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The purpose of the present study was to examine the contributory influences of individual and contextual factors that are associated with the complexity of pretend play in low-income preschool children. Forty-seven children and their teachers from six Head Start classrooms in Guilford County, North Carolina, participated in the study. Children's play behavior and their verbalization were video recorded using a camcorder and a wireless microphone for 10 minutes on two separate days during free play period. In addition, information on children's current language competence was collected using the Expressive Vocabulary Test (EVT). Lead teachers completed the Penn Interactive Peer Play Scale (PIPPS), a teacher rating scale of children's social skills. A teacher survey on children's pretend play provided descriptive information regarding teachers' beliefs about the importance of pretend play and relevant teaching practice.

Individual factors investigated in the study included age, gender, language competence, and social skills. Contextual factors examined in the study included use of low-structure materials, level of peer involvement, peer language competence, and social configuration of the play group. The results showed that a combination of contextual factors (use of low-structure materials, level of peer involvement, and peer language competence) strongly predicted the complexity of pretend play. The social configuration of the play group was also found to be associated with the complexity of pretend play. Level of peer involvement and peer language competence were the most significant

predictors in the complexity of pretend play in the study. Limitations as well as implications for future research are discussed.

LOW-INCOME CHILDREN'S PRETEND PLAY: THE CONTRIBUTORY  
INFLUENCES OF INDIVIDUAL AND CONTEXTUAL FACTORS

by

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## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	v
CHAPTER	
I.    INTRODUCTION .....	1
II.   THEORETICAL BACKGROUND.....	5
III.  LITERATURE REVIEW .....	18
IV.  METHOD .....	38
V.   RESULTS .....	49
VI.  DISCUSSION.....	60
REFERENCES .....	73
APPENDIX A. PRETEND PLAY CODING SHEET .....	89
APPENDIX B. CHECKLIST FOR PLAY MATERIALS.....	93
APPENDIX C. PENN INTERACTIVE PEER PLAY SCALE .....	96
APPENDIX D. PRETEND PLAY SURVEY .....	98
APPENDIX E. TABLES .....	102

## LIST OF TABLES

	Page
Table 1. Descriptive Demographic Information of the Participants .....	102
Table 2. Descriptive Demographic Information of the Participating Classrooms .....	103
Table 3. Descriptive Demographic Information of the Participants in Participating Classrooms .....	104
Table 4. Inter-Rater Reliability .....	105
Table 5. Frequency and Percentage of Play Type.....	106
Table 6. Descriptive Statistics of Predictor and Outcome Variables.....	107
Table 7. Correlations Between Complexity of Pretend Play and Individual Child Characteristics and Contextual Characteristics.....	108
Table 8. Stepwise Regression Analysis of Individual Characteristics on Complexity of Pretend Play .....	109
Table 9. Stepwise Regression Analysis of Contextual Characteristics on Complexity of Pretend Play .....	110
Table 10. Frequency of Level of Pretend Play Complexity (Average Number of Intervals) .....	111
Table 11. Means of Contextual Characteristics by Level of Pretend Play Complexity ..	112
Table 12. Hierarchical Regression Analysis of Combined Characteristics on Complexity of Pretend Play .....	113
Table 13. Means of Complexity of Pretend Play by Social Configurations.....	114
Table 14. Descriptive Information on Teacher Involvement.....	115

## CHAPTER I

### INTRODUCTION

Play is at the center of early childhood education. Theorists, researchers, and educators of young children agree that children learn best about various concepts and skills in different developmental domains by actively engaging in meaningful activities called play (Bredekamp & Copple, 1997; Dewey, 1990; Fisher, 1992; Fromberg, 1999; Garvey, 1990; Isaacs, 1972; Rubin, Fein, & Vandenberg, 1983; Saracho & Spodek, 1998). Play has been considered to develop in parallel with children's cognitive development (Piaget, 1962; Smilansky, 1968) and the development of social participation (Parten, 1932) and is categorized accordingly for the last 50 years or more. Smilansky (1968) described four stages of play: functional play (exploring physical capacity and immediate environment), constructive play (building and manipulating to create), dramatic play (pretending imaginary situations), and games-with-rules (accepting and following limitations of external rules). Parten (1932), on the other hand, emphasized social aspects of play development: solitary play from age 2 to 2 ½ years (play alone and independently), parallel play from age 2 ½ to 3 ½ years (play the same or similar activity near others), associative play from age 3 ½ to 4 ½ years (play with others), and cooperative play from age 4 ½ years (sharing common goals with complementary roles).

Among those different types and levels of play, pretend play has captured attention from numerous researchers for decades, because it is hypothesized as playing a



critical role in children's cognitive and social development due to its symbolic and cooperative nature (Bergen, 2002; Berk, 1994; Fein, 1981; Rubin et al., 1983). A recent review of research findings on pretend play also suggests positive relationships between pretend play and a variety of cognitive skills including mathematics readiness, perspective taking, intersubjectivity, cognitive functioning and impulse control, linguistic and representational competence, and problem-solving (Bergen, 2002). While the benefits of pretend play and its developmental trends among young children from more advantaged backgrounds are well established in the literature, research on low-income children's pretend play is scarce. Previous research comparing pretend play between children from middle-class and working-class families is inconclusive due to several methodological flaws (Fein & Stork, 1981; McLoyd, 1982; Smilansky, 1968; Smilansky & Shefatya, 1990). Furthermore, the interaction between individual (age, gender, social maturity, and language competence, etc.) and environmental factors (structure of play materials and organization of play areas available to children during free-play time, etc.) as they are related to low-income children's pretend play has seldom been addressed (McLoyd, 1980, 1983; Weinberger & Starkey, 1994). In addition, the relationship between low-income children's pretend play and social factors (peer and teacher involvement) in the naturalistic setting of the preschool classroom has never been directly addressed in empirical research in the previous decades. The present study addresses these gaps in the pretend-play literature.

For the theoretical framework of this study, the socio-cultural theory of Vygotsky was adopted because it offers insights on pretend play in many respects. First, Vygotsky

(1978) argued that preschool-age children are not fully independent of concrete objects and actions, but through object substitution, use of imagined objects, and the creation of roles and imaginary situation, they are able to develop abstract thinking or higher levels of cognitive functioning. In the present study, I utilize this idea and examine the relationship between the complexity of children's pretend play and the structure (high-structure versus low-structure) of play materials used by children during free-play time in the naturalistic setting of the preschool classroom.

Second, Vygotsky (1978) maintained that children acquire knowledge and skills in the social environment with more competent members of a society. In the present study, I investigate this idea through observations of interactions between children and their peers and between children and their teachers during pretend play. The concept of the zone of proximal development (ZPD) was used to investigate the relationship between the complexity of children's pretend play and children's pretend play in different social environment (focal-child play alone, focal-child play with peers, focal-child play with peers and a teacher).

Third, Vygotsky suggested that children themselves take an active role in their learning and development while interacting with people in social and cultural contexts (Hogan & Tudge, 1999). For example, individual children draw their previous experiences and knowledge about the world around them and represent their ideas through language, gestures, and actions during pretend play. Researchers who have explored this idea have examined the development of intersubjectivity, a term defined as shared meaning or understanding among different individuals involved in an activity,

through analyses of children's dialogues and social interaction patterns during pretend play (Connolly & Doyle, 1984; Connolly, Doyle, & Reznick, 1988; Göncü, 1993b; Göncü & Kessel, 1988; Howes, Unger, & Matheson, 1992; Rubin, 1980). In the present study, I examine this idea by investigating how individual child factors (age, gender, language competence, and social skills) are associated with the complexity of children's pretend play.

In the following chapter, I discuss three fundamental ideas of Lev Vygotsky and how his socio-cultural theory of development guides and offers directions of the present study. A third chapter contains the review of the literature on pretend play. A fourth chapter describes the methodology of the study. A fifth chapter presents the results. Lastly, a discussion chapter follows.

## CHAPTER II

### THEORETICAL BACKGROUND

#### Lev Vygotsky's Socio-Cultural Theory of Development

Influenced by ideas of Marx and Engels as well other psychologists including Wundt, James, Pavlov, Janet, and Piaget, Lev Vygotsky was mostly concerned with the ways to describe and explain higher mental functions of human cognition. According to Rowe and Wertsch (2002), the most fundamental ideas of Vygotsky's theory of human cognition are based on three premises: First, human cognition is best understood by studying its developmental change over time at the individual level as well as the cultural level. Second, higher mental processes, which are unique to humans, are socially mediated by psychological tools including language, signs, and symbols. Third, the higher mental processes of individuals, such as voluntary memory and self-regulation, begin through participation in activities and interactions with other people in a given culture. Each of these premises is discussed in more detail in relation to pretend play. Then, the role of language in thought development in reference to pretend play is discussed based on Vygotskian theory.

#### *Genetic Analysis of Human Development*

The term 'genetic' emphasizes the history or developmental transformation in human mental processes such as memory, attention, perception, and thinking (Rowe & Wertsch, 2002). Vygotsky suggested two lines of development in human cognition:

Within a general process of development, two qualitatively different lines of development, differing in origin, can be distinguished: the elementary process, which are of biological origin, on the one hand, and the higher psychological functions, of socio-cultural origin, on the other. The history of child behavior is born from the interweaving of these two lines. (1978, p. 46)

“Elementary (or natural) development” refers to biological development that responds to environmental stimuli, whereas “higher psychological (or cultural) development” refers to the ability to master symbolic or artificial stimuli (Rowe & Wertsch, 2002; Vygotsky, 1981b). Vygotsky emphasized higher psychological (or cultural) development rather than elementary (or natural) development when explaining the psychological process of human development. He further delineated four criteria that distinguish between elementary and higher mental functions by discussing two different types of memory (Wertsch, 1985).

First, the elementary mental functions are determined by stimulation from the environment while higher mental functions are controlled by an individual’s self-regulation. In his early work, inspired by a Pavlovian model of stimulus-response connections that included both external stimulation and the organism’s own response, Vygotsky argued that what differentiates higher mental functions of humans from elementary mental functions of other organisms is a human’s ability to construct his or her own psychological situation, or self-regulation:

The line common to both of these forms [that is, elementary and higher mental functions] is the stimulus-response relation. For one form the essential feature is the essentially complete determination of behavior by stimulation. For the other, the equally essential feature is *autostimulation*, the creation and the use of artificial stimulus-means and the determination of one’s own behavior through

their use. In all of the cases we have examined, human behavior is uniquely defined not by the presence of stimulation but by new or changed psychological situation that is created by humans themselves. The creation and use of artificial stimuli as auxiliary means for mastering one's own reactions is the foundation for the new form of determining behavior that distinguishes higher from elementary forms of behavior. (as quoted in Wertsch, 1985, pp. 25-26)

This argument presents important insights into pretend play research and has significant educational and policy implications. It is directly relevant to the association among play materials, the classroom set-up, the role of a child (using verbal and nonverbal language), other people interacting with the child, and children's pretend play during early childhood.

Ever since Piaget's theory of cognitive development and the notion of developmental stages were introduced and adopted in the field of early childhood education, a major focus of early education has been on the individual child's active construction of knowledge. For Piaget, individual children have an innate ability to acquire knowledge and solve problems through active exploration and manipulation of the physical environment (Piaget, 1964, 1969). He placed a heavy emphasis on the interactions between individual children's maturity and their active exploration of the physical environment in shaping cognitive development. Social interactions (with adults or peers) or cultural influences (societal beliefs, history, or traditions) were not considered as important. In applying Piaget's theory in early childhood classrooms, teachers considered their own role as rather passive in determining individual children's cognitive development and learning. For example, teachers are encouraged to make close observations of individual children's behavior, listen to children's accounts, expand what

they initiate by questioning, and create an intellectually conflicting and challenging environment by the classroom set-up, but they are not to impose any knowledge or their views on the child in the early childhood classroom. This emphasis on the individual child has been explicitly reflected in pretend play research literature as well in the past (Fein, 1981) and is still very prevalent in a line of research that links young children's pretending behavior to their underlying cognitive mechanisms, such as theory of mind (Astington & Jenkins, 1995, 1999; Connolly & Doyle, 1984; Flavell, 2004; Hughes & Dunn, 1997; Leslie, 1987, 1988; Lillard, 1993a; Schwebel, Rosen, & Singer, 1999; Taylor & Carlson, 1997) or symbolic functioning (DeLoache, 2000, 2002).

The limitations of Piaget's work have also been noted (Bruner, 1987, 1992; Donaldson, 1978; Walsh, 1991), and an alternative theoretical explanation is called for in examining a broader social context of pretend play. In this respect, the present study investigates the contributory influences of individual and contextual factors on the complexity of pretend play based on the ideas of Vygotsky. Individual factors include children's age, gender, language competence, and social skills that enable children to create and sustain imaginary situations with others and to use materials in a symbolic way. Contextual factors include use of low-structure materials, level of peer involvement, level of teacher involvement, and peer language competence.

Second, according to Vygotsky, "intellectualization" (or conscious realization) and "mastery" are two aspects that are manifested in the transition from elementary to higher mental functions:

Higher psychological functions whose basic and distinguishing features are

intellectualization and mastery, that is, conscious realization and voluntariness. At the center of development during the school age is the transition from lower functions of attention and memory to higher functions of voluntary attention and logical memory.... the intellectualization of functions and their mastery represent two moments of one and the same process-the transition to higher psychological functions. We master a function to the degree that it is intellectualized. The voluntariness in the activity of a function is always the other side of its conscious realization. To say that memory is intellectualized in school is exactly the same as to say that voluntary recall emerges; to say that attention becomes voluntary in school age is exactly the same as saying ... that it depends more and more on thought, that is, on intellect. (as quoted in Wertsch, 1985, p. 26)

The above statements suggest that as a child's mastery of language increases he or she also becomes more proficient in voluntary thinking, planning, communicating, and understanding the world around them. In other words, Vygotsky maintained that language proficiency is an integral part of children's cognitive development and a critical element for a higher level thought process.

