narrative themes they may have developed in their pretend scenarios. Thus, the narrative-theme set-up may have encouraged the siblings to negotiate with one another regarding roles, plans and themes.

Contrary to the hypothesis, there were no significant findings between pretense with the following variables: object use, object transformation, the number of adjectives used, the total number of different adjectives used and the narrative theme-typical. The fact that pretend play was not related to the above variables may lend support to Smilansky and Shefatya's (1990) argument that within pretend play children use their abilities and can do a variety of different things, such as being an actor, observer, and interactor with other children or also play alone. Also important to note is the research of Asendorpf (1991) and Coplan and Rubin (1998) that by nature, for some children dramatic play may be more focused on social interactions and less on objects. Therefore, perhaps in the present study, due to time and particular individual play behaviors, (which were not measured by the researcher) the sibling dyads may have engaged in different types of behaviors relevant to dramatic play, such as acting, observing and interacting, and were less concerned with using and transforming objects, and creating narrative themes when they played alone.

Associations Between Maternal Language Variables and Sibling Interaction

The third hypothesis concerned various aspects of maternal language and interaction during the mother present session and also associations with the sibling interaction when alone. First, there were significant associations between mothers' degree of interaction (based on ratings) and the amount of guidance provided for older siblings, younger siblings, and both the older and younger siblings simultaneously, as well as with positive responses directed to older siblings. Essentially, these findings help to show that in the present study that the more mothers were rated as engaging in interaction or the more they were involved with their children, the more likely they were to provide

guidance and respond positively. The above findings also lend support to Smilansky and Shefatya's (1990) argument that children benefit from explanation, guidance, and parental support and apparently when mothers are highly interactive they also employ language strategies that include explanation, guidance and support, at least in the play context of the present study. The above findings help to illustrate that those mothers who were highly interactive with their children as demonstrated on a rating scale were also more likely to engage in guidance. Although more research needs to be conducted to understand better why there were no significant associations found between maternal interaction and the other variables (positive responses directed to younger siblings, and both older and younger siblings), the present study begins to inform us about maternal interactions during play sessions with older children (5-8 year old), which is an issue that has not been previously addressed in the literature.

The second part of hypothesis three that positive maternal language would be positively associated with positive sibling interactions (e.g., collaboration, and ongoing pretense) between siblings when they played alone was supported for some of the variables. For example, there were significant findings between positive maternal responses directed to both siblings simultaneously and sibling collaboration. Essentially, when mothers interacted with their children and responded positively to their children, the children were more likely to be collaborative. On the other hand, if siblings demonstrated collaborative behavior when they were alone, mothers appeared to respond more positively to them in a play session. Alternatively, this may imply that mothers' might have been responding favorably to their children's creative language and behaviors, which may lend support to Tennent and Berthelsen's (1997) argument that

most mothers (especially those that employ more democratic parenting styles) valued personality characteristics that are associated with creativity (e.g., expression of ideas, questioning, individuality, curiosity, and collaboration) and thus encouraged those traits in their children by providing parental support, along with an environment, and experiences that helped to promote these characteristics in their children. Therefore, in the present study, it might be possible that mothers who appreciated creative traits (e.g., expression of ideas-adjectives, questioning, individuality-narrative themes, curiosity and collaboration) may have responded positively to these behaviors in their children and in return provided support to promote these behaviors in their children during the play session with mother present. This type of behavior may have translated over into the play session when the mother was not present into collaborative interactions between siblings. It might be, in the present study, that siblings who are encouraged to express and explore their ideas might have been more willing to exhibit these behaviors while in collaboration with a sibling.

These findings may also lend support to Smilansky and Shefatya's (1990) argument that positive interactions with mothers may facilitate sibling collaboration when the children are alone. Perhaps, in the present study, positive interactions with the mother led siblings to a more cohesive comprehension of materials that were put before them (i.e., the farm set). For example, Rogoff and Gauvain's (1986) argument suggests that adult supervision and child participation together in a learning experience make a difference in children's learning. Initially observing and encouraging and then engaging with children in learning activities may be most useful because it helps children to develop concentration, attention and promotes their desire to learn. Therefore, the way

mothers engage and interact in play may affect how their children will play and what qualities the children will learn through play.

