

THE EFFECT OF SITUATIONAL CONTEXT ON PLAYFUL BEHAVIORS
OF YOUNG PRESCHOOL CHILDREN

by

Arleen Theresa Dodd

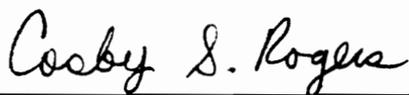
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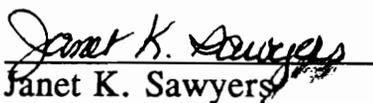
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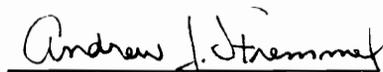
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(Abstract)

This study was designed to assess the effect of situational context on the playful behaviors of young preschool children ages 18 to 24 months. Playfulness was defined as a psychological construct involving the disposition of play (Rogers, Meeks, Impara, & Frary, 1987). Playful behaviors were observed and coded from videotapes of toddlers interacting with a teacher/experimenter in both assisted play and direct instruction conditions. The research question addressed was as follows: What is the effect of situational context (teacher interaction style) on the playful behaviors of toddlers as measured by the Playful Behaviors Observation Inventory (PBOI)?

Data were analyzed using a 2 x 2 x 2 (Condition x Order x Gender) analysis of variance with repeated measures. In the direct instruction condition, children accomplished goals in more varied ways, invented more uses of objects, and attended longer than in the assisted play condition. Those who received the direct instruction condition first also persisted longer at goals than those who received the

assisted play condition first. Although pretend play rarely occurred, the number of times children engaged in pretend play was also higher in the direct instruction condition than in the assisted play condition. Results of PBOI scales correlated with age showed an interesting pattern which was not significant but indicated a relationship between age and playfulness.

Findings suggest that toddlers are more playful in direct instruction than in assisted play. However, it is difficult to determine from this study if direct instruction is developmentally appropriate for very young preschool children since the children in the late sensorimotor period are in a transitional period of development. It is possible that direct instruction was beneficial because of the age of the children in this study. Toddlers learn through repetition and imitation and need more direction. Results indicate that context has an important role and that imitation, not play, is characteristic of toddlers during the late sensorimotor period.

Dedicated with love to my parents, Donald and Theresa Dodd

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CHAPTER 1

Introduction

Vygotsky's (1967) theory has been used by early childhood researchers who seek to delineate the role of the adult in the education of young children. According to Vygotsky's (1967) theory, higher mental processes are acquired through social interaction in which the more competent adult or peer scaffolds development by assisting the less competent partner. Vygotsky delineated the zone of proximal development as being the arena in which the young child can be successful with the assistance of a more competent individual. The amount of assistance within the zone of proximal development is affected by the nature of the situational context and the judgement of the competence levels of participating individuals. Some situations require more direct intervention and instruction than others. When the child is required to accommodate to adult demands for competent behavior, the process is similar to accommodation in Piagetian terms. On the other hand, situational contexts which provide little modeling or instruction and require little accommodation would approximate assimilation as defined by Piaget.

In Piaget's (1962) theory, the predominance of assimilation over accommodation comprises the definitional

criterion of play. A synthesis of Vygotskian and Piagetian perspectives might produce a model in which the zone of proximal development is seen as a continuum in which the adult influence varies from direct instruction to assisted play. Direct instruction assumes a predominance of accommodation while assisted play assumes a predominance of assimilation.

Early childhood educators must make continuous decisions about the extent of direct instruction to be used in a specific context. For many years researchers have debated the merit of adult directed instruction versus child-centered educational practices (Ames, 1992; Cohen, 1994; Fantuzzo, King, & Heller, 1992; Landry, Garner, Pirie, & Swank, 1994; Sawyer, Graham, & Harris, 1992; Skinner & Belmont, 1993). For example, Bereiter and Engelmann (1966) advocated direct programmed instruction while Developmentally Appropriate Practice (Bredekamp, 1987) considered play a valid mode for learning. Research in the field of early childhood education would be advanced by research which addresses variables which are relevant to the appropriateness of various levels of direct instruction.

PROBLEM STATEMENT

Play is one of the basic tenets of Developmentally Appropriate Practice (DAP) (Bredekamp, 1987) which delineates the accepted standards for best practices in

early childhood education. Therefore, professionals in the field of early childhood education promote play as a valid and essential mode of learning for young children (Bredekamp, 1987; Rogers & Sawyers, 1988). The value of play in facilitating development has been documented in numerous studies (for reviews see Rogers & Sawyers, 1988; Rubin, Fein, & Vandenberg, 1983). Further, numerous studies have delineated the contextual variables which support play, including time, safety, freedom of choice, and psychological warmth (Rubin et al., 1983). Finally, the dispositional criteria usually associated with play have been documented (Rubin et al., 1983; Smith & Vollstedt, 1985). Nearly all research on the play of young children has examined play as a social, cognitive, or physical behavior (Parten, 1932; Rubin, 1980; Smilansky, 1968). Very little research exists on contextual variables that facilitate the disposition to play. This seems a major oversight since Rubin et al. (1983) included the disposition as one of the three dimensions which define play.

The dispositional qualities of play, known as playfulness, have been studied to assess their relationships to outcome variables such as creativity (Barnett, 1990, 1991a, 1991b; Lieberman, 1965, 1977; Taylor, 1992). Previous researchers have assessed child characteristics (e.g., cognitive ability and gender) that contribute to

individual differences in children's playfulness (Barnett & Kleiber, 1982). However, the effect of interactional context on playfulness has been studied only in terms of home environment (Barnett & Kleiber, 1984). No studies of the effect of the non-home environment on playfulness were found in the literature.

Most of the research on adult-child play interaction has been conducted on mother-child dyads (Bradley, Mundfrom, Whiteside, Casey, & Barnett, 1994; Fiese, 1990; Granlinski & Kopp, 1993; Kuczynski & Kochanska, 1995; Mosier & Rogoff, 1994; Youngblade & Dunn, 1995). Berk and Winsler (1995) and Howes (1992) pointed out the need for research on young children participating in play with adults in out of home situations. They advocate participation which is responsive to the child's behavior. Levenstein and O'Hara (1993) also provided evidence for a positive effect of a responsive, playful interaction style as did Stipek et al. (1995). Although the results of the Stipek et al. (1995) study favored the child-centered contexts, they suggested that, "the debate about early childhood education be framed in less black-and-white terms than is currently often framed in the literature" (p. 220). Results of their research suggested that some skills may be taught effectively using didactic methods. They concluded that, "the particular goal needs to be considered in making instructional decisions

because different approaches may be better suited for achieving different goals" (Stipek et al., 1995, p. 220).

Since professionals must draw on their expertise to make judgements about the appropriate amount of internal versus external direction, and since the literature on this area is sparse and inconclusive research is needed to advance the state of the appropriate context for supporting optimal child development.

In conclusion four major problem areas of the research on learning contexts were identified: (1) the focus has been on play behaviors rather than playfulness as a disposition (2) the focus has been on older preschool children rather than toddlers (3) the available playfulness research has been on the home context rather than the out-of-home context and (4) the focus has been on the mother-child dyad rather than non-maternal adult play partners. Therefore, the present study was designed to address these obvious gaps in research by studying the playfulness of toddlers participating in a situational context with a non-maternal adult play partner.

THEORETICAL FRAMEWORK

Piaget (1970) provided a comprehensive and heuristic theory of cognitive development. According to Piaget (1981), intelligence results from adaptation of schemes via assimilation and accommodation. J. McVicker Hunt's book

Intelligence and Experience (1961) alluded to the need to provide an optimal match between cognitive tasks and schemas in order to facilitate cognitive development. Yet, Piaget's concept of the simultaneous occurrence of assimilation and accommodation has been largely overlooked in applications. For example, in an effort to advance the level of cognitive development of delayed children, researchers (Clunies-Ross, 1979; Hayden & Haring, 1977) have adapted a paradigm which aims for acceleration of the accommodation of schemas while minimizing the role of assimilation. However, theoretical implications for play would indicate that acceleration would be an antithesis of play. Play can not be accelerated for this implies the external manipulation of play. This would therefore point to a question of the appropriateness of acceleration.

Piaget (1962) defined of play as, "essentially assimilation, or the primacy of assimilation over accommodation" (p. 87). In contrast, "if there is primacy of accommodation over assimilation, the activity tends to become imitation" (Piaget, 1962, p. 5). This model relies to a large extent on a teaching strategy which involves modeling the desired schemas for the child. If the child imitates the schema, it is interpreted as successful adaptation. Thus, according to this model, accommodation has a substantially greater role in cognitive development

than does assimilation. However, if play has an important role in adaptation, as experts have advocated, then increased attention to the assimilative function of play is warranted.

Given Piaget's dynamic view of adaptation as an ever changing ratio of assimilation and accommodation, and given that play is defined as the predominance of assimilation over accommodation (Piaget, 1962), it is logical to conclude that even when an action is more assimilative than accommodative (playful), some degree of adaptation is involved. Therefore, Piaget's theory can logically be interpreted as supporting a facilitative role of play in cognitive development.

Given the theoretical stance that play can contribute to development, that the key document in the field, Developmentally Appropriate Practice (Bredekamp, 1987) promotes play as a valid and essential mode of learning for young children, and that there is little research to guide practitioners in structuring playful encounters with very young children, the goal of this study was to investigate adult interaction styles and outcomes in terms of children's playful dispositions in a specific context. An experimental study was designed to examine the contrasting styles of direct instruction versus assisted play. It was anticipated that results from this study would be useful in designing

appropriate teaching strategies for toddlers in a context of adult-child interactions in the classroom. This research helps fill the void of information on adult-child play interaction with non-family figures.

RESEARCH QUESTION

This study was based on a dynamic view of the dispositional qualities of play and was designed to assess the effect of situational context on the playful behaviors of young preschool children in the late sensorimotor and early symbolic stages of development, approximately 18 to 24 months. Situational context was defined by teacher interaction styles of direct instruction and assisted play. Playful behaviors of children interacting with a stimulus and an adult were observed and videotaped in assisted play and direct instruction settings to address the following research question: What is the effect of situational context, specifically direct instruction versus assisted play, on playful behaviors of young preschool children as measured by the Playful Behaviors Observation Inventory (PBOI)?

CHAPTER 2

Review of Literature

Theories of Play

Classic theories of play, which originated in the nineteenth and early twentieth centuries attempted to explain why play exists and what purpose it serves. Rubin, Fein, and Vandenberg (1983), grouped the theories as surplus energy (Schiller, 1954; Spencer, 1873), recreation (Lazarus, 1883), recapitulation (Hall, 1920) and practice (Groos, 1898, 1901). The surplus energy and recreation theories viewed play as a means of energy regulation. Recapitulation (Hall, 1920) and practice theories (Groos, 1898, 1901) explained play in terms of instincts.