Third, social influences, which include the child, should be considered as a determining factor in human higher mental functions, whereas nature is the characteristic feature of elementary mental functions. Vygotsky argued, "It is not nature, but society that above all else must be considered to be the determining factor in human behavior" (1981b, p. 148). It is this line of thought that has stimulated Vygotskian research on the role of social interaction in small groups or dyads on child development in the last few decades (Beizer & Howes, 1992; Berk & Spuhl, 1995; Bornstein, Haynes, O'Reilly, & Painter, 1996; Fiese, 1990; Göncü, 1993b; Göncü, Mistry, & Mosier, 2000; Haight & Miller, 1993; Sawada & Minami, 1997; Shpancer & Britner, 1995; Smolucha, 1991; Tudge, 1992, 2000; Tudge, Putnam, & Valsiner, 1996).



Fourth, “mediation” by psychological tools is of prime importance in higher mental process, which distinguishes it from the lower mental process. For Vygotsky, “psychological tools” are uniquely human artificial stimuli such as “language, various systems for counting, mnemonic techniques, algebraic symbol systems, works of art, writing, schemes, diagrams, maps, mechanical drawing, and all sorts of conventional signs” (Vygotsky, 1981c, p. 137). The concept of “mediation” by psychological tools is the crux of Vygotsky’s psychology and is described in more detail in the following section. Mediation has implications for the significant role that language plays in children’s pretend play and ensuing cognitive and social development specifically, and the central role that language has in social interactions and communication in general.

In summary, Vygotsky emphasized that cognitive development of human beings can be explained by the developmental transformation from lower mental functions to higher mental functions. The developmental transformation occurs as self-regulation, conscious realization, social influences, and mediation by psychological tools take place in the children’s psychological process in the context of children’s interactions with their social and physical environment. This argument has particular relevance to pretend play since children create an imaginary situation through gestures, actions, and language to decide on the direction of their play rather than just respond to the environmental stimuli (e.g., play materials available in the play areas) and follow the rules agreed by the members of the play group to sustain their play.

### *Socially Mediated Psychological Tools*

Vygotsky (1978) extended Marx and Engels's idea of "tool use" in human labor. He used the analogy between "technical tools" and "psychological tools" or "signs" as follows:

The invention and use of signs as auxiliary means of solving a given psychological problem (to remember, compare something, report, choose, and so on) is analogous to the invention and use of tools in one psychological respect. The sign acts as an instrument of psychological activity in a manner analogous to the role of a tool in labor...the basic analogy between sign and tool rests on the mediating function that characterizes each of them...The most essential difference between sign and tool, and the basis for the real divergence of the two lines, is the different ways that they orient human behavior. The tool's function is to serve as the conductor of human influence on the object of activity; it is *externally* oriented; it must lead to changes in objects. It is a means by which human external activity is aimed at mastering, and triumphing over, nature. The sign, on the other hand, changes nothing in the object of a psychological operation. It is a means of internal activity aimed at mastering oneself; the sign is *internally* oriented. (pp. 52-55)

In other words, humans have created and used "psychological tools" to influence their own or other people's behaviors as they have invented and used tools to influence and conquer natural environments. "Technical tools" and "psychological tools" have commonality in a way that both are artificial or man-made tools serving as a part of human effort to adapt to the natural and human environments. They are different, however, in that the function of "technical tools" for humans is to change objects and natural environments that exist externally whereas the role of "psychological tools" for humans is to influence behaviors and the mind of oneself and others internally (Vygotsky, 1981c).

Vygotsky further provided several distinctive characteristics of “psychological tools” (Wertsch, 1985). First, “psychological tools” enable qualitative transformation of human cognition. For example, as a child comes to use language or symbols in his or her memory process, so the form and structure of his or her mental process fundamentally come to change. According to Vygotsky, this fundamental change is very similar to the way that the “technical tools” radically alter the natural process and bring environmental change to accommodate it to human needs and purpose (1981c). For example, rather than waiting for seasonal change for their survival, humans used tools including stones, wood, and other agricultural devices in order to cultivate land and plant crops (Crain, 2000). This reveals the revolutionary nature of Vygotsky’s views on human cognitive development.

Secondly, the nature of “psychological tools” is not individual but social. For example, a man is not born with the knowledge about how to read letters and appreciate a work of art. A man has to learn how to read a specific language from more competent members of society or through books, and has to learn about how to interpret the meaning and the form of a work of art. Learning to use a language or to appreciate a work of art is, like any other cultural product, an acquired knowledge and skill in a given historical time and place. It is also evident in the following words from Vygotsky:

The word “social” when applied to our subject has great significance. Above all, in the widest sense of the word, it means that everything that is cultural is social. Culture is the product of social life and human social activity. That is why just by raising the question of the cultural development of behavior we are directly introducing the social plane of development. (1981b, p. 164)

Several cross-cultural studies designed to examine differences in pretend play interactions and themes among children from different cultural backgrounds suggest that cultural differences in adults' beliefs on the importance of pretend play as well as socialization process at home and school shape the way children engage in pretend play (Farver, Kim, & Lee, 1995; Farver & Shin, 1997; Farver & Wimbari, 1995).

In summary, Vygotsky asserted that humans have created and used "psychological tools" to influence others as well as themselves. Thus, human cognitive development can be described by the developmental transformation of mental functions, which is influenced by the mediation of "psychological tools" in the process. Vygotsky further emphasized that those "psychological tools" are not innate but an acquired knowledge existing in a given culture and society. This idea implies the importance of social interactions and culture in child development and a critical role that adults play in the process.

#### *Social Origins of Higher Mental Functions*

According to Vygotsky, higher mental functions of individuals have their origins in the activity and interaction with other people in society:

Any function in children's development appears twice, or on two planes. First it appears on the social plane and then on the psychological plane. First it appears between people as an interpsychological category and then within the individual child as an intrapsychological category .... but it goes without saying that internalization transforms the process itself and changes its structure and function. Social relations or relations among people genetically (historically, in time) underlie all higher functions and their relationships (1981b, p. 163).

In other words, all higher psychological functioning develops externally first from social interactions, then transforms into the individual by an ‘internalization’ process. It is therefore claimed that in order to understand higher mental function of the individual, an analysis of how interpsychological processes change the individual should precede (Wertsch & Stone, 1985). Rowe and Wertsch (2002) highlighted this view of Vygotsky by illuminating the mechanism underlying the function and process of egocentric speech in development, the concept of the zone of proximal development, intersubjectivity, and social cognition, some of which are discussed in detail in later sections in relation to the pretend play research literature.

#### The Role of Language in Thought Development

Among various “psychological tools” mentioned above, Vygotsky (1981a) emphasized the role of language or signs in his explanation of the social origins of individual mental process. He asserted that signs are created primarily for social functions:

The history of signs, however, brings us to a much more general law governing the development of behavior. Janet calls it the fundamental law of psychology. The essence of this law is that in the process of development, children begin to use the same forms of behavior in relation to themselves that others initially used in relation to them. Children master the social forms of behavior and transfer these forms to themselves. With regard to our area of interest, we could say that the validity of this law is nowhere more obvious than in the use of the sign. A sign is always originally a means used for social purpose, a means of influencing others, and only later becomes a means of influencing oneself. (1981b, p. 157)

Vygotsky (1978) also asserted that language helps children to solve difficult problems, to control impulsive behaviors, to think ahead and plan for the future actions,

which all lead to the mastery of their own behavior. He further maintained that signs and language are the primary means by which children initially make contact with other people.

Wertsch (1985) has categorized different types of speech functions from Vygotsky's writings: the signaling function, the significative function, the social function, the individual function, the communicative function, the intellectual function, the nominative function, the indicative function, and the symbolic function (pp. 88-89). Among the above speech functions, it seems that the last two functions are most relevant to the discussion of the role of language in pretend play. Contrasting the indicative function of speech and the symbolic function of speech, Vygotsky explained different types of speech used in early development of attention from a series of experiments. He discovered that adults used very simple 'indicative' words to catch and orient infants' attention, but seldom used a categorized or abstracted form of speech to them. In contrast, adults used more symbolic or categorical words with the older children. Vygotsky maintained that "The relationship of the word 'flower' to the object is completely different for the child who does not yet know the words rose, violet, or lily than it is for the child who does" (as quoted in Wertsch, 2000, p. 21). The symbolic function of the speech entails "the classification of events and objects" and the usage of abstraction and relations (Wertsch, 1985, p. 97). Vygotsky wrote specifically on the role of generalization of words and its relation to the human social interaction:

In order to transmit some experience or content of consciousness to another person, there is no other way than to ascribe the content to a known class, to a known group of phenomena, and as we know this necessarily involves

generalization. Thus, it turns out that social interaction necessarily presupposes generalization and the development of word meaning, that is, generalization becomes possible in the presence of the development of social interaction. Thus, higher, uniquely human forms of psychological social interaction are possible only because human thinking reflects reality in a generalized way (as quoted in Wertsch, 1985, pp. 95-96)

Luria, a colleague and disciple of Vygotsky, extended this view by providing the following argument:

Language, in the course of social history, became the decisive instrument which helped humans transcend the boundaries of sensory experience, to assign symbols, and to formulate certain generalizations or categories. Thus, if humans had not possessed the capacity for labor and had not had language, they would not have developed abstract, “categorical” thinking (as quoted in Rowe & Wertsch, 2002, p. 544).

Those arguments above have important implications for the role of language in pretend play. As young children come to use abstract or categorical words, they gradually engage in more complex and sustained pretend play. Several researchers adopted this line of thinking and studied the language interaction between young children and adults during pretend play (Fiese, 1990; Haight & Miller, 1993; Smolucha & Smolucha, 1998). However, those studies are somewhat limited in that they focus mostly on discourse analyses of more privileged infants or toddlers and their mothers at home or in laboratory settings. We have relatively little information on the language interaction of low-income preschool children’s pretend play in child care settings.

Lev Vygotsky was one of the most prominent scholars to appreciate the importance of pretend play for young children’s cognitive development. More specifically, he emphasized the critical role of play materials as pivotal for children to

separate meaning from objects (object substitution) in play during early childhood. He also argued that preschool children learn social conventions through interaction with peers and adults by engaging in pretend play. He further maintained that pretend play requires children to act against their inner impulses and follow the rules of the pretend situation. In summary, Vygotsky suggested that play leads children's development, and especially through pretend play, children learn to make a connection with internal ideas and societal values or expectations. The present study explores these theoretical ideas by examining the associations between low-income children's pretend play and individual and contextual factors in the preschool setting.



## CHAPTER III

### LITERATURE REVIEW

#### Pretend Play

##### *Definition*

Pretend play is generally defined in the research literature as an activity that involves role play, object substitution, and imaginary situations. As Fein (1981) and Smilansky and Shefatya (1990) noted, it has also been referred to as make-believe, symbolic play, imaginative play, fantasy play, role play, dramatic play, and sociodramatic play, reflecting different research foci or preferences. However, there have long been two different standpoints regarding whether we can consider pretend play as a symbolic behavior or not. In addition, over the past two decades, there has been a controversy over a possible link between pretense or pretending behavior of young children and their mental states or representational abilities. In the following sections, a detailed account of these different positions is provided.

##### *Pretend Play as Symbolic versus Non-Symbolic Behavior*

Piaget (1962) was a theorist who inspired most of the early pretend play researchers in the 1960's through the early 1980's (Fein, 1981; Smolucha & Smolucha, 1998) and is still influential to many researchers who focus on the symbolic structure of pretend play (McCune, 1995; McCune-Nicolich, 1981) or representational thoughts and abilities involved in pretend play (Leslie, 1987, 1988). In line with his theory of cognitive

development, Piaget maintained that play progresses from sensorimotor play, to symbolic play, to rule-governed play. He further delineated a series of stages of symbolic play such as self-referenced symbolic play (sleeping, crying, and feeding themselves) around age 2, other-referenced symbolic play (brushing and feeding dolls) or object substitution (a donkey's tail as a pillow or box as a plate) around ages 3 and 4, and collective symbolism (involving reciprocity and role play between the child and others) around age 4.

Huttenlocher and Higgins (1978) suggested different ways to expand Piaget's ideas regarding the definition of symbolic play and delved more deeply into the issue of 'symbolism' in reference to mental representation and object substitution. According to them, Piaget has clearly argued that play is symbolic only when it includes the following critical conditions: First, the child should be aware of the object substitutions. Second, the purpose of the play should be for pleasure (in Piaget's [1962] own words, "application of the schema to inadequate objects" and "evocation for pleasure" [p.97]). Therefore, "ritualized behavior" or "practice play" is not considered symbolic play since it does not involve true object substitutions or active mental representations (p. 122). For example, rubbing a face with a pebble in play may not be considered symbolic play because it would merely display an imitation or a practice of proper behavior for washing a face with soap. Huttenlocher and Higgins maintained that we could consider young children's play as symbolic only when a verbal expression of a play intention ("car garage") preceded a play behavior ("move a block into an open cardboard box") (p. 124).

Vygotsky (1967) also argued that pretend play at the preschool period is not true symbolic activity since the child is not yet able to "sever thought from object" (p. 12).

The child needs an object (a stick) to play riding a horse (an imaginary situation). Vygotsky called it “a pivot” (p. 12), which helps the child to move from situational constraints of here and now to the next level of cognitive functioning, the separation of meaning from object or mental representation. Vygotsky believed that pretend play serves as “a transitional stage” (p. 12) between a period when perception is a primary mental function of the child and a period when abstract thought is possible. Through the use of substitute objects and appropriate gestures during pretend play, he argued, the child begins to separate his thoughts from actions and real objects. This ability of “decontextualization of meaning” is considered to be crucial for later literacy development (Duncan & Tarulli, 2003, p. 274).

In summary, researchers who consider pretend play as a symbolic activity, reflecting the developmental level of the mental states of an individual child, seemed to have mostly rooted their studies on Piaget’s conceptualization of the universal structure or stage of play development. On the other hand, Huttenlocher and Higgins, and Vygotsky suggested that pretend play at the preschool period is not truly a symbolic activity, but an important manifestation of the cognitive growth of the child and a leading activity toward true symbolic and abstract thinking.