However, this research does not shed light as to why there were no significant findings between sibling collaboration and the maternal guidance variables, nor does it explain why there were no significant findings with the mother's negative responses to the older sibling, younger sibling and older and younger sibling simultaneously. Perhaps, in the present study there were no significant associations between maternal guidance and sibling collaboration because the mothers preferred that the siblings come to a solution together with one other. Or the mother was able to determine that the siblings had the social and cognitive abilities to assemble the farm, create play narratives and collaborate with one another in doing so. For example, Runco, Johnson, Bear, and Patrick's (1993) research findings showed that mothers were quite aware of the creative, cognitive, and social capabilities of their children. Thus, they are able to provide their children with appropriate guidance when necessary. Perhaps, in the present study the mothers chose to let the children play and interact as they wanted and sustained from interfering in the play session unless the child or children directly asked for her assistance.

The third part of hypothesis three that positive maternal language variables (i.e., guidance, positive response, negative response) would be positively associated with sibling pretense was supported with one significant correlation. Findings indicated that pretend play and guidance were associated in younger siblings when the mother was not present. Perhaps, in the present study the younger sibling benefited from positive maternal interactions that helped to guide and clarify the younger and possibly less skilled sibling, so that they were able to transfer this skill to play when alone with the

older sibling. As previously discussed, this finding may lend support to Smilansky and Shefatya's (1990) argument that positive interactions between mothers and their children may help their children (e.g., younger siblings) in their subsequent pretense with a sibling or peer. Perhaps, in the present study once the younger sibling received guidance from the mother he or she felt more confident to test out his or her new found understanding with the older sibling in the play session when they played alone. This interpretation may help to support the arguments of Howes (1992), Vygotsky (1965) and Zukow (1989) that older siblings may be apt to create scaffolds for younger siblings, which might enhance collaborative play. This might also lend support to the findings of Flavel (1993) that children use play to explore what they know but also to explore what they wish to clarify further. This association between guidance to the younger sibling and pretense may also lend support to Eagan's (2001) argument for young children that the security of knowing how to feel about what is being said or done is an important component for making things meaningful. Therefore, it appears that in the present study that younger siblings benefited from guidance provided by the mother, which in turn was related to their pretense when they played alone with their older sibling.

It is difficult to make clear distinctions regarding the above finding, and to interpret the lack of significance between pretense and the other maternal variables. Perhaps, in the present study the mother refrained from offering the older sibling and both the older and younger siblings' together guidance during pretense because she knew that they would figure it out for themselves. Or perhaps, she did not feel that it was her place was to engage in pretense, which might lend support to Dunn's (1986, 1988) argument that mothers were typically observers of their children's pretend play. Yet

another possibility is that the mother did not know how to provide appropriate guidance related to the siblings' pretend play. Again, as stated previously, it is highly possible that the observed mothers, due to the fact that they were being observed by the researcher and also video taped refrained from using negative responses with either of their children because of social desirability.

The last part of hypothesis three that positive maternal engagement would be positively associated with creative negotiations between siblings when they played alone was supported for some of the variables. Significant associations were found between maternal guidance of the older sibling and the older siblings' object transformations. Essentially, this means that the more the mother provided guidance to the older sibling, the more the older sibling engaged in object transformations when the mother was not present. Significant associations were also found in the positive response variable with the younger sibling and the younger siblings' object transformation. Again, this means that the more the mother positively responded to the younger sibling the more the younger sibling engaged in object transformations when she was not present.

The above findings regarding guidance responses to the older sibling and positive responses to the younger sibling and object transformations may lend support to Mellou's (1994) argument that overall dramatic play improved children's cognitive development, especially creativity, through interaction, transformation, and imagination. For example, Mellou (1994) found that when engaged in pretend play, children interact with siblings (or peers), transform objects, and engage themselves imaginatively. Through these actions they gain knowledge, develop new ideas and combine familiar ideas with unknown concepts.