Modern theories of play are concerned with play's role in child development and with antecedent conditions that lead to play (Ellis, 1973). According to psychoanalytic theories, play helps a child to master traumatic experiences (Erikson, 1950) and serves the role of wish fulfillment (Freud, 1961). According to Piaget's (1962) cognitive theory, a child practices and consolidates previously learned skills. Vygotsky (1967) theorized that play promotes symbolic thought by separating meaning from objects and actions. Other cognitive theorists such as Bruner (1972) and Sutton-Smith (1967) emphasized the role of play in promoting creativity and flexibility.

Defining Play

A definition of play that is widely accepted in the field of child development is that of Rubin et al., (1983). They defined play as, "a behavioral disposition that occurs in describable and reproduceable contexts that is manifest in a variety of observable behaviors" (p. 698). Each of these defining criteria will be reviewed to clarify the construct of playfulness as it pertains to this study.

Play as Observable Behavior

Several researchers have developed taxonomies of behavior which they described as distinct types of play. For example, Piaget (1962) describes three types of play: (a) practice play, (b) symbolic play, and (c) games with rules. Parten (1932) delineated levels of social involvement, e.g., solitary, parallel, associative, and cooperative. Specifying particular types of play provides observable criteria for analysis (Rubin et al., 1983). However, behaviors observed in a particular setting may reflect the effects of the context as well as the developmental level of the play.

Play as Context

Rubin et al. (1983) stated, "Play as context expresses what adults of a given culture hold to be play, as well as the degree to which they believe that specific arrangements for play are necessary or desirable" (p. 700). From their

comprehensive review of empirical research on play they concluded that the essential elements of the context include the following: (a) familiar peers, (b) familiar interesting toys, (c) freedom within limits, (d) minimal adult intrusion, (e) comfortable, safe, friendly environment, and (f) scheduling to prevent hunger, fatigue, and bodily stress (Rubin et al., 1983).

Play as a Disposition

Six interrelated dispositional factors that characterize play serve to distinguish play according to the organism's orientation to goals, motives, physical stimuli, rules, non-literal behavior, and degree of involvement (Rubin et al., 1983). The first factor that serves to distinguish the disposition of play is intrinsic motivation. Intrinsic motivation refers to the child's inner state and locus of control. Play has been defined as an intrinsically motivated behavior not governed by appetitive drive (Berlyne, 1960) or a goal external to the behavior.

Play has also been described as a neural state (Spencer, 1873) or mental condition that provides pleasure. Stated more simply, play is not externally motivated by drives like hunger or by goals like wealth and power (Johnson, Christie, & Yawkey, 1987). The motivation for play comes from within the individual, and activities are carried out for sheer pleasure (Johnson et al., 1987).

The second feature characterizing the play disposition is attention to means rather than ends, i.e., play focuses on the process not the product. Goals of the play activity change according to what is of interest to the player. Process-dominated activity, not present during exploration, occurs after mastery of a skill (Collard, 1979; Hutt, 1979).

The next characteristic of play also distinguishes it from exploratory behavior. Berlyne (1960) differentiated between two types of exploration: specific and diversive. Specific exploration was directed toward identification and determination of the functional characteristics of a stimulus. Diverse exploration was variation-seeking activity in which activity was directed toward generating new and different sources of stimulation. According to Hutt (1966), the difference between the two types of exploration was that specific exploration seeks to answer the question "What does this object do?" while diversive exploration seeks to answer the question, "What can I do with this object?" (p. 76). Exploration occurs when the organism is unfamiliar with an object whereas play begins after mastery when the organism is familiar with the object (Hutt, 1966).

Play is dominated by the organism--not the object. In play the child guides the behavior by engaging in playful activities which utilize past experiences and dominates what

can and will be done (Hutt, 1979).

The fourth disposition of play is pretense. Play is carried out as if the activity were real. This nonliterality allows the child to dispense with the instrumental meanings of objects and behaviors to explore new meanings (Fein, 1981).

The fifth disposition of play is relative freedom from externally imposed rules. This feature differentiates play from games with rules and distinguishes play as being flexible (Garvey, 1977). In differentiating between play and game with rules, Garvey (1977), emphasized that while play is often orderly, internally consistent, and subject to regulation and participant correction, it lacks game-like characteristics. However, Piaget (1962), viewed games with rules as being developmentally related to earlier play behavior.

Finally, play requires the player to be actively engaged in an activity. This characteristic has been used to contrast play with daydreaming, lounging, and aimless loafing (Garvey, 1977). However, daydreaming, during which the individual "plays with ideas", has been considered one of the developmental successors to the young child's active involvement with objects, action, and others (Freud, 1959; Klinger, 1971; Smolucha, 1989).

Critiques of Rubin et al.'s criteria

After publication of Rubin et al.'s (1983) review, several scholars evaluated the criteria and suggested alternative views. For example, Johnson et al. (1987) suggested that these last two dispositions of play--freedom from externally imposed rules and active involvement--are too restrictive because they exclude games with rules and daydreaming. They reasoned that games with rules involve following conventional rules and that games become increasingly important as children grow older. They added that daydreaming also becomes more prevalent as children approach adolescence. Adolescents play mentally with ideas rather than externally with words and actions. Smolucha (1989) and C. S. Rogers (personal communication, 1993) proposed that freedom from external rules is closely related to flexibility in social conventions and rule application.

Krasnor and Pepler (1980) suggested that four criteria combined to define play: flexibility, positive affect, intrinsic motivation, and nonliterality. They proposed that while all four criteria might not be present simultaneously, the more criteria present, the more likely the behavior would be identified as play. They concluded, " This component analysis of play encourages a factor analytic approach through which a more precise and refined model could potentially be derived" (p. 86).

Smith and Vollstedt (1985) studied the relationship between play behaviors using the Krasnor and Pepler (1980) criteria and Rubin et al.'s (1983) dispositions of play in an attempt to empirically examine which criteria people used in recognizing play. They reasoned that the terms intrinsic motivation and nonliterality were used in both models to denote the same construct. They also noted that means-ends (Rubin et al., 1983) was distinct from the Krasnor and Pepler (1980) criteria. They interpreted organism-dominated play as similar to means-ends, freedom from external rules as similar to intrinsic motivation, and active engagement as too inclusive to be a useful predictor of play. The five criteria finally selected by Smith and Vollstedt (1985) to be observed were: intrinsic motivation, positive affect, nonliterality, means-ends, and flexibility. In the Smith and Vollstedt (1985) study, seventy subjects were asked to view 30 minute videotapes of preschool children, to rate behaviors, and to select episodes described as play behaviors. Smith and Vollstedt (1985) found that untrained observers could agree reasonably well on what play was and on the five criteria used. No one criteria was found to predict play with certainty, however, nonliterality provided the most confident judgment of play in 91% of the episodes. Means-ends did not appear to add to the accuracy of the judgments. An implied judgment of play was made in more

than 50% of the episodes rated when any combination of two of the traits of nonliterality, positive affect, and flexibility appeared, suggesting that play was recognized as being enjoyable, flexible, and characterized by pretense. They concluded, "This could be considered a tentative definition of play as the term is used ordinarily, although any scientific definition should take account of developmental theories and need not just follow ordinary usage" (p. 1049).

Defining Playfulness

Barnett (1991) summarized Rubin et al.'s (1983) definition of play and stated, "Any measure of play should follow consistently from its definition, laying emphasis on the individual rather than the environment or physical context" (p. 52). Contemporary research on children's play (Barnett, 1990) is beginning to break away from previous research which focused on the child's behaviors and actions. Barnett (1990, 1991a, 1991b) and Rogers et al. (1987, 1991) have suggested that research should focus on play as a characteristic of the individual, i.e. "the playful child, rather than the child at play" (Barnett, 1990, p. 320).

Empirical Studies of Playfulness

Lieberman (1965) was among the first to clearly suggest the existence of the playfulness trait in young children. She was also among the first to design an

instrument for measuring playfulness. Although her studies have been criticized for methodological problems, they were among the first to view play by focusing on the child's personality traits rather than specific play behaviors.

From naturalistic observations of young children, Lieberman (1977) conceptualized playfulness as "the lighthearted quality of play in the young child's activities and, later on, as the combinatorial play essential to imagination and creativity" (p. xi). She proposed that child's play becomes part of personality in later developmental stages. However, she had no theory to explain why some individuals develop playful personalities and others do not. She presented no rationale or theory to explain the mechanism by which individual differences in personality evolved. Barnett and Kleiber (1982, 1984) replicated Lieberman's studies and confirmed the existence of the five playfulness factors with preschoolers. Their findings however, also indicated that the components of playfulness were differentially linked to gender.

Lieberman therefore viewed playfulness as a "qualitative ingredient in play" (1977, p. 6) which arises in familiar physical settings to become the connecting link between play, imagination, and creativity. She also hypothesized that playfulness formed a unitary behavioral disposition.

To assess the relationship between playfulness and creativity, Lieberman (1965) constructed The Playfulness Scale. Playfulness in kindergarten children was operationally defined in terms of five behaviors: physical, social, and cognitive spontaneity; manifest joy; and sense of humor. The scale consisted of five subscales corresponding to the five behavior traits of playfulness. Each scale was subdivided into Part A and Part B referring to the quantity and quality of the trait measured. Part A measured the frequency with which the child exhibited a certain characteristic during play and ranged from very often (5) to very rarely (1). Part B was a qualitative measure of the characteristic and the five point scale ranged from very high (5) to little (1), excellent (5) to poor (1), or very high (5) to very low (1). Descriptive labels and samples of the behavior to be rated were given to ensure greater reliability for the ratings. Two questions not related to the behavior indices required ratings on intelligence and physical attractiveness. Lieberman stated that these two questions were included as a check on validity however she did not offer any specific explanation of how these two questions determine either content, construct, or criterion validity. Barnett (1991b) added, "It is unclear from Lieberman's original research why these latter items are appended, and the replication and extension

studies (Barnett & Kleiber, 1982, 1984) failed to detect any mediating influence and thus to find any purpose for their inclusion" (p. 54).

Lieberman explained the first trait of playfulness, spontaneity, as being difficult to define in behavioral terms and even more difficult to measure. Like play, she had observed that spontaneity occurred in familiar surroundings and was intrinsically motivated. Physical spontaneity focused on coordination and motor activity level during play and included movements and activities such as skipping, hopping, jumping, and rhythmic movements of the whole body or parts. These movements were judged as an indication of exuberance. Social spontaneity referred to the qualities of the child's interaction with others during play and was assessed by flexibility in interaction with the surrounding group structure. For example, joining different groups at play time, becoming part of them and their play activity, and being able to move in and out of these groups. Cognitive spontaneity emphasized the imaginative quality of the child's play and included labeling the play products of clay, sand, or paints, and/or changing them. Also included was the labeling and changing of play roles during dramatic play.