#### *Pretend Play and Theory of Mind Development*

There have been increasingly active research efforts to examine an association between a theory of mind and pretend play during early childhood. A “theory of mind” refers to an understanding of people’s mind and mental states including belief, intentions, emotions, and desires (Astington & Jenkins, 1999). The development of a theory of mind

has a significant social function as well as a cognitive function (Moore & Frye, 1991). It allows a child to explain, infer, and predict other people's behaviors based on his understanding of how minds work. It also reflects a child's level of mental representations and permits a child to make a distinction between facts or reality and beliefs. It is this ability of mental representation that many researchers and theorists of theory of mind proposed a connection with pretend play skills.

Leslie (1987) was one of the first who suggested the link between mental representations and pretend play skills in a mechanistic way. He proposed that children's ability to use two types of representations simultaneously during pretend play reflects their understanding of other people's mental states. For example, when a child is pretending a banana is a telephone with his mother, he knows that the banana is a real banana (a primary representation) but at the same time can be used as a telephone (a secondary or metarepresentation). Furthermore, the child understands that his mother also knows the difference between reality (the banana is a banana) and pretense (the banana can be a telephone) without any cognitive conflicts or confusion during pretend play. Leslie argued that this indicates the child's understanding of other people's mental states such as intentions, beliefs, and desires, and suggested that we could observe this ability from a child within 4 years of birth (Leslie, 1988).

Other researchers (Lillard, 1993a, 1993b, 2001; Perner, 1991), on the other hand, argued that pretend play and understanding of minds are independent from one another and young children's ability to pretend does not indicate their understanding of mental representation. Based on four experiments with preschool children, Lillard (1993b)

suggested that even 4-year-olds fail to make the crucial connection between mental representation and pretense behaviors. According to her, young children under 5 years of age rather think of pretense as “external features such as action” (p. 383). In other words, children can engage in pretend play by just acting out relevant and familiar behaviors for a given object in a given situation. For example, a young child can pretend to be a bird by stretching her arms and moving around without knowledge or understanding that she represents a bird. Similarly, a two-year-old child can pretend to talk with his mother with a banana without understanding that her mother represents the banana as a telephone.

While the debate over the link between the theory of mind and pretense behaviors still remains undetermined, the efforts of researchers to explore the underlying mental mechanism of pretend behaviors certainly shed light on the role of cognitive development of individual children and the onset of the development of intersubjectivity, a term defined as shared meaning or understanding among different individuals (Göncü, 1993a; Youngblade & Dunn, 1995).

#### *Factors Influencing Pretend Play of Young Children*

Despite a long history of research efforts and an accumulated knowledge of the benefits of pretend play on child development (Bergen, 2002; Berk, 1994; Fein, 1981; Rubin et al., 1983), our understanding of the factors influencing the frequency and complexity of pretend play and a mechanism that explains the relationships and variations still needs to be further extended. For example, within-group variations among low-income children’s pretend play in naturalistic childcare settings has never been addressed in the literature. Previous research on pretend play in various laboratory play

settings and mother-child pretend play at home treated the child or adult-child dyads as an entity independent from a broader context and failed to take into account the variation within and between individual and contextual factors simultaneously. In other words, the unit of analysis was usually the individuals and the research foci were mostly limited to the analysis of the discourse and interaction patterns between the individuals. The following sections discuss the factors that have been identified as independent predictors of pretend play during early childhood.

#### *Individual Characteristics*

*Age differences.* It is well established in the literature that the age of a child is associated with the amount, nature, and complexity of pretend play behavior (Cole & LaVoie, 1985; Connolly & Doyle, 1984; Fein, 1981; Pellegrini, 1985; Rubin, Watson, & Jambor, 1978; Smilansky, 1968; Smilansky & Shefatya, 1990). In her extensive review of research literature published in the 1960's and 1970's, Fein (1981) concluded that the developmental trend in pretend play among children aged between 2 to 5 generally follows what Piaget claimed, "an inverted U-shaped curve" (p. 1097). In other words, children's pretend behaviors emerge around age 2, are more frequently observed around age 3 to 4, and then decrease around the age 5.

On the other hand, more recent research on age changes in pretend play reflects a Vygotskian approach, focusing more on interpersonal contexts or social influences on the occurrence and development of pretend play. For example, Haight and Miller (1993) studied the development of pretend play behaviors with nine young children from middle-income European American families. With a longitudinal research design, they

observed children from age 1 to 4 at seven different time points (12, 16, 20, 24, 30, 36, 48 months of age) at home. They found that the age has a positive effect on the frequency, complexity, and duration of pretend play episodes as well as their preference of the play partner. For example, children engaged in pretend episodes significantly longer with their mothers than they did by themselves at the ages of 2 and 3. However, at the age of 4, children engaged in pretend play longer with their older siblings or peers than they did with their mothers. Göncü (1993b) was interested in the link between the age and the development of shared understanding (intersubjectivity) and videotaped the pretend play sessions of twelve 3-year-olds and twelve 4½ -year-olds in same-age and same-sex dyads. He found that the older children were able to engage in more sustained and complex play episodes by expanding and building on the other player's play ideas or resolving disagreement between players than younger children were. The results suggested an overall increase in the amount of social play interaction and a greater degree of intersubjectivity with age.

The similarity in children's pretend play development is also evident in more recent cross-cultural studies. Haight, Wang, Fung, Williams, and Mintz (1999) compared five upper-middle class American families in the U.S. and nine Chinese families in Taiwan whose economic and social statuses are similar. The research design (with children of 2.5, 3, 3.5, and 4 years) allowed researchers to describe and compare the developmental trends of pretend play in two different cultural contexts. They found children's pretend play predominantly begins in social contexts and children's pretend play capacity (initiations of play episodes and elaborations on play partner's initiations)

increased with age in both cultures. Similarly, Farver and Wimbarti observed play interactions between 30 Indonesian children and their older siblings or mothers and found developmental trends that are comparable to the findings of studies with Western families (Farver & Wimbarti, 1995). The findings indicated that older children (36-month-olds) engaged in pretend play with objects more frequently than did younger children (18- and 24-month-olds).

In summary, previous research findings suggest that age differences in pretend play are observed in many different cultural contexts, with increasing frequency and complexity during the preschool years. However, most of the recent studies that provide a more detailed account of different interpersonal or contextual influences on developmental trends in pretend play were conducted through observations of play dyads either in laboratory play settings or at home. While those research designs allow in-depth micro-level analyses of children's dialogues and interaction patterns, it is hard to apply the results of those studies to the reality of most children in the US who spend a considerable time with multiple play partners in group settings.

*Gender differences.* Research findings regarding gender differences in the amount of pretend play have been mixed. Some researchers have found that girls tend to engage in more pretend play than do boys (Göncü & Kessel, 1988; McLoyd, 1980, 1983; Weinberger & Starkey, 1994) while others indicate that boys spend more time in pretend play than girls (Doyle, Ceschin, Tessier, & Doehring, 1991; Rubin, Maioni, & Hornung, 1976). Contrary to the above research results, there is another group of studies that reveal no gender differences in the amount of pretend play among preschool children (Connolly



& Doyle, 1984; Farver & Shin, 1997; Farver & Wimbari, 1995; Howes, Unger, & Seidner, 1989; Pellegrini & Perlmutter, 1989).

Inconsistency in research findings on gender differences in the amount of pretend play may be derived from different aspects of pretend play that researchers have focused on (e.g., effects of play materials versus play areas versus play roles, or communication styles versus modes of symbolic transformation) or different research design decisions (e.g., experimental design in the laboratory play room or home versus naturalistic observation of child care settings, or play-dyads versus random and multiple play partners) that researchers have made. For example, researchers interested in different modes of symbolic transformation in pretend play reported that girls were more advanced than boys in their ability to verbally express abstract or imaginary ideas that were relatively independent of any specific play materials or objects available (McLoyd, 1980). Other researchers focused on the effects of gender-stereotypical materials on children's pretend play and found that girls produced more pretend behaviors using feminine role-appropriate toys than did boys using masculine role-appropriate toys (Duveen & Lloyd, 1988; Lloyd, Duveen, & Smith, 1988). The effects of different type of play areas in the classroom and the degree of familiarity in the play area on children's pretend play were also explored. Pellegrini and Perlmutter (1989) found no gender differences in the amount of pretend play since both girls and boys engaged in pretend play most frequently in dramatic play area where doctor's office play materials were provided. Howe, Moller, Chambers, and Petrakos (1993) found girls preferred the traditional housekeeping centers (53%) to the novel centers (e.g. pirate ships, pizzeria,

train station, vet clinic, train station) (47%) while boys preferred the novel centers (67%) to the traditional housekeeping centers (33%). The differences in themes or roles of pretend play were also addressed in relation to gender. It is generally confirmed that girls take more domestic or familial roles than boys while boys played with more fantasy themes than girls (Cole & LaVoie, 1985; Doyle et al., 1991; Göncü & Kessel, 1988).

In summary, gender differences in the amount of children's pretend play have been addressed in the literature reflecting different research foci and designs. While the lack of consistency in the findings makes it difficult to draw a single conclusion regarding gender differences in pretend play, the implications from those studies on the curriculum development and teacher education in school settings should not be overlooked.

*Language competence.* The relationship between pretend play and children's language development was first proposed and tested in several play intervention studies (Dansky, 1980; Marshall & Hahn, 1967; Saltz, Dixon, & Johnson, 1977; Smilansky, 1968). The results from these intervention studies indicated that preschool-age children gained a variety of language skills (increased and richer vocabulary, higher language comprehension, longer sentences, and verbal fluency) by actively engaging in pretend play with adult intervention. Similarly, Levy, Wolfgang, and Koorland (1992) found a positive relationship between enriched pretend play and increased level of language performance (increased total words, specific vocabulary words, and concept words) by kindergarten-age children.

*Social skills.* The association between the frequency and complexity of pretend play and different aspects of social skills has long been studied (Fein, 1981; Garvey, 1990; Rubin, 1980). Correlational studies demonstrate a positive link between the frequency and complexity of pretend play and prosocial behaviors such as cooperation, assertiveness, internalizing behavior, and externalizing behavior (Farmer-Dougan & Kaszuba, 1999), social role-taking (Rubin, 1978), group cooperation (Rosen, 1974; Saltz et al., 1977), peer acceptance (Doyle & Connolly, 1989), and peer popularity and affective role-taking skills (Connolly & Doyle, 1984). A longitudinal study (Howes & Matheson, 1992) also indicated that children who engaged in more complex (complementary and reciprocal) social pretend play at earlier ages (13-23 months) were either observed or rated as more prosocial, gregarious, and less withdrawn at later ages (30-35 months and 44-60 months) than the children who engaged in simple social pretend play. Taken together, these studies suggest that the frequency and complexity of pretend play are associated with positive social behavior and may reflect children's current level of social skills.

#### *Contextual Factors*

*Presence or involvement of adults.* The empirical evidence of the effects of adult involvement on children's pretend play behaviors is not consistent. Some researchers suggest that adult participation facilitate complex pretend play (Fiese, 1990; Garvey, 1990; Miller & Garvey, 1984; Slade, 1987a) while others argue that adult involvement may not influence or may inhibit children's pretend play (Pellegrini & Galda, 1993; Tizard, Philips, & Plewis, 1976b). Similar to the research of gender differences in pretend

play, this lack of consistency in research findings may be explained by different research foci or by different populations that the research addressed. For example, pretend-play research with infants and toddlers generally reports positive effects of adult presence or assistance (Bornstein, Haynes, Legler, O'Reilly, & Painter, 1997; Bornstein et al., 1996; Fiese, 1990; O'Connell & Bretherton, 1984) whereas the role of adults on preschoolers' pretend play appears to be equivocal (Rubin et al., 1983).

Pellegrini and Galda (1993) suggested that the adult involvement during symbolic play with preschool children may have a negative effect on children's symbolic play and ensuing language development. More specifically, they argued that "adults suppress children's exhibition of competence in symbolic play because when children and adults interact, adults do most of the work, such as initiate interaction and repair breakdowns" (p. 169). They limited the scope of this argument by speculating that their conclusion might apply only to a symbolic play type and a preschool age group. On the other hand, Schrader (1990) suggested that symbolic play can be used as a teaching and learning medium for children's early literacy acquisition. She found that children who play in literacy-enriched learning centers tended to engage in complex role play and make better use of the literacy artifacts. Teachers also assisted children to go beyond their current level of reading and writing with proper intervention including questions and redirections. Neuman and Roskos (1993) were particularly interested in the effect of the adult intervention and the play setting on children's emerging literacy development. With an experimental design, they reported various intervention effects with 177 minority preschool-aged children (98% African American and 2% Hispanic) from eight

classrooms in a Head Start Center. They found that different adult involvement (active assistance vs. monitoring vs. no involvement) influenced children's literacy interactions with environmental and functional print during pretend play in a literacy-enriched play center.

It is also noteworthy that most of the research on adult involvement in children's pretend play are based on two Vygotskian concepts, 'zone of proximal development' (Vygotsky, 1978, p. 86), and the concept of social origin of higher mental process and its transmission through social interaction (Vygotsky, 1981b). According to Vygotsky, the zone of proximal development is defined as the distance between what a child can do independently and what the child can do under adult assistance or through collaboration with more skilled peers in a problem solving situation. Overall, the findings of pretend play research confirm this idea in that the amount and complexity of pretend play of infants and toddlers were positively related to the presence or assistance of adults (Haight & Miller, 1992, 1993; Miller & Garvey, 1984). The second concept of social origin of higher mental development was previously discussed in detail in the theory section: A child initially learns from support of more competent peers or adults through social interaction, and then developmental changes occur within the child.

In summary, research on adult involvement in pretend play of young children in the past has generally been limited to a particular population (mother influence on infant or toddler) and the nature of adult involvement with preschoolers is inconsistent due to different research foci or interests. However, Vygotsky's theory suggests that

collaboration with an adult better assists the child to go beyond his present level of development and enables him to engage in a more complex and sustained pretend play.