Therefore, in the present study when the siblings interacted with the materials that they were given (i.e., the farm set) they may have combined new knowledge with concepts previously unknown to express themselves in a creative manner. For example, when the older sibling used the roof piece as a mud pit he or she most likely understood that they were creating a new unconventional use for this particular object, which Mellou (1993) would say was directly related to creativity because children incorporated the synthesis of imagination and originality. Another example of this creativity within play is when the younger sibling transformed the top of the silo (which was small, blue and round) into a pond for the ducks he or she may have been using concepts such as, 'exploration, 'testing', and construction,' that Sutton-Smith (1972) suggests are four basic modes of knowing that children utilize within play. For example, exploration was utilized within the younger siblings' object transformations by exploring both the intended and alternative use of the silo. Testing was also done as the sibling tested what could have been done with the material and, lastly, construction may have been evident when he or she constructed a new use for the object by actually declaring and using the blue silo top as a pond for the ducks. In the present study, transformation was defined as the ability to transform objects; and imagination was evident as the children were utilizing their imaginative abilities when they created alternative uses for the materials from the farm-set. Lastly, when the children transformed the objects they may have illustrated Fein's (1987) ideas of *object substitution* and *self-other transformations* for example, the roof of the barn was used to signify a missing object (i.e., the mud) and in doing so children exhibited their ability to substitute objects and created transformations out of missing objects either through transforming an actual piece of the farm set or by

utilizing their imagination and "creating" an object with no actual object present. Thus, perhaps in the present study the siblings benefited from both positive and guidance responses from the mother, which in may have influenced the siblings' abilities and confidence to embark on creative endeavors such as object transformations when the mother was not present.

Associations Between Maternal Language Variables When Mother Was Present

Finally, associations between positive maternal engagement (maternal language and maternal interaction rating scale) and positive sibling interactions (e.g., collaboration, and ongoing pretense) and creative sibling negotiations (e.g., creativity in object use, object transformations, use of descriptive adjectives, and creative themes) when the mother was present were examined. First, the associations between positive maternal engagement and positive sibling interaction in collaboration and pretense will be discussed. The more the mother responded positively to both siblings, the more the siblings collaborated when the mother was present and vice versa, the more the siblings collaborated with one another, the more positively the mother responded to the two siblings together. Essentially, this reaffirms what has been previously stated, that in the present study the more mothers were rated as engaging in positive interactions with their children, the more likely they were to respond positively to both of their children simultaneously, this may have been linked to the collaboration between the siblings that occurred during the play session when the mother was present.

Next, associations between positive maternal engagement and creative negotiations between siblings when the mother was present were examined. In addition, the more the mothers responded with guidance to the younger sibling, the less the

younger siblings used both total and different adjectives. Conversely, when the mother used guidance with both the older and younger siblings together, younger siblings used total and different adjectives less frequently. Perhaps, in the present study the more the mother provided guidance to the younger sibling the less the younger sibling talked. This may have happened for a variety of reasons, one being that the younger sibling became dependent upon the mother's guidance and talked less, or perhaps the younger sibling talked less because he or she was interpreting what the mother was saying to them and at times to the older sibling.

A significant positive association was found between maternal positive responses to younger siblings and younger siblings' object transformations. Therefore, the more positively mothers responded to younger siblings, the more object transformations they performed or alternatively, the more the younger siblings' transformed objects, the more mothers responded positively to them. This may lend support to Tennent and Berthleson's (1997) argument that the more parents support and promote creative child-directed creative endeavors, the more likely children are to explore their creative ideas and exhibit their creative abilities.

Associations between open and closed questions. Lastly, findings indicated that mothers interacted with both open-ended and closed-ended questions and these were directed to the older sibling, the younger sibling and both the older and younger sibling together. This may lend support to Smilansky and Shefatya's (1990) argument that children benefit from explanation, guidance, and parental support and apparently when mothers are highly interactive, they also employ language strategies that include both open and closed questions, at least in the play context in the present study.

Lastly, open-ended questions directed to the younger sibling were found to be significantly associated with pretend play when the mother was not present, which may lend support to Glaubman et al.'s (2001) argument that open-ended questions may help to activate children's abstract and creative thinking, which in turn helped children to feel freer to enact ideas in a fantasy manner within play. Thus, it is possible that in the present study open-ended questions help the younger sibling to both exhibit and clarify their knowledge versus closed-ended questions that simply encourage children to give a yes or no question. It is much easier and far less creative for children to reply with a yes or no question. Therefore in the present study it is possible that younger siblings were able to clarify ideas and actions within play through open-ended questions that the mother directed to them.