Manifest joy, the second component of playfulness proposed by Lieberman, was explained as being more easily

identifiable when accompanied by physical aspects of behavior. For example, the spontaneous laughter that accompanied the hop, skip, and jump of a kindergartner was identified as manifest joy. Smiling, chuckling, singing, dancing, and positive facial expressions were also indicators of joy.

Sense of humor, the last component of playfulness, was viewed by Lieberman (1977) as being easier than the others to identify. She described it as a "rhyming, gentle teasing--a glint-in-the eye behavior--as well as an ability to see a situation as funny as it pertains to himself/herself or others" (p. 154). Barnett (1991b) added that sense of humor captured the joking, teasing, and clowning that is often characteristic in play.

Further support of the playfulness personality trait was provided by Singer and Singer (1978) and Singer, Singer, and Sherrod (1980). Instead of teacher ratings they gathered behavioral data and used analytic techniques to examine common factors and their underlying correlates. Their research showed that a playfulness factor could be identified and that children who scored high on the playfulness factor also scored high on positive affect, were physically active, showed a high degree of social and imaginative play, and were more verbal than their less playful peers.

Measurement of Playfulness

Barnett (1990) attempted to improve Lieberman's playfulness instrument while preserving the five component dimensions and the general playfulness factor by addressing the problems that raters who used Lieberman's (1965) scale reported. Raters were concerned about the linking of two or more behaviors in one question and the continual switching from one response to another (Barnett, 1991a). For example, the response scale for the qualitative item for each trait sometimes ranged from very high to little or to low, and at other times it ranged from excellent to poor. Barnett (1991a) explained that with only ten items, the constant switching of scales became noticeable and potentially confusing for raters. She concluded that the need for structure, clarification, and refinements to the scales and instrument were apparent.

Barnett (1990) revised Lieberman's (1965) instrument and called it the Children's Playfulness Scale (CPS). It consisted of 23 items designed to measure five playfulness component dimensions (cognitive spontaneity, social spontaneity, physical spontaneity, manifest joy, and sense of humor). Each dimension was measured on an identical five-point Likert-type scale with response categories of sounds exactly like child, sounds a lot like the child, sounds somewhat like the child, sounds a little like the

child, and doesn't sound at all like the child. Statements were used instead of questions and the teacher was asked to indicate the extent to which this was characteristic of the child being rated. For example the statement "The child is physically active during play" rated physical spontaneity and "The child uses unconventional objects in play" was used to assess cognitive spontaneity. Barnett (1991a) explained, "All of the items followed from the definitions originally posed by Lieberman (1965, 1966), from the research on play and its correlates cited previously, and from the factor-analytic findings of the two earlier studies (Barnett & Kleiber, 1982, 1984)" (p. 55).

In designing the CPS, Barnett (1991b) "viewed play as an internal personality construct, as the child's predisposition to engage in playful activities and interactions" (p. 70). She stated, "Playfulness was seen as a relatively simple, reproducible characteristic whose expression cannot be adequately chronicled through the use of observational scales or behavioral categorization codes" (Barnett, 1991b, p. 70).

Barnett (1990) subjected the CPS to extensive reliability and validity testing with 388 preschool children enrolled in several local child-care centers. Two expert panels established face and content validity. Construct validity was assessed through (a) several independent

samples that were used to test further the stability of the factor structure and the generalizability of the CPS and (b) a comparison of the findings of the CPS, with those from other play scales. Internal-consistency reliability was highly satisfactory for each dimension as well as for the overall playfulness factor. Barnett (1990) concluded that the CPS was a reliable and valid measure of a child's internal disposition to bring a playful quality to his or her interactions within the environment. She stated, "whereas existing scales focus primarily on activity based perspectives of play, this instrument focuses on the qualities that the individual child, the player, brings to his or her environment" (p. 333).

Following Rubin et al. (1983), Rogers et al. (1987, 1991) viewed play as a behavior and playfulness as a psychological construct involving individual differences in the dispositions of play. They defined play based on the six dispositions reviewed by Rubin et al. (1983): intrinsic motivation, process orientation, organism domination, nonliterality, freedom from externally imposed rules, and active involvement. They developed the instrument called the Child Behaviors Inventory (CBI) to measure playfulness. The CBI (see Appendix A) is a 31-item questionnaire designed to assess playfulness in children. Items represent the six dispositions of play defined by Rubin et al. (1983). The

scale can be used by parents or teachers to rate children at home or in classrooms. Statements of traits describing playful or externally oriented behaviors are rated from almost never displayed (1) to almost always displayed (6). High scores indicate playful behaviors and low scores indicate externally-oriented behaviors.

Factor analysis was used to determine the content validity of the scale. Two factors emerged: playfulness and externality. Externality referred to the child's tendency to depend on other people or the environment for direction and on non-flexible uses of objects in the environment. Factor 1, playfulness was comprised of 21 of the original items, and Factor 2, externality, was comprised of seven of the original items. Cronbach alpha coefficients were high, ranging from .81 to .94 for playfulness and .62 to .72 for externality (Rogers et al., 1991). Interrater reliability between teachers was $r=.60$ for playfulness but moderate for externality (Rogers et al., 1991).

Results yielded two factors, one representing playfulness and the other called externality which included the disposition to be affected by environmental factors. Rogers et al. found that playfulness could be reliably measured and appeared to be distinct from external dependency. They concluded that the CBI was a valid and reliable instrument for measuring playfulness in children

and that playfulness was a valid construct.

Correlates of Playfulness

After developing the Playfulness Scale, Lieberman sought to assess the relationship between playfulness and creativity. The subjects of Lieberman's study (1965) were 93 kindergarten children (52 boys and 41 girls) from middle-class homes attending one of five private kindergarten classes in New York City schools. The mean age of the children was 5.5 years. Results from the study suggested a unitary trait of playfulness in play and a relationship between the quality of playfulness in children's behavior and divergent-thinking abilities.

Singer and Rummo (1973) also provided some empirical support for the view of playfulness as a personality orientation. They asked preschool teachers to rate 79 children (mean age = 66 months) on a large number of behaviors and factor analyzed their results. Findings suggested that three major factors could be discerned, one of which was playfulness. The attributes that loaded high on the playfulness factor were imaginativeness, a humorous and playful attitude, emotional expressiveness, novelty-seeking, curiosity, openness, and communicativeness. Singer and her colleagues (Singer & Rummo, 1973; Singer & Singer, 1978; Singer et al., 1980) found playfulness to be a stable personality trait in children and demonstrated its

relationship to creativity.

Singer and Rummo (1973) asked teachers to rate young children on a large number of classroom behaviors which they then factor analyzed. Results yielded three major factors one of which they labeled playfulness. Attributes that loaded significantly on this factor were imaginativeness, novelty-seeking, curiosity, openness, and communicativeness. These factors were similar to those suggested by Lieberman (1965, 1977).

Barnett and Kleiber (1982) pointed out the limitations of Lieberman's 1965 study. Their first concern was with the relationship between playfulness, intelligence, and divergent thinking, which have been found to correlate separately with play patterns. Lieberman measured verbal intelligence with the Peabody Picture Vocabulary Test and divergent thinking ability with the Novel Uses Test and found a moderate correlation with measures of playfulness. Lieberman noted that the interpretation of the relationship needs to reflect the influence of mental age. However, Barnett and Kleiber (1982) stated, "no attempt had been made to control for the intelligence factor" (p. 117). Their second concern was with gender differences in play. They stated, "There is considerable evidence to suggest that the nature of play is characteristically different for boys and girls" (p. 117). They also noted that Lieberman (1965) did

not control for the possible influence of differences in the school system or the socioeconomic characteristics of the schools in the study.

Barnett and Kleiber (1982) attempted to address these concerns by replicating Lieberman's 1965 study to determine whether the relationship between playfulness and divergent thinking could be unilaterally posited for both sexes. In addition, they controlled for intelligence as a possible confounding variable. Participants in the study were 106 children from three local preschool/kindergarten classes. Fifty-one children were boys and 55 were girls and they ranged in age from 3.89 to 6.03 years with a mean age of 5.09 years. All children were Caucasian and within the normal range of intelligence. Results of their study were consistent with Lieberman's original study (1965). However, differences were found when the intelligence factor was partialled out: children who were more playful than their peers also performed better on divergent-thinking tasks. Gender differences were also found with girls showing a positive relationship between play and divergent thinking and boys showing a negligible inverse relationship. Barnett and Kleiber (1982) concluded that their study demonstrated clear gender differences which need to be considered in future research.

In 1984 Barnett and Kleiber found that birth order was

related to playfulness for males but not for females. Later-born male children were more playful on all five playfulness traits than first born or "only" male children. In addition, males who were from large families were consistently rated as more playful across all playfulness dimensions. Females from large families were rated as less playful across most playfulness dimensions. Further analysis indicated male children with more sisters showed more playful responses and female children with fewer sisters were regarded as the most playful.

Barnett and Fiscella (1985) assessed differences in play between gifted and nongifted children by focusing on the individual child's internal playful predisposition. They observed social, cognitive, and physical play styles in a variety of play activities and interactions. Subjects in the study were 35 preschool children, 18 boys and 17 girls, from a local child care center. Seven of the boys and eight of the girls were gifted as defined by a score of 130 or above on the Stanford-Binet Preschool Intelligence Test. The nongifted children scored within the average intelligence range based on the same test. The gifted and nongifted were mixed in the classroom and none of the teachers were aware of the intelligence test data. The instrument used to assess playfulness in the study was derived from Lieberman's (1965, 1977) scale. Barnett and

Fiscella (1985) added additional items within each dimension to elaborate on the component definitions resulting in six to seven items per playfulness dimension. The final scale contained 33 items scored on a five-point Likert scale which ranged from sounds exactly like the child to doesn't sound at all like the child. Results supported Lieberman's conceptualization of playfulness as a unitary trait dimension. Additionally, the gifted children were more advanced in certain play styles than their peers and displayed higher levels of imagination and creative playful interactions.

The relationship between playfulness, personality traits and other individual characteristics among children was studied by Barnett (1991a). She justified her study by stating, "It is deemed important to our ongoing exploration of the playfulness quality to understand the factors that might mediate its appearance and to determine the correspondence between these influencing factors found through observations of overt behaviors versus observations of the child more generally across contexts" (p. 373). Subjects in the study were 271 children (127 boys and 144 girls) from seven local childcare centers. The age of the children ranged from 27.1 months to 61.3 months. All of the children were of normal intelligence, were from intact homes where both parents had been present since birth, and were

Caucasian. Barnett used three measures in the study. The first measure was the Children's Playfulness Scale. The second measure assessed the child's other personality traits or characteristics through the use of adjective descriptors. Twenty adjectives which could be inserted in the sentence, "How _____ is the child?" were listed for the rater. The adjectives were: bright, active, affectionate, aggressive, attractive, cheerful, confident, considerate, curious, cute, dependent, disruptive, docile, imaginative, impulsive, mischievous, obedient, responsible, temperamental, and truthful. The third assessment was personal information about the child such as gender, age, parental occupations and income, birth order, number of siblings, and spacing of siblings which was obtained through school records.