*Presence or involvement of peers.* The role of peers in child learning and development has been addressed both in theoretical and empirical literature. According to Piaget (1962), peers are equally competent individuals who can facilitate cognitive growth of one another in ways that are different from learning by oneself or learning with guidance of adults. More specifically, peers can promote a child's cognitive development by engaging in a series of disagreements and agreements during cooperative interactions. Researchers have also investigated the influence of older siblings or developmentally advanced peers on children's performances in collaborative problem solving tasks (Tudge, 1992; Tudge, Winterhoff, & Hogan, 1996). While these investigations are valuable, the nature of play may be different from the nature of problem-solving tasks. Play is more open-ended, multi-directional, and less structured compared to problem-solving tasks that are close-ended, with one solution or goal, and structured. This difference concerns the way researchers measure peer influences on pretend play and the reciprocal nature of social pretend play. The findings regarding peer involvement on children's pretend play reveal these differences more clearly.

Youngblade and Dunn (1995) found that the amount of pretense and diversity of play themes of 50 33-month-old children were greater with older siblings than with their mothers during naturally occurring bouts of social pretend play. In two related experimental studies of toddlers' social pretend play development, Howes and Farver (1987) found that children engaged in complex pretend play more frequently with an

older play partner as compared to a same-age child. Dunn and Dale (1984) compared 2-year-olds and older siblings dyads with 2-year-olds and mothers dyads and reported distinctive differences between the two groups. While mothers mainly remained as interested spectators, the older siblings were very involved with initiating pretend play, used more linguistic or nonverbal actions than objects, and engaged in pretend play as complementary actors.

In summary, the influence of peer involvement on children's pretend play is complex partly due to the multi-directional nature of play itself and partly due to the complex reciprocal nature of pretend play development. More research addressing these issues is needed.

*Structure of materials.* Researchers who study play materials associated with pretend play are particularly interested in the effects of the structure of play materials available to children. Pulaski (1970) was one of the first researchers who examined the effect of the play materials on children's fantasy play. In the experimental matched-group design, 32 children at the kindergarten, first, and second grade levels were asked to play with minimally structured materials (including paints and paper, clay, simple rag dolls, dress-up clothes, blocks, cardboard boxes, pipe cleaners, and wooden spool dolls) and highly structured play materials (including fully outfitted dolls, ready-made costumes, completely constructed buildings, fully furnished doll house) and make up a story in a playroom. The finding indicated that minimally structured materials elicited a greater variety of themes regardless of children's fantasy predispositions, but did not influence the complexity of fantasy play. Pulaski suggested that the structure of play materials

might have the greatest effect on fantasy play development for preschool children, because their predisposition to fantasy play may be less established than those older children who participated in her study.

McLoyd (1983) studied a group of low-income African American preschool children to examine the effect of play materials on children's symbolic or pretend play behaviors. She found that low-structure play materials, such as blocks, paper bags, or styrofoam cups, elicited more symbolic transformation behaviors whereas high-structure play materials, such as dolls, a medical kit, and a tea set, led to more non-interactive (for 3 ½ -year-old triads) and social pretend play (for 5-year-old triads). Trawick-Smith (1990) used a broader definition of symbolic transformation and found different results regarding the effects of play materials on young children's symbolic play. His broader definition of symbolic transformations was "using available play objects in make-believe ways" (Type I transformation), which is substantially more inclusive than the traditional definitions of symbolic transformations (e.g., "an object is given a completely new make-believe identity"-Type II transformation, or "gestures or body parts are used to stand for make-believe objects"-Type III transformation) (p. 29). Due to this addition of a broader definition of symbolic transformation, he found that realistic play materials are the most preferred medium for object transformation for preschool children. However, there still remains a question of whether this definition is legitimate for investigating true symbolic transformation development among young children.

*Socioeconomic background.* The effects of socioeconomic status or social class on the amount and complexity of pretend play has received some attention from



researchers. Most notably, Smilansky (1968) studied the effects of sociodramatic play on disadvantaged preschool and kindergarten children in Israel. From her observation of the behavior of children from disadvantaged families, she hypothesized that their short attention span, repetitious play pattern without elaboration, and disconnected play activities might be due to environmental or cultural deprivations. She pioneered a training study and reported a significant language improvement among children who had received the training in pretend play. Since her early work, a considerable body of research has been conducted based on the idea that children from disadvantaged backgrounds may suffer more in terms of their cognitive development than those from higher socioeconomic background and it is manifested in differences in their sociodramatic play (Fein & Stork, 1981; Lovinger, 1974; Rosen, 1974; Rubin et al., 1976; Smith & Dodsworth, 1978; Tizard, Philps, & Plewis, 1976a; Tizard et al., 1976b).

McLoyd (1982), however, challenged this idea by delineating several conceptual and methodological flaws found in empirical studies of pretend play with disadvantaged children. First, she pointed out confounding of social class, ethnicity, and classroom or school effects. For example, Smilansky (1968) compared low-income Israeli children of Asian-African descent to low- and middle-income Israeli children of European descent. In addition, insufficient information in Smilansky's study was noted (e.g., lack of quantitative data or statistical tests of significance in terms of pretend play content). Confounding classroom or school effects included various teaching styles, different emphasis on language usage, and curriculum diversity. Second, she criticized the fact that researchers have used different indices of social class (Hollingshead, Index of

Socioeconomic Status, parental occupation or education). McLoyd suggested that more detailed demographic information reflecting the latest societal change (e.g., increase in single-parent families and families with multiple wage earners) be considered. Third, the operational definition of symbolic play in relation to verbalization was challenged. For example, she argued, the low frequency of verbalization of children from socially and economically disadvantaged families may be due to situational variables. In other words, children from disadvantaged backgrounds may talk less out of fear that their nonstandard English usage may not be allowed in their classroom.

In summary, the research findings on low-income children's pretend play are inconclusive and limited. More research is needed to examine within-group variations among low-income children's pretend play. A Vygostkian concept of assisted learning and development within a social context suggests that a closer examination of social interactions in low-income children's pretend play is needed. For example, the play involvement of peers and teachers in low-income children's pretend play in group settings has been overlooked in the literature. The present study aims to address this gap in the pretend-play literature.

#### Purpose of Study

Despite much research on pretend play and an accumulated knowledge of the benefits of pretend play on child development (Bergen, 2002; Berk, 1994; Fein, 1981; Rubin, 1980; Rubin et al., 1983), our understanding of low-income children's pretend play is limited. Previous research comparing the amount and complexity of pretend play between children from a more advantaged socioeconomic background and those from a

less advantaged socioeconomic background is inconclusive due to several methodological flaws. First, within-group variations among low-income children's pretend play have not been sufficiently addressed in the literature. Second, factors that explain within-group variations among low-income children's pretend play need to be further extended. For example, the interaction between individual and environmental factors as they are related to low-income children's pretend play has seldom been addressed in the literature. Furthermore, to date no study has explored the associations between the complexity of low-income children's pretend play and the play involvement of peers or teachers in naturalistic preschool settings. The purpose of this study was to fill these gaps by examining the relationship between the complexity of low-income children's pretend play and individual and contextual (including both social and environmental) factors in naturalistic preschool settings.

#### Research Questions

Research questions will center first on individual factors, next on contextual factors, and finally examine the contributions of both types of factors on the complexity of low-income children's pretend play. The following research questions will be addressed.

1. How well do individual factors predict the complexity of low-income children's pretend play in the naturalistic setting of the preschool classroom?
  - Hypothesis 1: Focal child age, gender, language competence, and social skills in combination will significantly predict the complexity of pretend play.
2. How well do contextual factors predict the complexity of low-income children's pretend play in the naturalistic setting of the preschool classroom?

- Hypothesis 2: The level of the teacher involvement, the level of peer involvement, peer language competence, and use of low-structure materials in combination will significantly predict complexity of pretend play.
3. Does the combination of individual and contextual factors predict the complexity of pretend play?
- Hypothesis 3: The combination of individual and contextual factors will show greater predictive power for the complexity of pretend play than the factors entered separately.
4. Does the complexity of pretend play vary as a function of social configuration of the play group?
- Hypothesis 4: The complexity of children's pretend play will increase as focal children play in different social configurations: Complexity will be lowest while children are playing alone, next while playing with peers, and highest while playing with peers and a teacher.

## CHAPTER IV

### METHOD

#### Participants

Forty-seven preschool children participated in the study. Twenty-three were boys and 24 were girls. Age ranged from a minimum of 43 months to a maximum of 64 months (Mean = 55.7 months, SD = 5.48 months). Forty-two children (89.4 %) were African American and five children (10.6 %) were of Hispanic origin. The children were recruited from six preschool classes within five Head Start centers. The directors of Head Start programs in Guilford County, North Carolina, were contacted to participate in the study. The goals and objectives of this study were explained via phone or in person with the directors. Efforts were made to select centers that were similar in size and ethnic distribution. Once directors agreed to participate, letters describing the study and consent forms were delivered to each center. Consent forms were obtained from center directors, classroom teachers, and parents of enrolled children who agreed to participate (51 percent of parents of enrolled children agreed to participate). Twelve female teachers (two teachers from each class) also participated in the study. Eleven teachers were African American and one teacher was Caucasian. A more detailed summary of the participants' demographic information is presented in Table 1.

For five classes where there were more than 8 children with parental consent, 8 or 9 children were randomly selected as focal children. For one class where there were less

than 8 children with parental consent, all children with parental consent participated as focal children. All focal children also participated as peers of other focal children during free play time. The ethnic and gender distribution of focal children was consistent with the classroom ethnic and gender distribution.

The participants were representative of the children and the teachers at the Head Start centers in Guilford County, North Carolina, in terms of ethnicity and gender (Center for Youth, Family, and Community Partnerships, 2005). Participating classes were also representative of the group size and teacher-child ratio for other preschool classes in the Head Start programs in Guilford County, North Carolina. On average, there were 18.7 children in each classroom with a range from 17 to 20. There were one lead teacher and one assistant in each classroom. The ratio of children to teachers was 9.33 on average, with a range from 8.5 to 10 children per teacher. A more detailed summary of the participants' demographic information per participating classrooms is presented in Tables 2 and 3.

### Procedures

Naturalistic observations of children's solitary and collaborative pretend play were conducted in the six preschool classrooms over 14 weeks from mid-January 2007 to mid-April 2007. One week prior to the data collection of children's pretend play, information on children's current level of language development and social skills was collected for all children who had parental consent. A trained rater assessed children for their current level of expressive language development with the Expressive Vocabulary

Test (EVT). Lead teachers completed a teacher rating scale of children's social skills, Penn Interactive Peer Play Scale (PIPPS).

After the data on children's current language competence and social skills were obtained, children's play behavior and verbalizations were recorded using a camcorder and a wireless microphone during their free play. Focal children were video recorded for 10 minutes on each of two separate days, totaling 20 minutes per child. In order to assure that at least some observations of focal children's pretend play were made, teachers were asked to encourage focal children, if needed, to begin their play in the dramatic play area. However, once focal children left the dramatic play area, they were followed to any area of the classroom that they chose to go and play. Teachers and focal children's classmates who had parental consent and engaged in play with focal children were also video recorded. Focal children's classmates who did not have parental consent were either instructed by the teacher to choose different interest centers to play or to do a small group activity with a teacher at the table in the classroom. A checklist was used to gather information on play materials available in different play areas in a classroom each day during data collection. After the video recording of all focal children in a classroom was completed, the lead teacher and the assistant teacher in the classroom were asked to complete a pretend-play survey.

#### Measures

Data were collected from video recordings of children's and teachers' behaviors during free play, a language-assessment tool, a social-skill rating scale, a classroom checklist, and a pretend-play survey. A software program, The Observer 5.0 (2003) from

Noldus Information Technology, was used to code the video recorded data (media files or MPEG2 files made from video recording), conduct inter-rater reliability tests, and run several rudimentary descriptive statistical analyses (frequencies and means). A time-sampling method of coding was used, breaking the play sessions into 15-second intervals. A total of 80 units of play behavior and verbalization per focal child were coded. Peer and teacher behaviors were also coded if they were engaged with the focal child in the same activity during the 15-second intervals.

Observer training and practice on the pretend-play measure was conducted in January and February 2007 prior to data collection. Periodic checks were made (every seventh observation for a total of 5 checks) throughout the study. Cohen's Kappa was computed for each of the components of the measure (See Table 4).

In this section, measures were organized by construct and presented in the order in which they were used in the analyses: (1) complexity of pretend play, (2) individual child characteristics, and (3) contextual characteristics.

#### *Complexity of Pretend Play*

The complexity of children's pretend play was scored based on the video recordings of their play behaviors and verbalization using a coding scheme (Appendix A) adapted from previous research on pretend play (Beizer & Howes, 1992; Farver & Wimbarti, 1995; Fenson, 1984; Howes & Stewart, 1987; McLoyd, 1980, 1983; Smilansky & Shefatya, 1990; Weinberger & Starkey, 1994).

Coding began by determining the play type that the focal child engaged in during the majority of each 15-second interval (Appendix A, Section I). When the focal child's



play type was coded as either *functional*, *constructive play*, or *non-play behavior*, the coder skipped the coding sections on the complexity of pretend play (Section II) and moved to the sections on materials used by focal child (Section III).

When the focal child's play type was coded as *pretend play*, the complexity of pretend play was coded by rating four elements of pretend play (Section II). Each of these four elements was rated on a scale of 1 to 3 that reflects the degree of increasing complexity in *interactions*, *object use*, *themes*, and *role transformation*, and represents a continuum from conventional, simplistic, or limited to imaginary, elaborated, or extensive. The complexity of pretend play within each interval was determined by summing the score for each of the four elements of pretend play (*interactions*, *object use*, *themes*, and *role transformation*). The complexity score per interval ranged from 4 to 12. Then, an average score across all intervals was calculated and used in analyses.

In several of the analyses, this complexity score was used as a continuous variable. An additional variable, *level of pretend play complexity*, was created as a categorical variable for other analyses.

*Level of pretend play complexity.* The level of pretend play complexity variable was created based on the complexity scores. The complexity score within each interval was recoded to form a hierarchy from low to high: low level of complexity (complexity scores between 4 and 6), moderate level of complexity (complexity scores between 7 and 9), and high level of complexity (complexity scores between 10 and 12). The intervals that did not have a complexity score were recoded as missing.

### *Individual Child Characteristics*

*Age and gender.* The information on participating children's age in months and gender was obtained from the class roster that the center director provided.