Limitations of the Present Study

The present study has helped to contribute to the understanding of siblings' dramatic play, narrative and creativity abilities as well as how mothers can influence these areas of children's development; however, several limitations should be noted. One of the limitations was that the sample was composed of middle-class and well-educated families, therefore the results cannot be generalized to all sibling dyads. Additionally, different actions affect an individual's abilities and perceptions regarding play, narrative and creativity; specifically, social class, cultural, ethnic and family background and in this case creative disposition were not included in the present study. Further the sample size was relatively small and, therefore certain differences may not have been detected. This may explain why the results of certain tests were not significant, because the

statistical power may have been relatively low. Nevertheless, there were some interesting patterns of findings.

Another limitation of the study was the fact that the data had been previously collected, therefore the conception of the creative variables or measures may have been affected. That is, the protocol for the creative variables was created by the present researcher based on the literature, but there was no assessment of the instrument. For example, creativity varies as it pertains to different individuals, materials, and settings, thus the present definition may be only a limited view of creativity. A further limitation of the study was the duration of the play sessions in that the dyads were observed engaging in both sessions for a total of five minutes each. Therefore, this may not have provided sufficient time upon which to make many conclusions about the variables under study, especially considering a majority of the first play session with the mother present consisted of set-up of the farm set. The set-up component may have affected the amount of pretense that could have occurred between dyads. Perhaps, if the dyads had been observed for longer periods of time, more conclusive findings may have been evident. Finally, an additional limitation in this study was the lack of measurement on the social/emotional temperament of the children, therefore making it more difficult to assess play behaviors. Basically, if the present study had measured the children's temperament it may have provided the researcher with the play capabilities of each child (e.g., super player vs. planner). A last limitation was the presence of the researcher and the fact that the sibling/mother dyads were videotaped, which may have constrained the mother's behavior with her children.

Future Directions

Previous literature on dramatic play and narrative is sparse, although studies that have investigated specific aspects of both bring valuable information to the fields of education and psychology (e.g., Bruner, 1990; Mellou, 1994; Nicolopoulou, 1996, 2002, 2005). Findings from the present study indicated that sibling dyads between 5- to 8-years-olds were capable of using a variety of objects from the farm set, transforming these objects by using them in alternative ways (e.g., turning the blue top of the silo into the pond for the ducks to swim in) to create both typical and creative play narratives. Further, this study indicates that these dyads were also able to collaborate with one another and their mother and often when they worked together used descriptive and creative language to construct an effective and pleasurable play narrative. Additionally, this study has also shed light on the notion that play and narrative can serve as the same symbolic activity for children. Further research, however, is needed to develop the understanding of play, narrative, creativity, and the outside influences associated with these activities, as well as the possible benefits that they provide in the development of young children. Further work can also permit researchers to address the limitations of the present study.

Based on the fact that this study was composed of middle-class educated families, future research could study play, narrative, and creativity in children from different socio-economic backgrounds, enabling the researchers to determine how SES influences are associated with children's play narratives and subsequent creativity. Also, the sample size was relatively small; therefore, future research should focus on expanding the sample size in order to increase the level of generalizability of the results. Further, considering that the present researcher created the definitions of creativity, future research studies should

attempt to create alternative definitions of creativity so as to address issues related to the validity of the present definitions. Another important issue, which should be addressed in future research, is the temperament of the children within the study. More specifically, a future study could use a temperament measure in order to establish a more comprehensive understanding of children's play behaviors, in particular children's creative inclination or to be a "super player" (Fein, 1987). Another area to look at is the siblings' propensity to play. Examining these areas may also shed light on specific play choices or themes as well as behaviors of specific individuals and between siblings.

Finally, a future study should focus on increasing the amount of time allocated for the observations of the sibling dyads, thus allowing the researcher to identify similarities and differences in children's play over a longer period of time. Also, examining the children in an alternative setting such as within their school classrooms would be of interest. Perhaps, the researcher could follow the children over the period of a year or several years documenting the longitudinal effects of age, time, and the development of sibling and maternal relationships on children's play, narrative, and creative abilities. Examination of all these variables would allow the researcher to draw firmer conclusions about the possible relationship between play, narrative, creativity and the role that the sibling and mother play in these areas of development.