Research interests in this study included the nature of playfulness and its relationships with personality traits and the child's individual characteristics. Correlational analyses showed several attributes were related to the global playfulness construct: bright, active, aggressive, cheerful, confident, curious, dependent, imaginative, impulsive, mischievous, and responsible. The characteristics of affectionate, attractive, considerate, cute, disruptive, docile, obedient, temperamental, and truthful were nonsignificant.

Attributes that correlated significantly with physical

spontaneity were active, aggressive, confident, disruptive, docile (negative), impulsive, mischievous, obedient (negative), and temperamental. Affectionate, aggressive, cheerful, confident, considerate, dependent (negative), disruptive (negative), mischievous, and responsible showed significant relationships with social spontaneity. Several descriptors were significantly related to cognitive spontaneity: bright, affectionate, confident, curious, cute, and imaginative. Active, aggressive, attractive, cheerful, confident, docile (negative), imaginative, impulsive, and mischievous descriptors related significantly to manifest joy. The characteristics of bright, confident, curious, dependent (negative), imaginative, mischievous, obedient (negative), responsible, and truthful correlated significantly with sense of humor.

Barnett (1991a) concluded that, "play can be viewed as an integrated part of the child because playfulness shows interrelationships with many other personality characteristics" (p. 384). Gender, age, birth order, and family size resulted in differing play dispositions based on the child's position on these variables (see Barnett & Kleiber, 1984).

Taylor (1992) studied the relationship between playfulness and creativity with a sample of Japanese preschool children. Playfulness was assessed using the

Child Behaviors Inventory (Rogers et al., 1987), teacher interviews, and observations and creativity was measured using the Test for Creative Thinking-Drawing Production (TCT-DP), (Jellen & Urban, 1986) and free drawings. Results indicated no significant relationship between playfulness and creativity in Japanese children. This is in direct contrast to the findings of Lieberman (1965).

Blevins (1987) examined relationships between playfulness and various dimension of temperament which were measured by the Behavioral Style Questionnaire (BSQ), (Thomas & Chess, 1977). She concluded that, "further study is needed to determine if temperament and playfulness are the same construct or if they share the same etiology" (p. 23). However, children who had an "easy" temperament were more likely to be considered playful. An "easy" temperament appeared to be necessary but not sufficient for playfulness to be manifested.

Some studies have found a relationship between playfulness and IQ (Lieberman, 1965; Truhon, 1983). However, in a small sample ($n=35$) of four-year-olds, Harris (1989) found no significant relationship between playfulness as measured by the CBI and IQ as measured by the Wechsler Preschool and Primary Scale of Intelligence (WPPSI), (Wechsler, 1967). With a larger sample ($n=93$) Semanic-Lauth (1990) found significant but low correlations between

cognitive functioning scores on the Wechsler Intelligence Scale for Children-Revised (WISC-R), (Wechsler, 1974) and playfulness. A slight tendency for children of higher IQ to be rated as more playful existed. Further analysis provided evidence that playfulness and IQ were separate traits.

CHAPTER 3

Methodology

This study was designed to assess the effect of teacher interaction on playful behaviors of a sample of young preschool children ages 18 to 24 months. The teacher interaction style was structured to manipulate the context. Playful behaviors of children were observed and videotaped in Assisted Play (AP) and Direct Instruction (DI) conditions.

Population and Sample

Professionals in the field of early childhood education in public and private educational institutions which serve preschool children were contacted by the researcher. The researcher explained the nature of the project and invited participation by parents and their children (see Appendix B). In all cases appropriate administrative approval was obtained before soliciting participation in the study. No identifying information except date of birth, sex, and ethnic background of the children was requested.

The sample included 40 preschool children ages 16 months to 26 months from towns in Montgomery County Virginia. The mean age of the sample was 21 months. The children were from several ethnic groups which included 70% Caucasian, 2.5% African American, 2.5% Hispanic/Latino, 15%

Asian, 2.5% Indian, and 7.5% biracial. The majority of the children were from two parent households. Ninety percent of subjects' parents were married, 7.5% divorced and 2.5% were single. The total family income ranged from less than \$5,000 to \$50,000 with an mean family income of \$25,000 to \$29,000 annually. Parental age ranged from 23 to 42 years with a mean age of 33 years.

The occupation of 37.5% of the subjects' mothers was homemaker, 27.5% were professional/technical, 7.5% were clerical or service workers, 10% were students, 7.5% were middle management, and 7.5% were self employed/business owners. Thirty percent of the subjects' mothers had completed college, 27.5% completed graduate school, 22.5% had some college, 17.5% had some graduate school, and 2.5% had attended a vocational/technical school.

The occupation of the majority of the subjects' fathers (45%) was professional/technical. Among the remainder of the sample, 15% were students; 10% were upper management/executives; 5% tradespersons; 7.5% were middle management; 5% self employed/business owners; 5% were in sales/marketing; 2.5% homemakers; and this item was omitted by 5%. The education level of the subjects' fathers ranged from high school to graduate school. Fifty seven and one half percent had completed graduate school, 15% completed college, 10% some graduate school, 5% high school, 5%

vocational/technical school and 2.5% some college. This item was omitted by 6%.

Parental signature for permission was obtained on a letter of informed consent (see Appendix C) at the research center on the date of observation. Parents were assured that their participation in the study was voluntary, that all information regarding their child would be kept confidential and that results would be reported in group form only.

Instruments

Playful behaviors were observed and coded from videotapes of children participating in the two experimental conditions. The PBOI (see Appendix D) was used to code behaviors. In addition, subjects' parents rated their child's usual playfulness by completing the CBI and were advised to indicate which items they felt were not applicable for their child.

The Child Behaviors Inventory (see Appendix A)

The Child Behaviors Inventory (CBI), a 31-item questionnaire, was designed by Rogers et al. (1987) to assess playfulness in children. Statements of traits describing playful or externally oriented behaviors are rated from almost never displayed (1) to almost always displayed (6). High scores indicate playful behaviors and low scores indicate externally-oriented behaviors.

The CBI has two factors Playfulness and Externality. Factor 1, Playfulness is comprised of 21 of items, and Factor 2, Externality, is comprised of seven residual items. Three additional items are included as a measure of construct validity. Cronbach alpha coefficients range from .81 to .94 for Playfulness and .62 to .72 for Externality (Rogers et al., 1991).

The Playful Behaviors Observation Inventory (PBOI)

The Playful Behaviors Observation Inventory was designed by the researcher for the proposed study and was based on the Child Behaviors Inventory (CBI) which measured dispositions of play (Rogers et al., 1987) (see Appendix A). Of the 31 items in the CBI 21 measured playfulness, seven measured Externality, and three assessed construct validity. The items in the CBI were designed to represent six criteria for playfulness (see Appendix E). The researcher consulted with the primary developer of the CBI scale for input on translating the those items to behavioral indicators of the playfulness traits. Items measuring the same subscale construct and which were found in previous research (see Rogers et al., 1987) to be highly correlated were combined and included as one item on the PBOI.

CBI and PBOI items were as follows:

- CBI Item 1. Always has ideas of things to do.
PBOI Item 1. Frequency of behaviors:

SENSORIMOTOR
CONSTRUCTIVE
SYMBOLIC
GAMES WITH RULES

- CBI Item 4. Explores different ways to accomplish the same end.
PBOI Item 2. Number of different ways child accomplishes goal:

OBJECT PERMANENCE

Behaviors

- opens cover of box but does not obtain figure
- pulls wrap off and obtains figure

OPERATIONAL CAUSALITY

Behaviors

- plays with ball only
- touches experimenter or ball and waits
- gives ball to experimenter
- makes ball squeak manually after demonstration
- makes ball squeak before demonstration

MEANS ENDS

Behaviors

- plays only with stick
- reaches for block, disregarding stick
- plays with stick and block, does not get block through cylinder
- uses stick to push block through cylinder, after demonstration
- uses stick to push block through cylinder, without demonstration

- CBI Item 6. Invents new games.
23. Rearranges situations to come up with novel ones.
24. Once the child has been shown how to do something, he/she creates his/her own way.
PBOI Item 3. Number of inventions of goals:
object permanence
operational causality
means-ends

- CBI Item 9. Uses things his/her own way.
 18. Uses toys/objects only in the way they were designed to be used.
 27. Uses toys/objects in unusual ways.
- PBOI Item 4. Number of different uses of each item:
 ball
 box
 figure
 stick
 block
 cylinder
 cloth
 board
 other _____
- CBI Item 3. Once goal is achieved, stops playing with the object/material.
 11. Enjoys learning new skills.
- PBOI Item 5. Duration of persistence at goal (in seconds):
 object permanence
 operational causality
 means ends
- CBI Item 7. Asks many questions about what to do.
 10. Looks to others to tell him/her what to do.
 12. Works well on his/her own.
- PBOI Item 6. Number of directions/instructions asked as indicated by any of the following:
 stopping
 waiting
 looking at adult
 moving to adult
 communication
 (verbal or gestural)
- CBI Item 13. Enjoys doing things even when there's no purpose.
- PBOI Item 7. Number of times activity repeated once each goal has been met:
 object permanence
 operational causality
 means ends
- CBI Item 5. Needs reinforcement to continue activities.
 8. Seeks approval frequently.
 14. Has fun doing things without worrying how well they turn out.
- PBOI Item 8. Number of times child seeks praise for completed goal:

CBI Item 15. Gets so involved in activity that it is hard to get him/her to quit.

19. Plays eagerly.

20. Plays intently.

30. Gets so involved in an activity that he/she forgets what is going on in the room.

PBOI Item 9. Duration (in seconds) of focused attention as indicated by any of the following:

looking directly at object

maintaining eye contact w/ object

manipulation of object

CBI Item 16. Starts activities for his/her own enjoyment.

PBOI Item 10. Number of times child initiates any activity as indicated by any of the following:

moves toward object

touches object

manipulates object

communicates with adult

(verbal or gestural)

initiates game w/ adult

(using object)

CBI Item 17. Pretends a lot.

PBOI Item 11. Number of times child engages in symbolic play:

object substitution

pretends action

pretends roles

CBI Item 21. Invents variations on stories such as different endings or new characters.

29. Identifies with many characters instead of playing the same role over again.

PBOI Item 12. Number of different roles depicted during symbolic play:

CBI Item 26. Is imaginative.