*Language competence.* A norm-referenced language assessment tool, the Expressive Vocabulary Test (Williams, 1997), was used to assess children's expressive vocabulary (labeling) and word retrieval (synonyms). There are 38 items for labeling and 152 items for synonyms. High internal reliabilities (e.g., split half methods [median = .91]), coefficient alpha [median = .95], and test-retest [range from .77 to .90 by age group]) and validity (content, construct, criterion-related, correlations with other measures of oral language and cognitive ability) are documented.

A trained assessor showed individual children stimulus pictures while reading the examiner's instructions from the self-standing easel. Children learned how to respond to the labeling items and synonym items through several examples and practice. The administration took about 10 to 25 minutes per child, depending on the age of the child. Once the lowest basal and the highest ceiling were decided, the total raw score was calculated and was converted to the standard score (with a mean of 100 and a standard deviation of 15). Standard scores from all children who had parental consent were obtained except for two children of Hispanic origin. The assessor was not able to establish the lowest basal with those Hispanic children due to their limited vocabulary knowledge. Data from these two children were left as missing. For all other focal children, standard scores were used in the analyses.

*Social skills.* A teacher rating scale of children's social skills, the Penn Interactive Peer Play Scale (PIPPS, McWayne, Sekino, Hampton, & Fantuzzo, 2002), was used. This instrument is a validated measure, especially for low-income minority Head Start children (Fantuzzo et al., 1995). The evidence for construct validity and reliability is reported from a series of factor analyses and confirmatory analyses, high internal consistency (Cronbach's alphas = .76), and high inter-rater reliability (.88) (Fantuzzo et al., 1995; Milfort & Greenfield, 2002). The lead teacher completed the PIPPS for all children who had parental consent before the data collection of pretend play began.

The PIPPS has 32 items and three subscales (Play Interaction, Play Disruption, and Play Disconnection) and assesses the level of children's social skills as well as the strength and the weakness of children's peer relationship in the context of free play behaviors and interactions (see Appendix C). Each item was scored on a 4-point Likert scale, ranging from never (score 1) to always (score 4). The raw scores across items for each of the three subscales were summed and were converted to standard T-scores (with a mean of 50 and a standard deviation of 10) in each peer play dimension using the standard score conversion tables. It took about 10 minutes per child for the teacher to complete the scale. The Play Interaction subscale scores were used in the analyses. The Play Interaction subscale is comprised of items 1, 6, 13, 19, 21, 23, 25, 29, and 31. An internal consistency coefficient (Cronbach's alphas) for the Play Interaction subscale was reported as .89 in previous research (Fantuzzo et al., 1995; Milfort & Greenfield, 2002) and was .86 in the present study.

### *Contextual Characteristics*

*Materials.* The structure of materials used by the focal child was coded from the video recordings (Appendix A, Section III). For each 15-second interval, the materials used were coded as *low-structure* (minimally structured or open-ended play materials such as paints, paper, clay, simple rag-dolls, dress-up clothes, blocks, cardboard boxes, pipe cleaners, wooden-spool dolls), *high-structure* (ready-made or highly structured play materials such as fully outfitted dolls, ready-made costumes, completely constructed buildings, fully furnished doll house), or *no materials used*. When multiple play materials were used by the focal child in a 15 second interval, the coder selected the material that was used during the majority of the 15 second interval and was most relevant to the focal child's play behavior or verbalization.

A score for the proportion of *use of low-structure material* was used in the analyses. This score was calculated by summing the number of intervals in which *low-structure materials* were used by the focal child and dividing by the total number of intervals in which any material was used. Thus, this proportion (which ranges from 0 to 1.0) represents how many times *low-structure materials* were used relative to the total intervals that contained materials.

*Peer involvement.* The number and gender of children who were present with the focal child (within 3 feet) were coded from the video recordings (Appendix A, Section IV). When there were no peers present with the focal child during a 15 second interval, it was coded as *no peer present*. To code peer involvement, the coders selected a peer who was present (within 3 feet) and engaged with the focal child in the same activity for the

longest duration of time and coded the highest level of peer involvement demonstrated by the peer during each 15 second interval (Section V). Peer involvement was coded into one of four mutually exclusive categories, *not involved*, *other*, *join/comment on play*, or *elaboration/extension*. In the analyses, the level of peer involvement was coded with numeric values (1 = *not involved*, 2 = *other*, 3 = *join/comment on play*, 4 = *elaboration/extension*). An average score across all intervals was calculated and used in analyses.

*Teacher involvement.* Teacher involvement was coded from the video recordings (Appendix A. Section VI) into one of five mutually exclusive categories: *not present*, *other*, *directives*, *join/comment on play*, or *elaboration/extension*. The coder selected the teacher who was engaged with the focal child in the same activity for the longest duration of time and coded the highest level of teacher involvement demonstrated by the teacher during each 15 second interval. In the analyses, the level of teacher involvement was coded with numeric values (1 = *not present* or *other*, 2 = *directives*, 3 = *join/comment on play*, 4 = *elaboration/extension*) and used in the analyses. An average score across all intervals was calculated and used in analyses.

*Social configuration.* The social configuration variable was created by recoding two variables, *peer presence* and *teacher involvement*. The *social configuration* categories included *focal child alone*, *play with peers*, and *play with peers and a teacher*.

#### *Pretend Play Survey*

A pretend play survey was adapted from previous research on the attitude of teachers toward social pretend play (Smilansky & Shefatya, 1990) and was revised after

several pilot tests (see Appendix D). Two lead teachers, one assistant teacher, and 23 student teachers participated in the pilot tests. The survey is divided into two sections. The first section asks demographic information about teachers including the level of education and the number of years of teaching experience in early childhood education. The second section asks about teachers' beliefs on the importance of pretend play and their educational training and practices as it relates to pretend play. The purpose of this survey was to gain insight on teacher's attitude towards children's pretend play as well as their relevant classroom practices. The descriptive information from this survey was used to better understand the relationship between low-income children's pretend play and the level of teacher involvement.

### Analytic Approach

#### *Preliminary Analyses*

Frequencies, plots, and histograms were examined to check missing data, outliers, linearity, and normality (Tabachnick & Fidell, 2001). Two contextual variables, *use of low-structure materials* and *level of teacher involvement*, were positively skewed and needed to be transformed. For the *use of low-structure materials* variable, a logarithmic transformation was completed and analyses were run using both the transformed and non-transformed variables. Because the results were identical, the non-transformed variable will be used to report the results for ease of interpretation. For *level of teacher involvement* variable, three transformations (logarithm, square, and square root) were performed but did not bring the distribution closer to normal. Thus, *level of teacher involvement* variable was dropped from further analyses.

From the data, intervals that contained other types of play (non-play behavior, functional play, constructive play) than pretend play were excluded (see Table 5). Then, the data were collapsed by child, averaging scores of all variables, so that the child is the unit of the analysis. Classroom differences were examined by comparing classroom demographics, individual child characteristics, materials in the play areas, and classroom arrangement. Age and gender differences on independent variables were also examined.

#### *Analyses for Research Questions*

Correlations were run between individual factors, contextual factors, and outcome variables. Stepwise and hierarchical regression analyses were used to examine individual, contextual, and combined predictors of the complexity of pretend play. A repeated measures MANOVA was conducted to investigate the associations between the level of pretend play complexity and contextual variables. Lastly, a repeated measures ANOVA was run to investigate the association between the complexity of pretend play and social configuration.

## CHAPTER V

### RESULTS

#### Preliminary Analyses Results

##### *Classroom Differences*

Classroom demographics are shown in Tables 2 and 3. Teacher education, teacher experience, group size, teacher-child ratio, and gender composition as well as participating children's age, gender, language competence, and social skills were, in general, similar across the 6 classrooms. The Checklist for Play Materials available in different play areas (Appendix B) also revealed that the classrooms were very similar in play materials, furniture, and classroom arrangement. All six classrooms had center areas and dramatic-play areas that were located in the corner of the classroom. The dramatic-play area in all six classrooms had a play kitchen with table, chairs, refrigerator, stove, sink, sofa, and cabinets. The play materials in the dramatic area in all six classrooms included dolls, doll beds, dress-up clothes, puppets, food items, utensils, dishes, telephones, and cleaning tools (brooms, mops, dust brushes). Other areas in all six classrooms were very similar in terms of classroom arrangement (center areas), furniture, and materials. Based upon the similarities across the classrooms, it was determined that the data could be aggregated and analyzed by child.



### *Gender Differences*

In order to establish that the associations between the complexity of pretend play and the set of individual variables and the set of contextual variables were not due to gender, two one-way multivariate analysis of variance (MANOVA) were conducted by gender. Hotelling's  $T^2$  statistics were produced, which examined the differences in mean vectors of the set of individual variables and the set of contextual variables between males and females. No significant differences were found between males and females on the set of individual variables: age, language competence, and social skills. No significant differences were found between males and females on the set of contextual variables: use of low-structure materials, level of peer involvement, and peer language competence. Males and females appeared similar on the independent variables in the present study. Therefore, gender was not used as a control variable in the analyses.

### *Age Differences*

Two one-way MANOVAs were conducted to determine the influence of child age on mean vectors of the set of individual variables and the set of contextual variables. The focal children were divided into three groups: Children below the 33<sup>rd</sup> percentile in age ( $n = 15$ ), children between the 33<sup>rd</sup> and the 66<sup>th</sup> percentile in age ( $n = 15$ ), and children above the 66<sup>th</sup> percentile in age ( $n = 17$ ). No significant differences were found among the three age groups on the set of individual variables: gender, language competence, and social skills. No significant differences were found among the three age groups on the set of contextual variables: low-structure materials, level of peer involvement, and peer language competence. There seemed to be no differences among the three groups on the

independent variables in the present study. Therefore, age was not used as a control variable in the analyses.

## Descriptive Data and Correlations

### *Descriptive Statistics of Predictor Variables and Outcome Variables*

Descriptive information on the predictor variables (individual child characteristics and contextual characteristics) and outcome variables (complexity of pretend play) are displayed in Table 6. Focal children's language competence mean score (93.96) indicated a lower level of language competence than the average level (100) obtained by the children in the standardization population. The focal children's social skills mean score indicated an average level of social skills during play time. The focal children's average social skills score (51.79) is similar to the average score (50) obtained by Head Start children in the norm population.

On average, focal children used more high-structure materials (86%) than low-structure materials (14%) when they used materials while engaging in pretend play. Peer involvement was at a moderate level. On average, peers either showed behaviors that were not directly relevant to focal children's pretend play or joined or commented on focal children's pretend play (mean score was 2.60 on a scale of 1 to 4). Peer language competence average score (94.84) indicated it was lower than the average level (100) obtained by children in the standardization population. Teacher involvement was at a low level in the current study. On average, teachers were either not involved or demonstrated behaviors that were not directly relevant to focal children's pretend play (mean score was 1.53 on a scale of 1 to 4). The social configuration was a categorical variable. On

average, children played alone 22.4 % of the time, played with peers 55.7% of the time, and played with peers and a teacher 21.9 % of the time.

The complexity of pretend play mean score indicated that focal children were at the moderate level of complexity in pretend play. The mean score for the complexity of pretend play was 7.1 on a scale of 4 to 12. The level of pretend play complexity was a categorical variable. On average, children engaged in low level of pretend play complexity 36.4% of the time, moderate level of pretend play complexity 51.1% of the time, and high level of pretend play complexity 12.5% of the time.

### *Correlations*

Correlations between individual factors, contextual factors, and outcome variables are displayed in Table 7. Individual child characteristics were not significantly correlated with the complexity of pretend play. All of the contextual characteristics (low-structure materials, level of peer involvement, and peer language competence) were positively related to the complexity of pretend play. In other words, children who played with low-structure materials, with peers who were involved in the play at a higher level (providing suggestions, elaboration, or extension), and with peers who had higher language competence were more likely to engage in complex pretend play.

### Hypothesis Testing

#### *Individual Child Characteristics Associated with Complexity of Pretend Play*

A stepwise multiple regression analysis was conducted to evaluate how well individual factors (age, gender, language competence, and social skills) predicted the complexity of pretend play (Research question #1). Hypothesis 1 states that focal child

age, gender, language competence, and social skills in combination will significantly predict the complexity of pretend play.

The results are reported in Table 8. Individual characteristics (focal child age, gender, language competence, and social skills) were entered as a single block to predict complexity of pretend play. The results indicated that focal child gender and social skills were excluded and only focal child age and language competence were entered into the model. The adjusted  $R^2$  was .08,  $F(2, 42) = 2.98$ ,  $p < .06$ . Univariate results indicated a trend that the focal children with higher language competence were more likely to engage in complex pretend play than children with lower language competence. Focal child age was not related to the complexity of pretend play.

#### *Contextual Characteristics associated with Complexity of Pretend Play*

A stepwise multiple regression analysis was conducted to evaluate how well contextual factors (use of low-structure materials, level of peer involvement, and peer language competence) predicted the complexity of pretend play. Hypothesis 2 states that low-structure materials, level of peer involvement, and peer language competence in combination will significantly predict the complexity of pretend play.

The results are reported in Table 9. Contextual characteristics (use of low-structure materials, level of peer involvement, and peer language competence) were entered as a single block to predict complexity of pretend play. The results indicated that low-structure materials was excluded and level of peer involvement and peer language competence were entered into the model. The adjusted  $R^2$  was .51,  $F(2, 44) = 24.6$ ,  $p < .001$ . Univariate results indicated that children who played with peers who were involved

in the play at a higher level and peers who had higher language competence were more likely to engage in complex pretend play.

*Post-hoc analysis: Contextual characteristics associated with level of pretend play complexity.* Because the results from the above regression analysis indicated an overall association between the complexity of pretend play and the contextual variables, a post-hoc analysis was conducted in order to evaluate how those contextual variables were associated when children are at different levels of pretend play complexity. The post-hoc analysis focused on the differences in the contextual variables when children played in low, moderate, or high levels of pretend play complexity. Frequencies of different levels of pretend play complexity are reported in Table 10. Twenty children were excluded from the analysis because they did not have data in at least four intervals per category (low, moderate, or high levels of pretend play complexity). It was decided that at least four observations per category were needed to ensure that the analysis would run adequately.