Implications for Parents and Teachers

Results from this study have practical implications in contexts such as schools, early childhood settings, and families. Findings concerning dramatic play and the creativity associated with this activity that sibling dyads engaged in for both play conditions may suggest that this type of play can enrich children's social, emotional, and

creative skills, thus adults may be encouraged to provide children with these opportunities. Findings also showed that there was a difference in play between mothers with their children and siblings' play alone without their mother. Also, the findings may suggest that the way mothers interact with their children affects children's creative and play behavior. Therefore, parents, as well as educators, and teachers should encourage children to engage in this type of play both with adults and with their siblings and peers.

Classroom teachers may consider encouraging flexibility by enhancing the atmosphere of their classrooms. Research indicates that the classroom environment is a key factor in how children learn. Teachers who have rigidly structured classrooms do not provide children with the highest quality of learning (Howes & Smith, 1995). This finding was evident in Lindqvist's (2003) research, when the classroom became a pretend world as the children were actively constructing meaning and knowledge. In Lindqvist's classroom, comprehension was created by both teachers and children as they all worked together to create a reciprocal dialogue of learning. Research shows that children in these types of classrooms displayed less domination and hostility to one another and were more on-task, spontaneous, creative, sympathetic, and exhibited advanced levels of language comprehension (Moulton, 2001).

Also evident is the fact that educators must acknowledge and promote the important learning skills that can occur within dramatic narrative play and use these as curriculum tools in the classroom. Giving children the opportunity to play and create within the school day is as important as learning other educational skills. Therefore, more teachers should be trained in effective ways to foster constructive dramatic play. One successful instructional approach is for teachers to guide children in narrating stories

based upon real and imagined experiences, particularly those that occur within the classroom (Genisio & Soundy, 1994). Incorporating events from dramatic play into storytelling activities helps young learners construct narratives based upon real experiences (Genisio & Soundy, 1994); story telling as a form of dramatic play has the potential to enhance literacy. Eagan (1991) reminds parents and teachers that we need to acknowledge that we are preparing children for a culture that is both oral and literate. Thus, oral storytelling should be utilized within the classroom setting (Mallan, 1998).

Providing children with themes helps ensure that all children will have a knowledge base from which to extend their own ideas and actions (Lindqvist, 2003). Teachers who engaged in free play helped construct knowledge because they gave children several opportunities to talk and describe what they were doing. Free play was successful when teachers helped guide the play by using language that extended what the children were describing (McKimmey, 1993).

Providing materials and props also encouraged children to create their own play scripts, although it is important to note that providing too many items in play may keep children from learning important elements of imaginative symbols and language (McKimmey, 1993). Encouraging children to create their own stories and to deconstruct what is before them may perhaps be one of the key ingredients in fostering creative independent children. Finally, narrative play may help instill confidence in children, thus there is the possibility that children will become less dependent on the teachers and parents for guidance.

Conclusion

It is important to note that the sample used in this study consisted of a middle-class population and results should not be generalized to interactions between all sibling dyads. The findings of this study have suggested that children who engage in dramatic play with a sibling are capable of transforming objects, creating narrative themes both creative and typical, and in doing this frequently use creative language such as adjectives. By providing the children with support and encouragement both teachers and parents can create a place where learning happens through play, and children are free to explore the world of make-believe. Through this world of make-believe children may be able to develop and enhance social and language skills by creating roles, narratives, and scenarios with their peers and siblings. These skills not only promote perspective taking, but they empower the child to create.

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List of Appendices

Appendix A

Ethical Approval (Howe, 2003)

CONCORDIA UNIVERSITY

INTERNAL MEMORANDUM

TO Dr. N. Howe, Department of Education

FROM Audrey J. Williams, Director of Research Services

DATE October 19, 1987

Re: CERTIFICATION OF ETHICAL ACCEPTABILITY #187-047

Enclosed herewith please find a copy of the Certification of Ethical Acceptability for your project entitled "The Role of Reciprocal and Complementary Interactions in the Sibling Relationship". The original Certification will be forwarded to SSHRC.