28. Finds unusual things to do with common objects.

PBOI Item 13. Number of object substitutions (identification of one object for another):

ball

box

figure

block

stick

cylinder

cloth

other _____

Stimulus (See Figure 1)

A stimulus designed by the researcher was used in the study. This multi-level stimulus provided opportunity for exploration and four levels of play (sensorimotor, symbolic, constructive, games-with-rules). It was a wooden board approximately 18 x 17" which had markings for location of a removable sphere, cube, and cylinder. The sphere, cube, and cylinder were chosen since they were basic universal shapes. The cube was represented by a translucent plastic box which contained a small abstract figure constructed of bendable pipe cleaner type material wrapped in a pink terry cloth 10 inch square. A rubber ball (3 11/16" diameter), wooden block (2 3/4" x 2"), and a wooden stick (12" x 7/8") were also provided within but not attached to the stimulus. The abstract figure, block, and stick were chosen since they provide maximum opportunity for object substitution and represent same basic universal geometric solids.

Insert Figure 1 about here

Procedure

The child's caregiver/guardian/parent was be asked to transport the child to the laboratory observation site. Care was taken to schedule children at a time when they were not under stress due to bodily discomforts such as hunger, fatigue, and stress. If a child became ill or showed other signs of distress on the scheduled day, the observation was postponed and rescheduled for a later date or time. Upon arrival at the lab observation site the child and accompanying adult were taken to the playroom and given the following instructions:

"Welcome (name of child). This is a room where boys and girls like you use toys and make things. Here is something for you to use while I (researcher) talk with (accompanying adult)." The experimenter invited the adult to be seated near a table where the stimulus had been placed and in view of the child. The experimenter talked with the adult about the child's interests and allowed the child the opportunity to explore the toy and immediate surroundings. The adult was asked to complete demographic data sheet (see Appendix F) and Child Behaviors Inventory (see Appendix A).

The adult was advised to direct the child back to the experimenter if the child approached the adult and attempted to interact with the adult. The adult was advised to state, "I have some papers to fill out and can not play with you

right now" when the child interacted with the adult.

When the experimenter determined that rapport had been established with the child, the child's attention was directed to table with the stimulus. The child was invited to sit at the table when ready to begin and the experimenter signalled for the videotaping to begin. The child was allowed to sit on parent's lap or stand next to the parent/caregiver during sessions if desired. The author served as the experimenter for all the participants.

The entire procedure took about 20-25 minutes with the following sequence:

- Rapport building (approximately 5 minutes)
- Exploration (5 minutes)
- Assisted play (5 minutes)
- Exploration (5 minutes)
- Direct instruction (5 minutes)

The exploration periods were shortened to two to three minutes after several children became distressed during the five minute periods. The earlier sessions were not retained in the sample.

To test for order effects, half of the sample received the order indicated above. For the other half, the ordering of assisted play and direct instruction was reversed. The order of presentation was determined by the researcher using a coin toss. Sixty percent (24) of the subjects received the direct instruction condition first and 40% (16) received the assisted play condition first.

The following sequence was used during the procedure:

Exploration/Spontaneous Play

The experimenter did not make eye contact with the child and stated, "I have some writing to do. You can use this while I write" giving stimulus to child. If child initiated contact with experimenter, experimenter stated, "You can use this by yourself. I have some writing to do".

Assisted Play Condition (AP)

The researcher made eye contact with child, smiled, and presented stimulus to child. The researcher showed the stimulus to the child and stated, "I want to see what you can do with these things." If the child reached out and made an attempt to explore the stimulus, the experimenter waited for child to initiate and imitated the child's exploration. The experimenter then waited for the child to initiate again. If child repeated the procedure the adult imitated again and extended the action by introducing one element of change such as an additional behavior or sound. The adult waited for the child to emit additional behaviors. If the behavior was new, the adult imitated it and varied it by repeating the sequence of imitate, wait, vary.

Direct Instruction Condition (DI)

The experimenter pointed to ball and said, "This is a nubby", gave the correct pronunciation, "Nub-bee" and asked the child, "Can you say that"? The experimenter responded

to correct pronunciation with, "Nubby, that's right". Incorrect pronunciation was responded to with, "Try again, Nubby. Can you say that?" until the child pronounced the word correctly. After correct pronunciation or if child did not make any attempt to verbalize, the experimenter then said, "The nubby goes here" and asked the child, "Can you put the nubby where it belongs"? Experimenter responded to correct placement of the nubby with, "Good, that's right" and incorrect placement with, "Try again, the nubby goes here" demonstrating correct placement. After correct placement the experimenter stated, "Look the nubby squeaks. Watch while I make the nubby squeak." Experimenter handed the ball to child and asked, "Can you make the nubby squeak"? If child produced correct action experimenter responded with, "Good, that's right" and incorrect response with "Look" and demonstration of action followed by, "Try again".

Next, the experimenter opened the box on stimulus board to reveal a cloth. Inside the cloth was a small bendable abstract figure. The experimenter stated, "This is Wikki. Can you say Wikki?" The experimenter then closed the box and asked the child, "Can you find Wikki?". Experimenter removed the figure from the box and stated, "Look Wikki is hungry. Let's feed Wikki" and demonstrated a single scheme of feeding the figure. Then experimenter then gave figure

to child and said, "Now, you feed Wikki."

Experimenter stated, "Let's play a game now. Try to get the block through the tube. You need to push the block with this stick." Experimenter gave children verbal praise each time they successfully got the block through the tube.

The entire procedure was videotaped but only the assisted play and direct instruction conditions were coded and analyzed. Each tape was coded for playful behaviors by two trained undergraduate research assistants, blind to the hypothesis of the study. Observers were trained by the experimenter until a criterion level of 80% agreement was reached. According to Sattler (1990) a percentage agreement above 80% is considered satisfactory.

Analysis of Data

The data analyzed included the independent variables of sex, condition and order. The dependent variables of playful behaviors were measured by the Child Behaviors Inventory and the Playful Behaviors Observation Inventory. The PBOI included 11 frequency scales and two duration scales. Four scales (3-Inventions, 6-Questions, 8-Praise, 10-Initiation) were deleted from the PBOI due to low rater agreement. The mean percent rater agreement for the remaining nine scales ranged from 76% to 99% (see Table 1). The remaining nine scales were 1-Ideas, 2-Flexibility, 4-Uses, 5-Persistence, 7-Repetitions, 9-Attention, 11-

Pretense, 12-Role Substitutions, 13-Object Substitutions.

A t test was conducted to determine if there were gender differences on the nine retained PBOI scales. A 2 x 2 x 2 mixed analysis of variance with repeated measures was conducted. Gender and order were between subjects measures and condition was a within subjects measure. Playfulness was a repeated measure on the nine PBOI scales.

Two additional analyses were conducted after results from the repeated measures were interpreted. A doubly multivariate analysis of variance was conducted with condition (direct instruction, assisted play) and the total measure of PBOI frequency scales (Ideas, Flexibility, Uses, Repetitions, Pretense, Role Substitutions, Object Substitutions) and duration scales (Persistence, Attention) as within subjects dependent variables. A Pearson Product correlation was used to determine the extent to which age covaried with the various PBOI scores within the direct instruction and assisted play conditions.

Factor 1 and 2 scores of the Child Behaviors Inventory were computed and analyzed for gender differences using a t test. Frequencies for each CBI item were reported and items with responses of not applicable (6) were noted. Reliability coefficients for each factor were also analyzed.

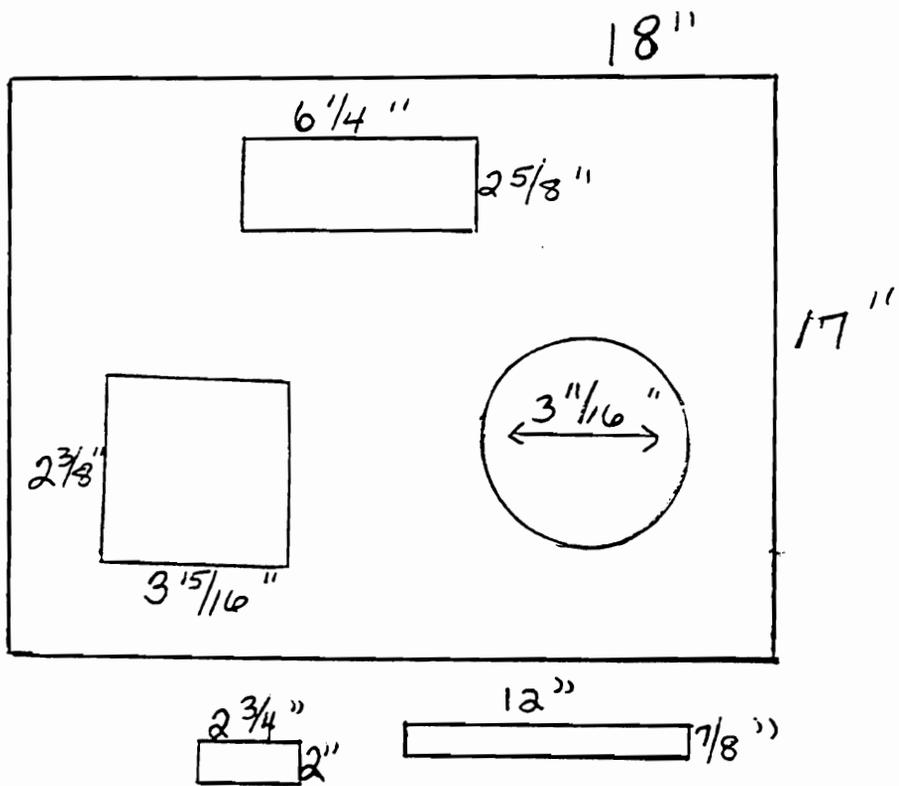


Figure 1. Diagram of Stimulus.

CHAPTER 4

Results

The purpose of this study was to assess the effect of situational context on young preschool children. Forty toddlers participated in an interactional situation in each of two conditions, direct instruction and assisted play. The data included scores from observations of playful behaviors in two conditions as measured by the nine scales of the Playful Behaviors Observation Inventory. These included ideas, flexibility, uses, persistence, repetitions, attention, pretense, role substitutions, and object substitutions. Parental ratings of individual differences in playfulness were measured by the Child Behaviors Inventory which yielded two scores: playfulness and externality.

Data were analyzed to assess the effect of gender, order, and condition on observed PBOI scales. The relationship between age and playfulness, as measured by the PBOI scales, was also examined. Finally, as an assessment of criterion validity for the PBOI, correlations between PBOI scores and CBI trait ratings were examined.

Playful Behaviors Observation Inventory

Means and standard deviations for the Playful Behaviors Observation Inventory scales within the direct instruction and assisted play conditions are reported in Table 2. The

means in the direct instruction condition ranged from .08 (SD=.21) on object substitutions to 2.70 (SD=.60) on flexibility scores. Scores on scale items that involved frequency counts ranged from .08 (SD=2.1) to 17.15 (SD=16.31) for repetitions. Items which were measured as durations in seconds ranged from 157.86 (SD=65.94) on persistence to 255.33 (SD=47.83) on attention in seconds. In the assisted play condition, scores ranged from .04 (SD=.18) on object substitutions to 19.23 (SD=18.45) on repetitions. In the assisted play condition, the duration scores ranged from 143.39 (SD=74.88) on persistence in seconds to 236.03 (SD=63.06) on attention in seconds.