A repeated measures one-way MANOVA analysis was run and results are displayed in Table 11. Statistically significant differences were found among the three levels of pretend play complexity on contextual variables (Wilks'  $\Lambda = .13$ ,  $F(6, 100) = 29.13$ ,  $p = .0001$ ). Tukey's Studentized Range (HSD) post-hoc test for use of low-structure materials indicated that the mean for high levels of pretend play complexity ( $M = .38$ ) differed significantly from the means for moderate ( $M = .15$ ) and for low ( $M = .07$ ) levels of pretend play complexity. These results suggest that playing with low-structure materials did not make differences for children who engaged in low or moderate levels of pretend play complexity, but made differences for children who engaged in high level of

pretend play complexity. Tukey's Studentized Range (HSD) post-hoc test for level of peer involvement indicated that the mean for all levels of pretend play complexity differed significantly: High level pretend play complexity ( $M = 3.33$ ), moderate level of pretend play complexity ( $M = 3.06$ ), and low level of pretend play complexity ( $M = 1.80$ ). These results suggest that the higher the level of peer involvement, the more complex level of pretend play children were likely to engage in. Tukey's Studentized Range (HSD) post-hoc test for peer language competence indicated that the mean for high level of pretend play complexity ( $M = 98.63$ ) differed significantly from the means for moderate ( $M = 95.76$ ) and for low ( $M = 94.26$ ) levels of pretend play complexity. These results suggest that playing with peers who had a higher level of language competence did not make a difference for children who engaged in low or moderate levels of pretend play complexity, but did make a difference for children who engaged in high levels of pretend play complexity.

#### *Combined Characteristics Associated with Complexity of Pretend Play*

A hierarchical regression analysis was conducted to evaluate how well combined factors (individual factors and contextual factors) predicted the complexity of pretend play. Hypothesis 3 states that the combination of individual and contextual factors will show greater predictive power for the complexity of pretend play than the factors entered separately.

Results are reported in Table 12. Focal child language competence was entered into the model first as the first block with a forced entry method. Next, level of peer involvement and peer language competence were entered into the model as the second

block with a stepwise method. Focal child age and use of low-structure materials were eliminated from analysis because they were not significantly correlated with the complexity of pretend play in the previous analyses. Focal child language competence accounted for 6% of the variance ( $p < .05$ ). This suggested that when the focal child had higher language competence, he or she was likely to engage in more complex pretend play. When level of peer involvement and peer language competence were entered in the second step, peer language competence was excluded and only level of peer involvement was entered into the model. Level of peer involvement accounted for 40% of the variance ( $p < .001$ ) and was positively related to the complexity of pretend play. The adjusted  $R^2$  for the final model was .50,  $F(3, 41) = 15.72, p < .001$ . Level of peer involvement and peer language competence were positively related to the complexity of pretend play.

#### *Complexity of Pretend Play and Social Configuration*

A repeated measures one-way ANOVA was conducted to examine whether the complexity of pretend play differed as a function of social configuration. Hypothesis 4 states that the complexity of children's pretend play will increase as focal children play in different social configurations: Complexity will be lowest while children are playing alone, next while playing with peers, and highest while playing with peers and a teacher. Twenty children were excluded from the analysis because they did not have data in at least four intervals per category. It was decided that at least four observations per category were needed to ensure that the analysis would run adequately.

Results are reported in Table 13. Statistically significant differences were found among the three levels of pretend play complexity on contextual variables,  $F(2, 26) =$

194.81,  $p < .0001$ . Tukey's Studentized Range (HSD) post-hoc test for social configurations indicated that the mean for playing alone ( $M = 4.59$ ) differed significantly from the means for playing with peers ( $M = 7.78$ ) and for playing with peers and a teacher ( $M = 7.94$ ). These results suggest that children who played alone were likely to engage in the least complex pretend play, and there were no significant differences in the complexity of pretend play between children who played with peers only and children who played with peers and a teacher.

#### Descriptive Information about Teacher Involvement

Due to positive skewness, the teacher involvement variable was dropped from the analyses. However, given the theoretical and practical importance of teacher involvement in children's pretend play in the preschool setting, descriptive information about teacher involvement in the present study is presented below.

#### *Descriptive Information of Teacher Involvement*

Descriptive data of teacher involvement are presented in Table 14. The data were obtained based on the number of intervals in which the level of teacher involvement was coded as *directives*, *join/comment on play*, or *elaboration/extension*. Teachers' overall participation in children's pretend play in the present study was low (21.9%). However, when teachers were involved in children's pretend play, they engaged in the play at the highest level (*elaboration/extension*) more than half of the time (56.4%), followed by the moderate level (*join/comment on play*) (37%), and then the lowest level (*directives*) (6.6%). In other words, teachers in the present study were not involved in children's pretend play 79.1% of the time, but once they were engaged in pretend play with focal



children, they demonstrated higher levels of involvement than lower levels. A clustered bar chart displays the percentage of each level of pretend play complexity within the three level of teacher involvement (see Figure 1).

#### *Teacher Beliefs about Pretend Play and Level of Teacher Involvement*

The descriptive information on teacher beliefs about pretend play was based on the pretend play survey. All teachers (12 females) in the present study believed that pretend play provides opportunity for children to develop primarily language (e.g. using verbal expressions and vocabulary building) and social skills (e.g. making friends, collaboration with peers, and developing negotiation skills). Thus, all participating teachers set up the schedule and classroom arrangement to ensure that children had sufficient time (two hours of free play time per day, usually for one hour in the morning and one hour in the afternoon) and place (dramatic play or housekeeping area) to engage in pretend play. However, their beliefs about the level of teacher's involvement in pretend play (Survey item number 6) were vague (unsure of teachers' role), passive (waiting until children need interventions to prevent them from harming themselves or others, redirecting children's negative behaviors, or providing new materials to children), or limited to emotional support (providing comfortable zone for shy children). Several teachers even strongly expressed their opposition to teacher involvement in pretend play ("Children do not need to learn how to play from teachers since it's their natural ability." "Children learn it on their own. They should develop themselves on their own." "Dramatic play should be a time when children are allowed to be creative." "They should be able to engage in pretend play the way they want to. Pretend cannot be taught. They

have to learn on their own.”). By doing so, they insisted, children have the freedom to express themselves, expand their imagination, and develop independence. A majority of teachers (8 out of 12 teachers or 67%) also indicated that they had not received any formal training on how to facilitate children’s pretend play.

## CHAPTER VI

### DISCUSSION

#### Summary of Purpose

The purpose of the present study was to investigate individual and contextual factors that are associated with the complexity of pretend play for low-income preschool children. This study aimed to address several gaps in the literature on children's pretend play. First, within-group variations among low-income children's pretend play was examined through exploring individual and contextual factors that are associated with the complexity of pretend play in Head Start classrooms. Second, the contributory influences of combined factors (individual and contextual factors together) on low-income children's pretend play was addressed. Third, the association between the complexity of pretend play and social factors that were unexamined in the previous literature, such as social configuration of the play group, the level of involvement of play partners, and peer language competence, was investigated.

#### Summary of Findings

For the prediction of the complexity of pretend play, the findings suggest that a combination of individual factors (age, gender, language competence, and social skills) did not strongly predict the complexity of pretend play. The findings suggest a trend that focal children with higher language competence were more likely to engage in more complex pretend play.

On the other hand, a combination of contextual factors (use of low-structure materials, level of peer involvement, and peer language competence) strongly predicted the complexity of children's pretend play. Those contextual factors had been identified separately in the previous research (Dunn & Dale, 1984; Howes & Farver, 1987; McLoyd, 1983; Pulaski, 1970; Trawick-Smith, 1990; Youngblade & Dunn, 1995) but had not been examined together in low-income children's naturalistic preschool settings. In the present study, 51% of the variance of the complexity of pretend play was accounted for by the linear combination of two contextual factors, level of peer involvement and peer language competence. The findings suggest that children who played with peers who were involved in the play at a higher level and peers who had higher language competence were more likely to engage in more complex pretend play. It was also found that the level of peer involvement had the stronger importance in the prediction of the complexity of pretend play than did peer language competence.

A post-hoc analysis that examined the differences in contextual variables when children played in low, moderate, and high levels of pretend play complexity revealed that playing with low-structure materials made a difference between children who engaged in high levels of pretend play complexity and children who engage in low or moderate levels of pretend play complexity. As consistent with previous findings, level of peer involvement made a difference among all levels of pretend play complexity. In other words, the higher the level of peer involvement, the higher level of pretend play complexity children were likely to engage in. As for peer language complexity, playing with peers who had higher levels of language competence did not make a difference

between low or moderate levels of pretend play complexity, but did make a difference for children who engaged in high levels of pretend play complexity.

The associations between the complexity of pretend play and combined factors were also examined. The findings suggest that a combination of individual factors (focal child language competence) and contextual factors (level of peer involvement and peer language competence) strongly predicted the complexity of low-income children's pretend play. In the present study, 50% of the variance of the complexity of pretend play was accounted for by the linear combination of one individual factor and two contextual factors. More specifically, it was found that level of peer involvement had the strongest importance in the prediction of the complexity of pretend play, followed by peer language competence, and focal child language competence.

Finally, the associations between the complexity of pretend play and social configuration of the play group were also examined. The present study found that the complexity of pretend play differed when children played alone compared to when the children played with play partners (either played with peers only or played with peers and a teacher). More specifically, the findings suggest that children who played alone were likely to engage in the least complex pretend play while there were no significant differences in the complexity of pretend play between children who played with peers only and children who played with peers and a teacher. The following section discusses the implications of the findings of the present study.

## The Role of Peers in Children's Pretend Play

The role of peers in the present study seemed to be the most prominent one in the complexity of children's pretend play in Head Start classrooms. The findings suggest that the level of peer involvement in play, peer language competence, and the play group involving peers have the strongest associations with the complexity of pretend play. As Vygotsky (1978) proposed in the concept of the "zone of proximal development," children seemed to engage in complex pretend play when playing with peers who showed higher levels of language competence and higher level of involvement (elaboration or extension). Consistent with previous research findings that investigated the relationships between the complexity of pretend play and peer influences (Dunn & Dale, 1984; Howes & Farver, 1987; Youngblade & Dunn, 1995), children in the present study engaged in higher quality (more complex) pretend play when peers were more involved and had a higher level of language competence. Other research (Connolly & Doyle, 1984; Rubenstein & Howes, 1976) that investigated the effect of peer influences (peer familiarity, peer presence, and peer interaction pattern) on different types of children's play has found a positive link between peer role and children's play development.

From the results of the hierarchical regression analysis of combined factors on the complexity of pretend play, it also appears that level of peer involvement and peer language competence had more importance in the prediction of the complexity of pretend play than focal child language competence. However, the present study design did not allow for investigation of the direction of influences. It is possible that peers who were more involved and had higher language competence helped focal children to engage in

more complex pretend play. It could also be the case that focal children with higher language competence were more able to engage peers to interact at a higher involvement level. Finally, more complex pretend play overall could lead to a higher level of peer involvement. A different study design that involves the identification of the person who initiates children's pretend play or different analyses that could determine the sequence of play interactions would help in clarifying this question.

It was also unexpected that there were no differences in the associations between two social configurations, playing with peers only and playing with peers and a teacher, and the complexity of pretend play. It may be explained partly by very limited teacher involvement in children's pretend play in the present study. It may also be that peers were in a better position to initiate and sustain more complex pretend play than teachers who have multiple responsibilities during the play. For example, teachers in preschool classrooms usually have to monitor not only the play situation in the center area, but also other centers and activities in the whole class. Teachers are easily interrupted by many other demands in the class and this may impede their full involvement in children's play. On the other hand, peers at this age not only have the intrinsic motivation to play with one another, but also are expected to learn to play with others during early childhood (Howes, 1987; Maguire & Dunn, 1997). Therefore, it is conceivable that more opportunities given to children to interact with one another in play situations during early childhood and societal expectations for them to engage in and sustain the play with other peers may have led peers to be as equally important play partners as teachers.

## The Role of Play Materials

The role of play materials in early childhood education has long been studied. More specifically, the quantity (few versus many), familiarity (new versus familiar), and structure (low versus high structure) of play materials in the early childhood learning environment have been the foci of research for the past decades (Rubin et al., 1983). Consistent with previous research (McLoyd, 1983; Pulaski, 1970; Trawick-Smith, 1990), the findings from the present study suggest that children who used low-structure play materials were more likely to engage in more complex pretend play.

Theorists and researchers have suggested different explanations for the positive link between low-structure materials and the complexity of pretend play. According to Smilansky and Shefatya (1990), children use play materials differently depending on the type of play in which they engage. For example, children may be interested in the physical properties of play material (e.g., how it feels when I touch it, what it does and how it works, what I can make with it, etc.) while engaging in functional play or constructive play. In pretend play, Smilansky and Shefatya maintain, children are interested in play materials only when they find the materials to be useful for their enactment of role play or themes. In other words, the focus of their interests in pretend play is not in the material itself but in acting out the roles or themes with the material (e.g., we need something to ride on to go to the park, can we use this broom to ride on and fly to the park?). They further suggest that for children younger than age 3, high-structure (realistic) materials are important as triggers to initiate pretend play whereas older children can ignore the physical properties of the material and use low-structure



materials as they wish (e.g., pretending a box is a typewriter or putting some chairs together and pretending to drive a bus or a fire truck).

Vygotsky (1967, 1978) also suggested that pretend play provides a context where preschool-age children can separate meanings from an object through the use of a substitute object. For example, when a child uses a stick (low-structure material) to substitute for a real horse to ride on it, he is separating the meaning of 'horse' from a real horse and using a stick to represent the idea of riding a horse. For Vygotsky, the stick serves as a pivotal object which allows the child to be free from the constraints of the immediate situation. Other researchers who directly investigated the relationship between the structure of play materials and the amount and complexity of pretend play (Fein, 1975, 1981; McGhee, Ethridge, & Benz, 1984; McLoyd, 1983; Philips, 1945; Pulaski, 1970) also found that high-structure materials were associated with the frequency of the pretend play for younger children (3-year-olds or younger) whereas low-structure materials elicited a greater variety of themes and more complex pretend play for older children (preschool age and older). Taken together, children's increasing ability to substitute low-structure materials to represent ideas or thoughts seems to be closely connected to their ability to engage in more complex pretend play during early childhood.