If there occurs a significant departure in the research instruments/procedure which were approved by the Committee, then a revised Protocol must be submitted.

Thank you for your cooperation in this matter.

AJW/ct
Encls.

Appendix B

Coding Schemes for Play Sessions (Howe, et al., 1998)

PRETEND PLAY

Pretend is "non-literal or make-believe use of verbalizations, actions or objects" (Smith & Dodsworth); that is, pretending an object is something other than what it actually is, taking a role as another person, character or object, acting out a story with the farm animals. Pretending is often evident because of voice changes for characters or animals or when the children have the animals act in particular ways (e.g., making the horse clomp around). Other examples would be playing with the animals and making appropriate noises (e.g., mooing). Discussion or negotiation about pretend is not scored.

1.) No evidence of pretend.

2.) A brief example of pretend or make-believe (e.g., having the dog bark or clomp around). Usually only one sib pretends and there is no response from the other or little or no eye contact (i.e., solitary pretend).

3.) Parallel pretend, that is the sibs may both be engaged in similar pretend but with little reference to one another. The sibs each appear to be acting out their own story. Or, there may be a short example of interactive pretend. Or one sib pretends for most of segment (includes sounds and/or story of sorts).

4.) Joint pretend which centers on one theme and with true interaction between the sibs, that is, there is a sequence of activity or turn-taking. There is some sense of a shared and coordinated activity.

5.) Joint pretend which has one theme or the enactment of a story where the sibs take on different roles. Both sibs are involved in the pretend in an active manner and it lasts for most of the interval. Both sibs make a reasonably balanced contribution to the pretend. The pretend appears to be shared and coordinated.

Appendix C

Object Use Checklist

Family:

Time	**Start:**		**Finish:**	**Start:**	**Finish:**
List of pieces (50)	**Set-up session**	**Set-up session**	**Set-up session**	**Play session**	**Play session**
	OS	**YS**	**M**	**OS**	**YS**
Large Barn (2)					
Small Barn (2)					
Large Barn Roof (4)					
Small Barn Roof (2)					
Fences (6)					
Small Pine Trees (3)					
Large Pine Trees (2)					
Trees (2)					
Cows (2)					
Horses (2)					
Sheep (2)					
Bunny (1)					
Ducks (3)					
Rooster (1)					
Bird (1)					
Pig (3)					
Dog (1)					
Silo (3)					
Picnic Table (1)					
Picnic Chairs (2)					
Bench (1)					
Seated Human (1)					
Male Farmer (1)					
Female Farmer (1)					
Child (1)					

Appendix D

Object Transformation Checklist

Family:

Time:	**Start:**	**Finish:**		**Description of Transformation**	**Start:**	**Finish:**	**Description of Transformation**
List of pieces (50)	**Set-up Session**	**Set-up Session**	**Set-up Session**	**Set-up Session**	**Play Session**	**Play Session**	**Play Session**
	OS	**YS**	**M**		**OS**	**YS**	
Large Barn (2)							
Small Barn (2)							
Large Barn Roof (4)							
Small Barn Roof (2)							
Fences (6)							
Small Pine Trees (3)							
Large Pine Trees (2)							
Trees (2)							
Cows (2)							
Horses (2)							
Sheep (2)							
Bunny (1)							
Ducks (3)							
Rooster (1)							

Bird (1)							
Pig (3)							
Dog (1)							
Silo (3)							
Picnic Table (1)							
Picnic Chairs (2)							
Bench (1)							
Seated Human (1)							
Male Farmer (1)							
Female Farmer (1)							
Child (1)							

Appendix E

Mothers' Language Coding Scheme

1. **Questions**: the frequency of closed and open ended questions posed will be recorded: a) Closed, "Does the cow go in the barn?"

   b) Open, "What happens to the cow when he goes into the barn?"