To assess the effect of condition, order, and gender on each of the PBOI scales, nine MANOVA's with repeated measures were used. No significant condition, order, gender, or interaction effects were found for the following scales: 1-Ideas (see Table 3); 7-Repetitions (see Table 4); 9-Attention (see Table 5); 12-Role Substitutions (see Table 6); and 13-Object Substitutions (see Table 7). Playfulness ratings for Ideas (Table 3), Repetitions (Table 4), Role Substitutions (Table 6) and Object Substitutions (Table 7) were not significantly different ($p > .05$) within the Assisted Play and Direct instruction conditions, nor were ratings significantly different between the order of the conditions or gender.

Significant differences within subjects in the two conditions were found. Five of the nine PBOI scales which were retained showed significant differences in scores on observed playful behaviors in the direct instruction and assisted play conditions. These scales were: Scale 2-Flexibility (see Table 8), 4-Uses (see Table 9), 9-Attention (see Table 5), and 11-Pretense (see Table 10).

Flexibility (Scale 2) scores were significantly ($p < .0001$) higher in the direct instruction condition, than in the assisted play condition. This indicates that children accomplished the stimulus goals of operational causality, object permanence and means ends in more different ways during the direct instruction condition than in the assisted play condition (see Table 2). The number of different uses (Scale 4) of each stimulus item (ball, box, figure, stick, block, cylinder, cloth, board) was also higher ($p < .0001$) in the direct instruction condition (see Table 2). The mean number of seconds children attended (Scale 9) was also higher ($p < .05$) in the direct instruction condition (see Table 2) than in the assisted play condition. Duration of focused attention was indicated by looking directly at the object, maintaining eye contact with the object, or manipulation of the object.

Although pretend play rarely occurred, the number of times children engaged in pretend play (Scale 11) was also

significantly higher ($p < .05$) during the direct instruction condition (see Table 2). Noteworthy is the fact that no scores on symbolic play scales involving pretense, role substitutions, and object substitutions were more than .23. The mean of symbolic play scores in the direct instruction condition was 16.33. In the assisted play condition, the highest symbolic play score was .08 ($SD = .27$) for both pretense and role substitution. The mean symbolic play score in the assisted play condition was .07.

Scale 5-Persistence, measured the duration in seconds of the subject's persistence with experimental stimuli. This scale yielded significant differences between subjects on order and gender (see Table 11). Those who received the direct instruction condition first persisted longer in their engagement ($p < .05$) with the stimulus goals (object permanence, operational causality, means ends) than those who received the assisted play condition first (see Table 11). A significant main effect for gender indicated that overall, males persisted longer than females (see Table 11).

Significant correlations ($p < .05$) between age and Ideas ($r = .33$) and age and Uses ($r = .34$) during the direct instruction condition were found (see Table 12).

Child Behaviors Inventory

Parent's perceptions of the playfulness of their child were assessed with the CBI. Scores for Factor 1

(Playfulness) ranged from 55 to 103 with a mean score of 82 and a standard deviation of 8.56. Factor 2 (Externality) scores ranged from 12 to 28 with a mean of 23.14 and a standard deviation of 3.6. Of the 31 CBI items, 21 were identified by one or more parents, as not applicable for their child (Table 13). The reliability coefficient for Factor I (21 items) was .84 and for Factor II (7 items) .53. No gender differences were expected on the CBI since it was designed to assess individual differences independent of gender.

PBOI Scale 4 (Uses) within the assisted play condition ($r=.32$) was the only scale that was significantly ($p < .05$) correlated with the CBI (Factor 2) (see Table 14).

Table 1

Mean Percent Rater Agreement for PBOI Scales

<u>Scale</u>	<u>DI</u>	<u>AP</u>	<u>Total</u>
01 Ideas (Fluency)	90.00	88.33	89.17
02 Flexibility	74.58	76.88	75.73
04 Uses	91.56	84.85	88.21
05 Persistence (in seconds)	79.63	76.69	78.16
07 Repetitions	78.21	78.26	78.24
09 Attention (in seconds)	80.32	87.88	84.10
11 Pretense	95.00	97.50	96.25
12 Role Substitutions	97.50	100.00	98.75
13 Object Substitutions	87.50	97.50	92.50

Note. DI = direct instruction; AP = assisted play.

Table 2

Means and Standard Deviations for PBOI Scales

<u>Scale</u>	<u>Direct Instruction</u>		<u>Assisted Play</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
01 Ideas	1.79	0.65	1.68	0.75
02 Flexibility	2.70	0.60	1.71	0.75
04 Uses	6.71	1.34	5.01	1.70
05 Persistence (in seconds)	157.86	65.94	143.39	74.88
07 Repetitions	17.15	16.31	19.23	18.45
09 Attention (in seconds)	255.33	47.83	236.03	63.06
11 Pretense	0.23	0.51	0.08	0.27
12 Role Substitutions	0.18	0.37	0.08	0.27
13 Object Substitutions	0.08	0.21	0.04	0.18

Table 3

Results of MANOVA with Repeated Measures for Ideas

Source	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Between:				
Order	0.01	1	0.01	0.02
Gender	1.08	1	1.08	1.72
Order by Gender	0.81	1	0.81	1.25
Error	(22.56)	36	(0.63)	
Within:				
Ideas	0.32	1	0.32	0.88
Order by Ideas	0.01	1	0.01	0.02
Gender by Ideas	0.11	1	0.11	0.30
Order by Gender by Ideas	0.04	1	0.04	0.10
Error	(13.20)	36	(0.37)	

Note. Ideas = the number of new ideas generated by the subject in response to experimental stimulus as indicated by the number of levels of play (sensorimotor, constructive, symbolic, games with rules) the subject engaged in.

Table 4

Results of MANOVA with Repeated Measures for Repetitions.

Source	SS	DF	MS	F
Between:				
Order	46.94	1	46.94	0.13
Gender	593.78	1	593.78	1.63
Order by Gender	77.43	1	77.43	0.21
Error	(13139.65)	36	(364.99)	
Within:				
Repetitions	9.22	1	9.22	0.04
Order by Repetitions	749.37	1	749.37	3.13
Gender by Repetitions	0.29	1	0.29	0.00
Order by Gender by Repetitions	299.56	1	299.56	1.25
Error	(8629.53)	36	(239.71)	

Note. Repetitions = the number of times the subject repeated activity with the experimental stimulus once each goal (operational causality, object permanence, means ends) had been met.

Table 5
 Results of MANOVA with Repeated Measures for Attention

Source	SS	DF	MS	F
Between:				
Order	2529.82	1	2529.82	0.56
Gender	3323.70	1	3323.70	0.74
Order by Gender	1931.63	1	1931.63	0.43
Error	(162048.49)	36	(4501.35)	
Within:				
Attention	10764.12	1	10764.12	5.37*
Order by Attention	191.33	1	191.33	0.10
Gender by Attention	141.93	1	141.93	0.07
Order by Gender by Attention	3082.05	1	3082.05	1.54
Error	(72202.03)	36	(2005.61)	

Note. * $p < .05$. Attention = the duration in seconds, of the subject's focused attention.

Table 6

Results of MANOVA with Repeated Measures for Role Substitutions

Source	SS	DF	MS	F
Between:				
Order	0.03	1	0.03	0.21
Gender	0.01	1	0.01	0.04
Order by Gender	0.02	1	0.02	0.14
Error	(5.42)	36	(0.15)	
Within:				
Role Substitutions	0.21	1	0.21	3.18
Order by Role Sub.	0.06	1	0.06	1.72
Order by Gender by Role Substitutions	0.02	1	0.02	0.26
Error	(2.38)	36	(0.07)	

Note. Role substitutions = the number of different roles for each stimuli object that the subject invented during symbolic play.

Table 7

Results of MANOVA with Repeated Measures for Object Substitutions

Source	SS	DF	MS	F
Between:				
Order	0.00	1	0.00	0.03
Gender	0.00	1	0.00	0.01
Order by Gender	0.01	1	0.01	0.21
Error	(2.36)	36	(0.07)	
Within:				
Object Substitutions	0.04	1	0.04	2.81
Order by Object Substitutions	0.00	1	0.00	0.26
Gender by Object Substitutions	0.00	1	0.00	0.10
Order by Gender by Object Substitutions	0.01	1	0.01	0.74
Error	(0.57)	36	(0.02)	

Note. Object substitutions = the subject's number of identifications of one experimental stimuli object for another .

Table 8

Results of MANOVA with Repeated Measures for Flexibility

Source	SS	DF	MS	F
Between:				
Order	1.59	1	1.59	2.64
Gender	0.00	1	0.00	0.01
Order by Gender	0.80	1	0.80	1.33
Error	(21.61)	36	0.60	
Within:				
Flexibility	17.06	1	17.06	56.59***
Order by Flexibility	0.23	1	0.23	0.76
Gender by Flexibility	0.28	1	0.28	0.93
Order by Gender by Flex.	0.41	1	0.41	1.37
Error	(10.85)	36	(0.30)	

Note. *** $p < .0001$. Flexibility = the number of different ways the subject accomplished the experimental stimulus goals of operational causality, object permanence, and means ends.

Table 9

Results of MANOVA with Repeated Measures for Uses

Source	SS	DF	MS	F
Between:				
Order	0.02	1	0.02	0.01
Gender	0.01	1	0.01	0.00
Order by Gender	2.66	1	2.66	0.82
Error	(116.48)	36	(3.24)	
Within:				
Uses	45.17	1	45.17	26.24 ***
Order by Uses	0.17	1	0.17	0.10
Gender by Uses	0.72	1	0.72	0.42
Order by Gender by Uses	0.55	1	0.55	0.32
Error	(61.97)	36	(1.72)	

Note. *** $p < .0001$. Uses = the subject's number of different uses for experimental stimuli objects.

Table 10

Results of MANOVA with Repeated Measures for Pretense

Source	SS	DE	MS	E
Between:				
Order	0.11	1	0.11	0.46
Gender	0.00	1	0.00	0.00
Order by Gender	0.12	1	0.12	0.50
Error	(8.43)	36	(0.23)	
Within:				
Pretense	0.57	1	0.57	5.39*
Order by Pretense	0.01	1	0.01	0.10
Gender by Pretense	0.08	1	0.08	0.80
Order by Gender by Pretense	0.11	1	0.11	1.00
Error	(3.83)	36	(0.11)	

Note. * $p < .05$. Pretense = the number of times the subject engaged in symbolic play.