#### Limited Teacher Involvement and Teacher Beliefs

Teachers' overall participation in children's pretend play in the present study was low across the classrooms. However, descriptive information on teacher involvement indicated that when teachers were involved they tended to show higher levels of teacher involvement (*join/comment on play* and *elaboration/extension*) than lower levels of

teacher involvement (*directives*). In addition, pretend play survey results revealed that limited teacher involvement in children's pretend play appears to be directly related to their beliefs about child development and the role of the teacher in facilitating children's pretend play. Teachers seemed to believe that children learn a variety of skills in different developmental domains by engaging in play in general, but their beliefs about the nature of pretend play appeared to prevent them from actively engaging in pretend play. In other words, teachers in the present study seemed to believe that pretend play is a specific type of play that children should independently initiate and sustain. Teacher beliefs about the level of teacher involvement in children's pretend play may be related to their lack of educational training on the assessment and facilitation of children's pretend play. A majority of teachers reported that they had not learned how to assess and facilitate children's pretend play during their previous education to become a preschool teacher.

A few researchers who have examined the contribution of adults to young children's pretend play offered rather surprising arguments. Two prominent pretend play researchers maintained that there has been little support in empirical studies for the role of more skilled play partners on the development of children's pretend play (Fein & Fryer, 1995a, 1995b). They suggest that young children's play is of an innate nature and may not be learned directly from adult intervention or, in a broader sense, from the larger society or culture. Their universalistic views on the development of children's pretend play are well reflected in their conclusive remarks: "If pretense reflects a crucial human competence, its early development will not depend on the whims or values of parents, families, or societies" (p. 380). Other researchers suggested positive views on the role of

adults on children's pretend play (Bodrova & Leong, 1996; Fiese, 1990; Slade, 1987a, 1987b; Smolucha & Smolucha, 1998). In an extensive review of literature on the role of adults and social interactions on children's pretend play, Smolucha and Smolucha (1998) maintained that Vygotskian "language-based play interactions" (p. 52) could enhance young children's cognitive development. Perhaps, those opposing perspectives on adults' role in children's pretend play along with the findings of the present study warrant further investigation.

### Language Competence

When individual factors (focal child age, gender, language competence, and social skills) and contextual factors (low-structure materials, level of peer involvement, peer language competence) were combined into a regression model, the findings of the present study indicated that peer language competence was a significant predictor whereas focal child language competence was not significant in predicting the complexity of pretend play. In addition, the findings that support the association between the least complex pretend play and a social configuration of play group, child playing alone, seemed to have implications for the children's language competence and their pretend play complexity.

As discussed earlier, Vygotsky (1978) focused more on a child's potential to learn through social interactions with more skilled members of the society (the concept of the zone of proximal development) rather than the child's acquired knowledge. The findings of the present study seem to indicate that the focal child's language competence, which reflects the individual child's static acquired knowledge on vocabulary, might not be the

best indicator or predictor of the children's ability to engage in more complex pretend play. Rather, opportunities for children to verbally express their ideas in social contexts might be more in line with Vygotsky's views on language and thought development. In other words, the association between the least complex pretend play and social configuration, children who played alone, might have been explained by the lack of opportunities for children to interact with others in a social context or verbally express themselves to others. By the same token, the association between the complexity of children's pretend play and peer language competence might have been a reflection of more opportunities for children to interact with peers who are linguistically advanced.

Vygotsky viewed play as a context for children to develop and organize thought through verbal mediation. Although the mechanism of how language-mediated activity changed the structure of human cognition, or aided cognitive development, was not clearly explained by Vygotsky or has not been explicitly investigated by other researchers, the findings of the present study suggest a dynamic interaction between language and thought development that may occur within the pretend play context during early childhood.

#### Limitations

Although the present study provides some important insights on pretend play, several limitations should be noted. First, the measurement of children's social skills was based on teacher ratings. It is probable that teachers may have not uniformly remembered different aspects of children's play behaviors in a reliable manner. Second, other possible predictors of pretend play such as child's temperament or peers' and adults' personal

qualities (Bornstein & Tamis-LeMonda, 1995) were not considered. It is possible that those predictors may have better explained the within-group variation of low-income children. Third, potential confounding factors from the family (mother's education level, child-rearing beliefs and practice, siblings, etc.) were not addressed. In other words, it may have not been sufficient to measure the complexity of children's pretend play in classrooms without considering possible contextual factors from their families. Fourth, the lack of associations between individual characteristics (age and gender) and the complexity of pretend play might stem from limited sample size in the present study. Fifth, more advanced data analyses (Raudenbush & Bryk, 2002) that take hierarchical or nested data (children in the present study were from six different classrooms in five different centers) into account might have been useful in refining the associations between the complexity of pretend play and individual and contextual factors. Sixth, the video recording may have prevented children or teachers from displaying their typical involvement in pretend play. Seventh, a teacher interview on their beliefs about children's pretend play and their role would have been informative. Lastly, no causal relationship can be drawn from this observational study.

### Conclusions and Implications

The present study examined the associations between the complexity of children's pretend play and individual and contextual characteristics in Head Start classrooms. Level of peer involvement and peer language competence were the most significant factors in the prediction of the complexity of pretend play. These findings lead to several implications which might help to promote an optimal environment for complex pretend

play in classroom settings. Teachers, for example, may be able to observe children's interaction patterns during pretend play and help provide a social context that would create a zone of proximal development for different children. For example, for some children who play alone most of the time, the teacher could help them to interact with others by inviting them into a play scene or designating interesting roles for them to become actively engaged in play with others. Vygotsky described the pretend play situation as a context where children can learn how to yield their own wishes in order to sustain play with others. For some children who display lower or immature levels of pretend play, the teacher may use mixed-ability groupings so that more able or mature peers provide scaffolding during the free play time.

Use of low-structure materials were also related to the level of pretend play complexity. Previous research suggests that preschool children, especially for children age 4 and 5, may benefit from playing with low-structure materials during pretend play. Low-structure materials may encourage children to represent their ideas in symbolic ways, which could lead to more abstract thinking and language development.

Limited teacher involvement in children's pretend play did not permit statistical analyses, but the descriptive information obtained from teacher surveys indicated a link between teachers' beliefs and the level of their involvement in children's pretend play. Overall, the teachers in the present study did not seem to believe that teacher involvement was important for children's pretend play behaviors and thus did not engage very often with the children in these activities. Teacher education programs may need to be more intentional in helping teachers understand not only the value of children's pretend play,

but also how to set up the classroom environment to support pretend play and how to effectively facilitate children's play (e.g., active interaction with children, providing interventions, using mixed-ability play group for children with different level of skills, suggesting play strategies, etc.). Students will likely need training and practice to recognize the balance between intervening too much so the play behaviors become adult-directed and intervening too little so opportunities for growth are missed.

In terms of future research, studies which include different combinations of individual and contextual factors than the ones included in the present study would be advantageous. As discussed in the limitation section, a variety of family factors could be used as valid contextual variables or as moderating or mediating variables. A longitudinal study design would also help us understand how the complexity of pretend play develops and changes over time. Examining the development of pretend play in children and linking these findings to various outcomes in school settings would strengthen the importance of promoting pretend play during the early years.

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## Appendix A. Pretend Play Coding Sheet

### I. Play Type

1. Non-Play Behavior (**npb**): Not involved in any play behavior; wandering around; observe others without direct involvement in play; transition from one activity to another; fighting or aggressive behaviors; teacher directed activity including small group project or table activities, games, etc.
2. Functional (**fun**): Simple repetitive muscle movements; physical activity (e.g., running; chasing; manipulating an objects for exploration)
3. Constructive (**con**): Constructs or creates something; hypothesizing or predicting (e.g., build a house or a road with blocks)
4. Pretend Play (**ptd**): Acts out in “as if” mode; involves object substitution; creates imaginary roles and situations (e.g., a cash register used as a typewriter; a stick used as a horse, role play)

### II. Complexity of Pretend Play

#### 1. Interactions

- a. 1 = No interaction or very slight interaction, verbal or non-verbal; play interaction is mostly parallel or solitary (**in1**)
- b. 2 = Moderate interaction; the child’s play does not always require the presence of the play partner; play is mostly associative (**in2**)
- c. 3 = Truly reciprocal role-play; interactions are an integral part of the play behavior; play is primarily cooperative (**in3**)

#### 2. Object Use

- a. 1 = No object use; object use is replica; objects used in ways in which their forms suggest (plate used as plate) (**ob1**)
- b. 2 = Object use is sometimes replica, but more often elaboration; objects are used in imaginative ways (i.e., plate used as steering wheel) (**ob2**)
- c. 3 = Object use is primarily elaboration, including use of imaginary or invented objects (**ob3**)



### 3. Themes

- a. 1 = Never introduces theme; themes not developed; themes are always reality based (**tm1**)
- b. 2 = Themes are sometimes elaborated and new elements introduced into reality based themes (**tm2**)
- c. 3 = Extensive and very imaginative use of theme; often fantasy based (**tm3**)

### 4. Role Transformation

- a. 1 = Role play is present, but not elaborated; mostly stereotypic or reality based (**rt1**)
- b. 2 = Role play is more elaborated; child enacts different roles; role play may be sometimes fantasy based (**rt2**)
- c. 3 = Role play is highly elaborated; multiple voices, postures, and gestures; often fantasy based (**rt3**)

## III. Materials Used by Focal Child

1. No Materials Used by Focal Child (**fnm**)
2. High Structure (**fch**): Ready-made or highly structured play materials (e.g., fully outfitted dolls; ready-made costumes; completely constructed buildings; fully furnished doll house)
3. Low Structure (**fel**): Minimally structured or open-ended play materials (e.g., paints and paper; clay; simple rag dolls; dress-up clothes; blocks; cardboard boxes; pipe cleaners; wooden spool dolls)

## IV. Peer Presence and Gender

Code the number and the gender of children who are present with the focal child (within 3 feet).

1. No Peer Present (**npp**)
2. Male Peers Only (**mpo**)
  - Modifier 1: Number of Male Peers (**nmp**)

3. Female Peers Only (**fpo**)
  - Modifier 1: Number of Female Peers (**nfp**)
4. Male and Female Peers Both (**mfb**)
  - Modifier 1: Number of Male Peers (**nmp**)
  - Modifier 2: Number of Female Peers (**nfp**)

#### V. Peer Involvement

Select the peer who is engaged with the focal child in the same activity for the longest duration of time; code the highest level of peer involvement demonstrated by the peer during each 15-second interval

1. Not Involved (**pni**): Peers not involved in the play
2. Other (**pot**): The peer is present, but shows behaviors not relevant to play; show behaviors not identified in the below categories (e.g., negative or aggressive behaviors; fights for play materials, etc.)
3. Join /Comment on Play (**pjc**): The peer becomes engaged in the focal child's play without being explicitly recruited or invited to play; briefly describes, comments, or explains his or her own or the focal child's play (e.g., let's make a farm. this could be a fence for the animals. you'll be the little girl and I'll be the mommy)
4. Elaboration/Extension (**pex**): The peer provides verbal suggestions for play; extends the theme or acts out a complex and reciprocal role; builds on the focal child's ideas and makes them more complex (e.g., we have to go in the car. be careful! the eggs will break!)

#### VI. Teacher Involvement

Select the teacher who is engaged with the focal child in the same activity for the longest duration of time; code the highest level of teacher involvement demonstrated by the teacher during each 15-second interval

1. Not Present (**tnp**): Teacher is not present

2. Other (**tot**): The teachers is present, but shows behaviors not relevant to play; custodial care (e.g., tying shoe; wiping nose, etc.)
3. Directives (**tdr**): The teacher verbally or non-verbally redirects the child's aggressive, negative, or potentially dangerous behaviors; reinforces classroom rules when the child is not following them (e.g., don't do that; frowning, etc.)
4. Join /Comment on Play (**tjc**) : The teacher becomes engaged in the child's play without being explicitly invited to play; briefly describes, comments, or explains his or her own or the focal child's play (e.g., let's make a farm. this could be a fence for the animals; you'll be the little girl and I'll be the mommy)
5. Elaboration/Extension (**tex**): The teacher provides verbal suggestions for play; extends the theme or acts out complex and reciprocal role; builds on the child's ideas and makes them more complex (e.g., we have to go in the car. be careful! the eggs will break!)

## Appendix B. Checklist for Play Materials

Mark play materials or furniture in a “dramatic play area” (A-F) and “other areas” in the classroom (G-K). (Please mark all that apply; Items in parenthesis are examples).