2. **Directives**: the frequency of telling children what to do and how to do it will be constructed (e.g., "The cow belongs in the barn. Put the cow in the barn").

   a) Verbal, "Now, let's make a fence around it."

   b) Physical, (Mom clears some space to make the fence)

3. **Responses**: the number and types of responses to the children's initiations, statements, or behaviors will be noted. Categories of interactions include:

   a. Yes/Neutral or Positive response OR No/Negative response

   b. Ignoring or no response

   c. Elaborate response to child's question or inquiry (e.g., "If the cow flies over the silo can the farmer come to?" or "What should the farmer bring on his trip in the sky?").

4. **Scaffolding**: the number of suggestions, hints, or alternative approaches will be recorded. (e.g., "Do you see how these two pieces fit together?" or "How about if we try putting this piece on top of that piece?")

5. **Praise**: the ways in which the mother praises the sibling(s) will be recorded. (e.g., "I like how you passed that to your sibling" or "Yes, that's how the roof fits on the barn")

6. **Description**: description of objects or pieces. A running commentary or form of narrating. (e.g., "There's a rooster [*mom holds up the bird and examines it; she then sets it down]* and the chicken."

7. **Collaboration**: the mother collaborates in assembling the farm set with either the older sibling, the younger sibling or both the older and younger sibling simultaneously.

Appendix F

Maternal Interaction Coding Scheme

This code is used to measure maternal interaction during the five minutes of farm play.

1). **No interaction.** Mother does not speak or interact in any way with the siblings. She may be so removed from the sibling interaction and sits so far from them so as to be off the screen.

2). **Occasional interaction.** The mother makes an occasional, isolated remark or comment (e.g., "That's good." "No, it's a cow."). She may respond to a child's question, comment or action. The mother may move a piece or give it to the child without saying anything. Or she may engage in brief behavior and comment, for example, picking a piece up off the floor and saying to the child, "Here you go." Generally, the mother will watch the sibling interaction, but makes only a minimal attempt to get involved.

3). **Moderate interaction.** The mother may make suggestions about the play or how the children could interact and there may be a sequence of verbalizations. She may make several comments, or ask questions ("But where are the doors going to go?") or make suggestions (e.g., "You could put the animals inside the barn"). The mother may handle the pieces for some period of time or hand pieces to the children, but says little.

4). **Active verbal involvement.** The mother directs the play by telling the children what to do or engages in ongoing steady conversation regarding the farm. The mother may touch the materials occasionally or briefly demonstrate how to do something (e.g., putting roof boards on barn), but generally is not physically involved in their interaction. In fact, she may appear to restrain herself from actually getting involved physically in the play.

5). **Active verbal and physical involvement.** The mother is actively engaged in the farm play both verbally and physically. She may help set up the barn or set up the animals (e.g., "here is the dog and here is the cow..."). She may attempt to take over the action or in fact, actually do so. There is no doubt that the mother is an active participant in the interaction and in fact, may be directing or controlling the children's actions.

Appendix G

Sibling Collaboration (Howe et al., 2005)

This scale measures the degree of collaboration or engagement between the siblings. That is, the degree they are playing together, the degree that they share ideas, materials, the degree that they cooperate with one another.

1.) **No collaboration.** The siblings play separately (i.e., as if in solitary play). There is no interaction of a collaborative nature, sharing of materials, ideas, working together, or cooperation. There may be interaction (e.g., arguing), but it is not collaborative. One sib may want to collaborate, but the other does not want to collaborate or participate.

2.) **Minor collaboration.** The siblings generally play separately, but there may be one or two very brief, isolated instances or hints of collaboration, playing together or sharing information about the play.

3.) **Moderate collaboration.** There are some instances of playing together, sharing information about the play, sharing or trading materials, making up "stories" or discussing the materials, cooperation, however for most of the interval, the siblings play next to each other (as if in parallel play). There is some evidence that the siblings are engaged with one another (i.e., share a sense of connection).

4.) **Frequent collaboration.** There are many examples of playing together or clearly being engaged in the same activity (e.g., both siblings putting animals inside fence, building one farm, creating a "story" about the farm), sharing materials, cooperation. A sense of engagement exists between the siblings. The children may appear to have the same goal during play.

5.) **High collaboration.** During most of the interval, the siblings collaborate with one another and share materials, ideas, and appear to have a common goal (e.g., making up a story, building). The siblings appear to have a similar direction for the play and are truly engaged in each other's play.