Table 11

Results of MANOVA with Repeated Measures for Persistence

Source	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Between:				
Order	36013.00	1	36013.00	6.02*
Gender	30689.44	1	30689.44	5.13*
Order by Gender	781.06	1	781.06	0.13
Error	(215432.59)	36	(5984.24)	
Within:				
Persistence	4314.51	1	4314.51	1.31
Order by Persistence	30.31	1	30.31	0.01
Gender by Persistence	1578.94	1	1578.94	0.48
Order by Gender by Persistence	938.06	1	938.06	0.29
Error	(118351.45)	36	(3287.54)	

Note. * $p < .05$. Persistence = the duration in seconds of the subject's persistence with experimental stimulus goals (operational causality, object permanence, means ends).

Means and Standard Deviations for Persistence by Gender and Order

		<u>M</u>	<u>SD</u>	<u>n</u>
Gender	Female	134.31	64.89	17
	Male	162.68	51.60	23
Order	Direct Instruction First	169.36	58.42	16
	Assisted Play First	138.14	56.44	24

Table 12
Pearson Product Correlation Coefficients for PBOI Scales Correlated With Age

<u>Scale</u>	<u>DI</u> <u>r</u>	<u>AP</u> <u>r</u>
01 Ideas	.33 *	.20
02 Flexibility	.22	.09
04 Uses	.34 *	.12
05 Persistence	.22	.10
07 Repetitions	.19	.16
09 Attention	.18	.17
11 Pretense	.00	-.21
12 Role Substitutions	.05	-.21
13 Object Substitutions	-.09	-.21

Note. * $p < .05$. DI = direct instruction; AP = assisted play.

Table 13

Frequency of Parental Judgment of "Not Applicable" for Child Behaviors Inventory Items

Item	Frequency
1. Always has ideas of things to do.	0
2. Uses props in typical rather than unusual ways.	3
3. Once goal is achieved, stops playing with object/material.	4
4. Explores different ways to accomplish the same end.	6
5. Needs reinforcement to continue activities.	1
6. Invents new games.	4
7. Asks many questions about what to do.	17
8. Seeks approval frequently.	4
9. Uses things his/her own way.	0
10. Looks to others to tell him/her what to do.	0
11. Enjoys learning new skills.	0
12. Works well on his/her own.	1
13. Enjoys doing things even when there's no purpose.	2
14. Has fun doing things without worrying how well they turn out.	5
15. Gets so involved in activity that it is hard to get him/her to quit.	0
16. Starts activities for his/her own enjoyment.	0
17. Pretends a lot.	11
18. Uses toys/objects only in way they were designed to be used.	3
19. Plays eagerly.	2
20. Plays intently.	0
21. Invents variations on stories such as different endings or new characters.	26
22. Displays exuberance much of the time.	2
23. Rearranges situations to come up with novel ones.	15
24. Once child has been shown something, he/she creates his/her own way.	6
25. Has a sense of humor.	1
26. Is imaginative.	2
27. Uses toys/objects in unusual ways.	0
28. Finds unusual things to do with common objects.	0
29. Identifies with many characters instead of playing the same role over again.	22
30. Gets so involved in an activity that he/she forgets what is going on in the room.	1
31. Is a playful child.	0

Table 14
Pearson Product Correlation Coefficients for PBOI Scales Correlated With CBI Factors

PBOI Scale	CBI Factor 1		CBI Factor 2	
	DI I	AP I	DI I	AP I
01 Ideas	-.26	.05	-.21	.10
02 Flexibility	-.15	-.03	.15	.05
04 Uses	-.13	-.09	.14	.32*
05 Persistence	.18	-.29	.27	.11
07 Repetitions	-.18	.03	-.12	-.26
09 Attention	-.13	-.22	.16	.14
11 Pretense	-.17	.00	-.00	.15
12 Role Sub.	-.20	.00	.02	.15
13 Object Sub.	-.17	.03	.02	.23

Note. * $p < .05$. DI = direct instruction; AP = assisted play.

CHAPTER 5

Discussion

This study was conducted to examine the effect of situational context on the playful behaviors of young preschool children. Forty toddlers ages 16 to 26 months were observed interacting with a teacher in conditions of direct instruction and assisted play. Findings from this study were that toddlers exhibited more play behaviors and attended longer in the direct instruction condition than in the assisted play condition. Those who received the direct instruction condition first also persisted longer than those who received the assisted play condition first. It is difficult to determine from the current study whether direct instruction is developmentally appropriate for toddlers because it is possible that the late sensorimotor period is a transition period in development when toddlers are not active initiators. However, it is possible that direct instruction was beneficial because of the age of the children--young toddlers need more direction. Toddlers learn through repetition and imitation. This is evident in the high number of repetitions displayed in the direct instruction condition. Additionally the number of repetitions in the assisted play condition was higher when presented after the direct instruction condition.

Present findings corroborate the work of Howes (1992)

who found that toddlers were more active participants when the play partner was an expert. This might account for the higher pretense scores in the direct instruction condition than in the assisted play condition in the present study. The adult was apparently more of an expert in the direct instruction condition because of increased control and communication. This also may explain why several children appeared most distressed during the exploration periods when there was little or no communication between the adult and child.

Few toddlers in this study engaged in symbolic play which is congruent with Piaget's (1962) observation that children in the late sensorimotor stage (18-24 months) are just beginning to develop symbolic play. Means for scales 11 (pretense), scale 12 (role substitutions) and scale 13 (object substitution) were less than one which is characteristic of children this age. These results provide data which are similar to Bretherton, O'Connell, Shore, and Bates' (1984) observation that young toddlers use only realistic objects but that the similarity of an object to its referent decreases substantially by age four. Although the frequency of occurrence of symbolic play was expected to be low, symbolic play was however, included in the present study to allow children the opportunity to exhibit play behaviors that are normally of children beyond this age

range thus avoiding a ceiling effect.

Gender differences were not expected in the present study because the construct of playfulness as a personality trait is not gender specific. Further, the previous work on playfulness by Rogers et al., (1991) find gender differences in playfulness ratings. However, gender was included as a variable in the analysis to rule out the possibility of it as a confounding variable.

The positive direction for sensorimotor durations were not significant in assisted play condition however, in the direct instruction condition the significant correlation between age and frequency of ideas and uses indicated that the older child, the higher the sensorimotor play score. The present finding that older children were less likely to engage in symbolic play during assisted play is not supported by theory. However, the low number of occurrences of symbolic play make it difficult to detect age differences.

Results do indicate that context has an important effect on playful behaviors and that imitation, not play is characteristic of toddlers for some types of play. However, during the sensorimotor period they could indeed play because of previous mastery. The adult should still allow play but instruct for imitation. Results of this study do however, raise an interesting question for theory: Must the

structure of the scaffolding process be qualitatively different for different phases of development or for different contexts? Some skills may be effectively taught using didactic methods--different instructional approaches may be better for achieving different educational goals (Stipek et al., 1995). Professional judgement involves walking a fine line between adult contribution and adult intrusion (Berk & Winsler, 1995).

Recommendations for Future Research

The sample in the current study had a narrow age range (10 months). It is possible that a larger age range might yield more information on developmental trends in the transition from sensorimotor to symbolic play. Therefore, it is recommended that the study be replicated with a sample of older children (3 year olds). Older children are more active initiators so adult directiveness might have a negative impact on playfulness. Stipek et al. (1995) found that adult directiveness undermines motivation for older preschool children however, Kuczynski and Kochanska (1995) found that maternal demands on toddlers (ages one and one half to three and one half) within a harmonious social context produced more competence. This may suggest that direct instruction may be appropriate for stimulating play with toddlers. The direct instruction condition of the present study may have been closer to maternal demands for

competence than it was didactic. Therefore, research has shown that directiveness undermines motivation with older preschool children however, the effect on toddlers is still unclear. A longitudinal study might be helpful in determining this.

Of the 31 items on the Child Behaviors Inventory, 21 were rated by parents as not applicable. Items with high frequencies of not applicable ratings were those involving symbolic play. Since pretend play is not characteristic of children of this age a new pool of items more appropriate for toddlers needs to be generated for inclusion in the Child Behaviors Inventory. The present study also suggests an analysis of exploration sessions for effect of parental and experimenter neutrality on child. Possible analysis could involve making simple notes and assigning a rating on a scale of one to 10 for general emotional tone. This could then be used to generate hypotheses for future studies.

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APPENDIX A

Child Behaviors Inventory (CBI)

Child Behaviors Inventory

Below are some statements describing some child behaviors. Please rate each item by circling a number on the continuum, with "1" being Very Uncharacteristic and "5" being Very Characteristic as they pertain to _____.

	Very Uncharacteristic			Very Characteristic	
1. Always has ideas of things to do.	1	2	3	4	5
2. Uses props in typical rather than unusual ways.	1	2	3	4	5
3. Once goal is achieved, stops playing with the object/material.	1	2	3	4	5
4. Explores different ways to accomplish the same end.	1	2	3	4	5
5. Needs reinforcement to continue activities.	1	2	3	4	5
6. Invents new games.	1	2	3	4	5
7. Asks many questions about what to do.	1	2	3	4	5
8. Seeks approval frequently.	1	2	3	4	5
9. Uses things his/her own way.	1	2	3	4	5
10. Looks to others to tell him/her what to do.	1	2	3	4	5
11. Enjoys learning new skills.	1	2	3	4	5
12. Works well on his/her own.	1	2	3	4	5
13. Enjoys doing things even when there's no purpose.	1	2	3	4	5
14. Has fun doing things without worrying how well they turn out.	1	2	3	4	5
15. Gets so involved in activity that it is hard to get him/her to quit.	1	2	3	4	5
16. Starts activities for his/her own enjoyment.	1	2	3	4	5
17. Pretends a lot.	1	2	3	4	5
18. Uses toys/objects only in the way they were designed to be used.	1	2	3	4	5
19. Plays eagerly.	1	2	3	4	5
20. Plays intently.	1	2	3	4	5
21. Invents variations on stories such as different endings or new characters.	1	2	3	4	5
22. Displays exuberance much of the time.	1	2	3	4	5
23. Rearrange situations to come up with novel ones.	1	2	3	4	5
24. Once the child has been shown how to do something, he/she creates his/her own way.	1	2	3	4	5
25. Has a sense of humor.	1	2	3	4	5
26. Is imaginative.	1	2	3	4	5
27. Uses toys/objects in unusual ways.	1	2	3	4	5
28. Finds unusual things to do with common objects.	1	2	3	4	5
29. Identifies with many characters instead of playing the same role over again.	1	2	3	4	5
30. Gets so involved in an activity that he/she forgets what is going on in the room.	1	2	3	4	5
31. Is a playful child.	1	2	3	4	5

APPENDIX B

Principal/Director Telephone Conversation Outline

Parent/Guardian Telephone Conversation Outline

Principal/Director Telephone Conversation Outline

"Hello, my name is Arleen Dodd and I am a doctoral candidate in Child Development at Virginia Tech. I am researching playful behaviors of preschool children.