### A. Housekeeping

- Stove     Refrigerator (Ice Cube Trays)     Oven     Kitchen Cabinet
- Cupboard     Utensils (Knives, Spoons, Forks, Serving Spoons)     Foods
- Measuring Cups and Spoons     Table and Chairs     Magazine
- Foods     Telephone     Dishes (Plates, Bowls, Cups, Saucers)
- Sink (Dish Soap, Dish Towel, Towel Rack)
- Cooking Tools (Pots and Pans, Spatula, Whisk, Wooden Spoons)
- Baking Tools (Muffin Trays, Baking Pans, Baking Forms)
- Storage (Sugar Bowl or Small Canister Set)
- Cleaning (Dust Pan, Dust Brush, Broom, Mop)
- Tool Kits (Hammers, Wrenches, Screwdriver, Pliers, Flashlight)
- Decorative (Tablecloth, Placemat, Vases, Flowers, Plants)
- Cleaning (Dust Pan, Dust Brush, Broom, Mop)
- Other (Oven Mitts, Pot Holders, Serving Trays)
- Other \_\_\_\_\_

### B. Baby Supplies

- Baby Dolls     Cribs, Cradles, Beds     Fitted Mattress     Sheets
- Blankets     Pillows     Story books     CD player for sleep-time music
- Rocking Chair     Other \_\_\_\_\_

### C. Puppets

- Finger Puppets     Stick Puppets     Puppets on a String     Hand Puppets
- Puppet Theater     Props for Puppets-Kerchiefs, Small Brooms, Wands
- Colorful materials (Cloth, Curtain fabric)     Other \_\_\_\_\_

### D. Dress-up Clothes

- Night Gowns     Dresses     Shirts     Suits, Vests, and Ties     Scarves
- Skirts     Tops and Blouses     Sweaters and Jackets
- Gloves (Work Gloves, Fancy Gloves, Driving Gloves)     Purses and Bags
- Hats (Dress Hats, Sport Hats, Construction Hats, Firefighting Hats)
- Costumes (Ballerina, Fairy, Prince or Princess, Doctors or Nurses, Police Officer, Firefighters)     Shoes (Boots, Sandals, Running Shoes)     Vanity with Mirror
- Mirrors (Small Size)     Closets for Clothes
- Other \_\_\_\_\_

E. Grocery Store

- Cash Registers  Fruits, Vegetables  Baskets  Shopping Carts
- Other (Aprons, Garbage Can)  Table or Shelves for grocery items
- Store Sign  Other \_\_\_\_\_

F. Others

- Boxes of various sizes to turn into cars or something with other purposes
- Newspapers  Plastic Rope  Construction papers  Crayons  Scissors
- Seasonal additions or Cultural decorations  Beauty supplies  Umbrellas
- Doctors and Nurse Kits (Stethoscope, Ear Instrument, Thermometer, First-Aid Box, Pill bottles, White Cloth)  Beach Items (Beach Balls, Swimming Suits, Goggles)
- Pet supplies (Leashes, Bones, Kitty Cat Ears, Mice for Cats, Balls)  Wagons
- Steering Wheels  Real or Artificial Flowers  Watering Can  Small Rugs
- Hoses, Nozzles, Small Ladders  Other \_\_\_\_\_

G. Block Area

- Wood Blocks of various sizes and shapes  Hollow Blocks  Cubes
- Alphabet Block  Accessories (Animals, People, Vehicles)
- Other \_\_\_\_\_

H. Manipulative

- Puzzles  Beads  Alphabet Block sets  Pegs  Sorting Materials
- Lego  Play Dough  Magnetic Objects  Pattern Blocks
- Other \_\_\_\_\_

I. Art

- Paint  Brush  Construction Paper  Play Dough  Clay
- Drawing Materials (Pencil, Crayons, Chalk, Markers)  Scissors
- Glue Sticks  Masking Tapes  Stapler  Yarn  Cotton Balls
- Other \_\_\_\_\_

J. Music

- Musical Instruments  Tapes and CDs  CD Player  Rhythm Sticks
- Song Books  Keyboards  Other \_\_\_\_\_

K. Reading

- Fantasy Books  Books about People  Books about Animals
- Books about Science  Flannel Story Board  Recorded Stories and Songs
- Other \_\_\_\_\_

Appendix C. Penn Interactive Peer Play Scale

In the past few months, indicate how much you have observed the following behaviors in this child during free play by filling in the appropriate circle.

	NEVER	SELDOM	OFTEN	ALWAYS
1. Helps other children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Starts fights and arguments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Is rejected by others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Does not take turns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Hovers outside play group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Shares toys with other children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Withdraws	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Demands to be in charge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Wanders aimlessly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Rejects the play ideas of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Is ignored by others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Tattles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Helps settle peer conflicts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Destroys others' things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Disagrees without fighting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Refuses to play when invited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	NEVER	SELDOM	OFTEN	ALWAYS
17. Needs help to start playing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Verbally offends others (name calling)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Directs other's action politely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Cries, whines, shows temper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Encourages others to join play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Grabs others' things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Comforts others who are hurt or sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Confused in play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Verbalizes stories during play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Needs teacher's direction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Disrupts play of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Seems unhappy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Shows positive emotions during play (e.g., smiles, laughs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Is physically aggressive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Shows creativity in making up stories and activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Disrupts class during transitions from one activity to another	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Appendix D. Pretend Play Survey

**Pretend Play Survey**

---

**A. Date:** \_\_\_\_\_

**B. Your Name:** \_\_\_\_\_

**C. What is your position?**

Student Teacher     Assistant Teacher     Lead Teacher     Other: \_\_\_\_\_

**D. Years of Experience as a teacher of Early Childhood Education:**

\_\_\_ years and \_\_\_ months

**E. Education Level: (Please check the highest level)**

- H.S. Diploma
- NC Credential/CDA
- Some College Coursework
- 1 yr. Community College Diploma
- 2yr. AA Degree
- 2 yr. AAS Degree
- 4 yr. Degree in Other Field than Early Childhood Education/ Child Development
- 4 yr. Degree in Early Childhood Education/ Child Development
- Some Graduate Coursework in Early Childhood Education/ Child Development
- Graduate Degree

**F. How many boys and girls in your class?** Boys \_\_\_\_\_ Girls \_\_\_\_\_

1. Is there a “dramatic play” center in your classroom?

- No                       Yes

2. Time(s) of day when the children can play in the “dramatic play” center (Please check all that apply).

- 7-8 am     8-9 am     9-10 am     10-11 am     11- noon  
 2-3 pm     3-4 pm     4-5 pm     5-6 pm  
 Other Time Frame \_\_\_\_\_

3. Do you think pretend (or dramatic) play will promote children’s development? If so, in what areas and how? Please describe as fully as possible on the next page.

Language Development

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---

Cognitive Development

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---

Social (Skills) Development

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---

Physical Development

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---

---

Emotional Development

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Aesthetics (Appreciation of Beauty: Expressiveness and Creativity Development)

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4. Do you expect all the children in your class to play in the dramatic play center at some time during the day or week? Why or why not?

5. Do you think that the play activities of children in the “dramatic play” center or other play centers in the classroom help prepare them to succeed in school? Why or why not? If so, in what way?

6. Do you think teachers should help children learn how to engage in “pretend (or dramatic) play”? Why or why not?

7. During your training to become a teacher, did any of the courses you have taken talk about the importance of pretend (or dramatic) play? List the courses.

8. During your training to become a teacher, did you learn how to develop a child's ability to engage in pretend (or dramatic) play?

9. During your education to become a teacher, did you learn how to assess or evaluate children's "pretend (or dramatic) play" ability? List some examples.

**Please make sure you have answered all questions. Thank you very much for your time.**

Appendix E. Tables

Table 1

Descriptive Demographic Information of the Participants

Variable	<i>N</i>	%	<i>M</i>	<i>SD</i>	Minimum	Maximum
<b>Child Age (months)</b>			55.7	5.48	43	64
<b>Child Gender</b>						
Male	23	49				
Female	24	51				
<b>Child Ethnicity</b>						
African-American	42	89.4				
Hispanic	5	10.6				
<b>Teacher Gender</b>						
Male	0	0				
Female	12	100				
<b>Teacher Ethnicity</b>						
African-American	11	91.7				
Caucasian	1	8.3				
<b>Teacher Education</b>						
NC Credential	4	33				
2 year. AA Degree	2	17				
4 year Degree in Other Field	4	33				
4 year Degree in ECE	2	17				
<b>Teacher Experience (years)</b>			9.9	12	1	38

Table 2

Descriptive Demographic Information of the Participating Classrooms

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
<b>Teacher Education</b>						
Lead Teacher	2 yr. AA degree	NC Credential	BA in ECE	BA Other Field	BA Other Field	BA Other Field
Assistant Teacher	NC Credential	NC Credential	BA in ECE	BA Other Field	NC Credential	2 yr. AA Degree
<b>Teacher Experience</b>						
Lead Teacher	12 yrs	6 yrs	30 yrs	5 yrs	10 yrs	1 yr
Assistant Teacher	1 yr	1 yr	38 yrs	10 yrs	2 yrs	3 yrs
<b>Group Size</b>						
	18	19	20	17	19	20
<b>Teacher-Child Ratio</b>						
	1 : 9	1 : 9.5	1 : 10	1 : 8.5	1 : 9.5	1 : 10
<b>Class Gender Composition</b>						
Boys	8	9	9	12	7	13
Girls	10	10	11	5	12	7

Table 3

## Descriptive Demographic Information of the Participants in Participating Classrooms

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
<b>Child Age (months)</b>						
N	8	8	9	8	9	5
Mean	55.38	58	57.78	47.25	58.11	58.2
<b>Child Gender</b>						
Boys	4	4	4	5	3	3
Girls	4	4	5	3	6	2
<b>Child Language Competence</b>						
N	8	8	9	8	9	5
Mean	97.63	90.75	92.75	94.86	93.5	94.4
<b>Child Social Skills</b>						
N	8	8	9	8	9	5
Mean	51.75	56.00	48.88	51.12	46.56	60.80

Table 4

Inter-Rater Reliability (Cohen's Kappa)

Variables	<i>M</i>
Play Type	.97
Complexity of Pretend Play	.81
Interactions	.73
Object Use	.81
Themes	.90
Role Transformation	.79
Material Structure	.83
Play Grouping	.93
Level of Peer Involvement	.84
Level of Teacher Involvement	.85



Table 5

Frequency and Percentage of Play Type (Number of Intervals)

Play Type	Frequency	%
Non Play Behavior	424	11.3
Functional Play	170	4.5
Constructive Play	28	.7
Pretend Play	3138	83.5
Total	3760	100

Table 6

## Descriptive Statistics of Predictor and Outcome Variables

Variables	<i>N</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum	Possible Range
Predictor Variables (Individual Child Characteristics)						
Focal Child Age	47	55.72	5.48	43	64	42 - 66
Focal Child Gender	47	1.51	.51	1	2	1 - 2
Focal Child Language Competence	45	93.96	9.26	77	118	55 - 145
Focal Child Social Skills	47	51.79	8.32	26	66	10 - 73
Predictor Variables (Contextual Characteristics)						
Use of Low-Structure Materials	47	.14	.15	.00	.61	0 - 1
Level of Peer Involvement	47	2.60	.46	1.79	3.53	1 - 4
Peer Language Competence	47	94.84	5.13	84.30	111.20	55 - 145
Level of Teacher Involvement*	47	1.53	.63	1	2.98	1 - 4
Outcome Variables						
Complexity of Pretend Play	47	7.10	.95	5.52	8.96	4 - 12

\* Dropped from further analyses due to positive skewness

Table 7

Correlations Between Complexity of Pretend Play and Individual Child Characteristics and Contextual Characteristics

Variable	Complexity
Individual Child Characteristics	
Focal Child Age	.20
Focal Child Language Competence	.25
Focal Child Gender	.22
Focal Child Social Skills	.10
Contextual Characteristics	
Use of Low-Structure Materials	.48**
Level of Peer Involvement	.68**
Peer Language Competence	.39**

\*  $p < .05$

\*\*  $p < .01$

Table 8

Stepwise Regression Analysis of Individual Characteristics on Complexity of Pretend Play, N = 45

Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
				.06
Focal Child Language Competence	.03	.02	.30*	
Focal Child Age	.04	.03	.25	

Note. Adjusted  $R^2 = .08$ ,  $F(2, 42) = 2.98$ ,  $p = .06$

\*  $p < .10$

Table 9

Stepwise Regression Analysis of Contextual Characteristics on Complexity of Pretend Play, N = 47

Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
				.06
Level of Peer Involvement	1.29	.22	.63 ***	
Peer Language Competence	.05	.02	.26*	

Note. Adjusted  $R^2 = .51$ ,  $F(2, 44) = 24.6$ ,  $p < .001$

\*  $p < .05$

\*\*\*  $p < .001$

Table 10

Frequency of Level of Pretend Play Complexity (Average Number of Intervals)

	None	Low	Moderate	High	Total
Boys (N = 23)	15.3 (19.1%)	26 (32.5%)	32.1 (40.1%)	6.6 (8.3%)	80
Girls (N = 24)	11.3 (14.1%)	22.7 (28.4%)	36 (45%)	10 (12.5%)	80
Total (N = 47)	13.2 (16.5%)	24.3 (30.4%)	34.1 (42.6%)	8.4 (10.5%)	80

Table 11

Means of Contextual Characteristics by Level of Pretend Play Complexity, N = 27

	Level of Pretend Play Complexity					
	Low		Moderate		High	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Use of Low-Structure Materials	.07	.15	.15	.15	.38	.35
Level of Peer Involvement	1.80	.59	3.06	.41	3.33	.56
Peer Language Competence	94.26	5.95	95.76	4.9	98.63	7.63

Table 12

Hierarchical Regression Analysis of Combined Characteristics on Complexity of Pretend Play, N = 45

Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Step 1				.06
Focal Child Language Competence	.03	.02	.25	
Step 2				.40
Focal Child Language Competence	.01	.01	.06	
Level of Peer Involvement	1.34	.24	.66***	
Step 3				.07
Focal Child Language Competence	.01	.01	.10	
Level of Peer Involvement	1.20	.23	.59***	
Peer Language Competence	.05	.02	.28*	

Note. Adjusted  $R^2$  for the Final Model = .50,  $F(3, 41) = 15.72, p < .001$

\*  $p < .05$

\*\*\*  $p < .001$



Table 13

Means of Complexity of Pretend Play by Social Configurations, N = 27

	Social Configurations					
	Playing alone		Playing with Peers		Playing with Peers and Teachers	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Complexity of Pretend Play	4.59	.59	7.78	1.00	7.94	1.02

Table 14

Descriptive information on Teacher Involvement (Total Number of Intervals = 686)

		Level of Pretend Play Complexity			Total
		Low	Moderate	High	
Directives	Count	18	22	5	45
	% within Level of Pretend Play Complexity	15.0%	4.7%	5.0%	6.6%
Join/Comment on Play	Count	69	163	22	254
	% within Level of Pretend Play Complexity	57.5%	35.0%	22.0%	37.0%
Elaboration/Extension	Count	33	281	73	387
	% within Level of Pretend Play Complexity	27.5%	60.3%	73.0%	56.4%
<b>Total</b>	Count	120	466	100	686
	% within Teacher Involvement	17.5%	67.9%	14.6%	100%

Figure 1

Percentage of the Level of Pretend Play Complexity within the Level of Teacher Involvement