I am requesting permission to contact the parents of preschool children and invite them to participate in this study.

The study will involve the observation and videotaping of children interacting with an adult and a toy in four different settings of five minutes each at a preschool or child development center.

Virginia Tech's Human Subjects Review Committee has approved this project; however, your participation is strictly voluntary.

All information about the participants will be treated confidentially and can be identified only by a code number. When the project is completed, I will share with you the results of the total project.

Please feel free to contact me if you have any further questions regarding the project. I can be reached at (901) 678-4751.

Thank you for you cooperation."

Parent/Guardian Telephone Conversation Outline

"Hello, my name is Arleen Dodd. Principal/Director gave me your name and phone number. I am a doctoral candidate in Child Development at Virginia Tech researching the playful behaviors of preschool children.

I would like to tell you about my study:

The study will involve the observation and videotaping of children interacting with an adult and a novel toy in four different settings of five minutes each.

Virginia Tech's Human Subjects Review Committee has approved this project; however, your participation is strictly voluntary.

All information about the participants will be treated confidentially and can be identified only by a code number. When the project is completed, I will share with you the results of the total project.

I would like to send you more information about my study and invite you and your child to participate in this study.

Please feel free to contact me if you have any further questions regarding the project. I can be reached at (901) 678-4751.

Thank you for your cooperation."

APPENDIX C

Parent/Guardian Informed Consent

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
College of Human Resources

Department of Family and Child Development
Wallace Hall
(703) 231-4794

Parent/Guardian Informed Consent Form

Title of Project: The Effect of Situational Context on Playful Behaviors of Young Preschool Children

Principal Investigator: Arleen T. Dodd

Faculty Advisor: Cosby S. Rogers, Ph.D.

I. THE PURPOSE OF THIS RESEARCH/PROJECT

You are invited to participate in a study about the effect of context on the playful behaviors of young preschool children. Results of the study will be used to inform early childhood education practice.

II. PROCEDURES

The procedures to be used in this research involve observation and videotaping of preschool children interacting with an adult and a novel toy in assisted play, direct instruction and exploration settings.

As the child's caregiver/guardian/parent you will be asked to transport the child to the laboratory observation site housed in a preschool/child development center. Care will be taken to schedule the child at a time when she/he will not be under stress and should a child become ill or show signs of distress during the study, observation will be discontinued and rescheduled if possible.

III. BENEFITS OF THIS PROJECT

Total results of this project will be used to inform early childhood education practice. No guarantee of benefits has been made to encourage you to participate. You may receive the results of the total project upon completion by providing the researcher with a self-addressed envelope.

IV. EXTENT OF CONFIDENTIALITY AND ANONYMITY

The results of this study will be kept strictly confidential. At no time will the researcher release the results of the study to anyone without your written consent. The information you provide will have your child's name removed and only a subject number will identify your child during analyses and any written reports of the research.

The observation sessions will be videotaped and stored at the researcher's home for access by the researcher, faculty advisor and two undergraduate research assistants. The tapes will be erased after final defense of the dissertation project.

V. COMPENSATION

No monetary compensation is available for participation in this project.

VI. FREEDOM TO WITHDRAW

You are free to withdraw your child from this study at any time by notifying the researcher.

VII. APPROVAL OF RESEARCH

This research has been approved, as required, by the Institutional Review Board for projects involving human subjects at Virginia Polytechnic Institute and State University, by the Department of Family and Child Development, and by principal/director.

VIII. SUBJECT'S RESPONSIBILITIES (Return to Researcher)

I know of no reason why my child cannot participate in this study.

Signature

IX. SUBJECT'S PERMISSION (Participant keeps this form)

I have read and understand the informed consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for my child's participation in this project.

If my child participates, I may withdraw my child at any time. I agree to abide by the rules of this project.

Should I have any questions about this research or its conduct, I will contact:

Arleen T. Dodd (901) 678-4751
Principal Investigator

Cosby S. Rogers, Ph. D. (703) 231-4793
Faculty Advisor

Ernest R. Stout (703) 231-6077
Chair, IRB
Research Division

APPENDIX D

Playful Behaviors Observation Inventory (PBOI)

PLAYFUL BEHAVIORS OBSERVATION INVENTORY (PBOI)

Subject #: _____

Condition: _____

SCALE 1: IDEAS (Fluency)

Frequency of behaviors:
sensorimotor
constructive
symbolic
games with rules

Ideas Total _____

SCALE 2: FLEXIBILITY

Number of different ways child accomplishes goal:
object permanence
operational causality
means ends

Flexibility Total _____

SCALE 3: INVENTIONS

Number of inventions of goals:
object permanence
operational causality
means ends

Inventions Total _____

SCALE 4: USES

Number of different uses of each item:
ball
box
figure
stick
block
cylinder
cloth
board
other _____

Uses Total _____

SCALE 5: PERSISTENCE

Duration of persistence at goal (in seconds):

- object permanence
- operational causality
- means ends

Persistence Total _____

SCALE 6: QUESTIONS

Number of directions/instructions asked as indicated by any of the following:

- stopping
- waiting
- looking at adult
- moving to adult
- communication (verbal or gestural)

Questions Total _____

SCALE 7: REPETITIONS

Number of times activity repeated once each goal has been met:

- object permanence
- operational causality
- means ends

Repetitions Total _____

SCALE 8: PRAISE

Number of times child seeks praise for completed goal:

Praise Total _____

SCALE 9: ATTENTION

Duration (in seconds) of focused attention as indicated by any of the following:

- looking directly at object
- maintaining eye contact w/ object
- manipulation of object

Attention Total _____

SCALE 10: INITIATION

Number of times child initiates any activity as indicated by any of the following:

- moves toward object
- touches object
- manipulates object
- communicates w/adult (verbal or gestural)
- initiates game w/adult using object

Initiation Total _____

SCALE 11: PRETENSE

Number of times child engages in symbolic play:

- object substitution
- pretends action
- pretends roles

Pretense Total _____

SCALE 12: ROLES

Number of different roles depicted during symbolic play:

Roles Total _____

SCALE 13: OBJECT SUBSTITUTION

Number of object substitutions (identification of one object for another):

- ball
- box
- figure
- block
- stick
- cylinder
- cloth
- other _____

Object Substitution Total _____

APPENDIX E

CBI Subscales

CBI Subscales

Subscale I	Source of Motivation: Intrinsic vs. Extrinsic	
Item		Direction
Always has ideas of things to do		+
Needs reinforcement to continue activities		-
Seeks approval frequently		-
Looks to others to tell him/her what to do		-
Works well on his/her own		+
Starts activities for his/her own enjoyment		+
Subscale II	Goal Orientation: Process vs. Product	
Once goal is achieved, stops playing with the object/material		-
Explores different ways to accomplish the same end		+
Enjoys learning new skills		+
Enjoys doing things even when there's no purpose		+
Has fun doing things without worrying how well they turn out		+
Subscale III	Object/Environment Orientation: Play vs. Exploration	
Uses props in typical rather than unusual ways		-
Invents new games		+
Uses things his/her own way		+
Rearranges situations to come up with novel ones		+
Subscale IV	Relation to Instrumental Behaviors: Pretense vs. Literal	
Pretends a lot		+
Invents variations on stories such as different endings or new characters		+
Is imaginative		+
Finds unusual things to do with common objects		+
Identifies with many characters instead of playing the same role over again		+
Subscale V	External Rule Orientation: Relatively Free vs. Tightly Bound	
Asks many questions about what to do		-
Uses objects only in the way they were designed to be used		-
Once the child has been shown how to do something, he/she creates his/her own way		+
Uses objects in unusual ways		+
Subscale VI	Degree of Involvement: Active vs. Passive	
Gets so involved in activity that it is hard to get him/her to quit		+
Plays eagerly - racing - smiles, etc.		+
Plays intently		+
Gets so involved in an activity that he/she forgets what is going on in the room		+
Additional Items Measuring Construct Validity		
Displays exuberance much of the time		+
Has a sense of humor		+
Is a playful child		+

*Developed at Virginia Tech by Cosby S. Rogers and Amy J. Moore.

APPENDIX F

Demographic Information

Demographic Information

Subject # _____

Child's Sex _____ F _____ M

Child's Date of Birth: _____

Child's Ethnic Background:

- _____ White
- _____ African American
- _____ Hispanic/Latino
- _____ Asian
- _____ Middle Eastern
- _____ Indian
- _____ Native American
- _____ Other (please specify) _____

Your Age: _____

Your Sex: _____ F _____ M

Marital Status: _____ Single (Never Married)
_____ Married
_____ Divorced/separated
_____ Widowed
_____ Other

Occupation: _____ Homemaker
_____ Professional/Technical
_____ Upper Management/Executive
_____ Middle Management
_____ Sales/Marketing
_____ Clerical or Service Worker
_____ Tradesperson/Machine Oper./Laborer
_____ Retired
_____ Student
_____ Self Employed/Business Owner

Highest level of school completed:
_____ Some High School or Less
_____ Completed High School
_____ Vocational/Technical School
_____ Some college
_____ Completed College
_____ Some Graduate School
_____ Completed Graduate School

Spouse's Occupation: _____ Homemaker
_____ Professional/Technical
_____ Upper Management/Executive
_____ Middle Management
_____ Sales/Marketing
_____ Clerical or Service Worker
_____ Tradesperson/Machine Oper./Laborer
_____ Retired
_____ Student
_____ Self Employed/Business Owner

Spouse's highest level of school completed:
_____ Some High School or Less
_____ Completed High School
_____ Vocational/Technical School
_____ Some college
_____ Completed College
_____ Some Graduate School
_____ Completed Graduate School

Total annual family income:
_____ Less than \$ 5,000
_____ \$ 5,000- 9,999
_____ \$10,000-14,999
_____ \$15,000-19,999
_____ \$20,000-24,999
_____ \$25,000-29,000
_____ \$30,000-39,999
_____ \$40,000-49,999
_____ \$50,000 and above

Community: _____ urban
_____ suburban
_____ rural
_____ small town
_____ large town

VITA

Arleen Theresa Dodd was born and raised in Maspeth, Queens, New York. She graduated with a Bachelor of Arts in psychology from Fordham University's College at Lincoln Center in 1983 and was licensed to teach elementary school in New York state. Her teaching career began in 1983 and while teaching she completed a Master of Science in Educational Computing at Iona College in New Rochelle in 1988. Arleen provided computer training to severely profound mentally retarded children in New York City until 1990 when she moved to Blacksburg, Virginia to pursue a Ph.D. in Child Development at Virginia Polytechnic Institute and State University.

While at Virginia Tech, from 1990 to 1994, Arleen gained expertise in the development of infants and toddlers as Head Teacher of the Infant and Toddler classes at the Child Development Laboratory. In addition she served as a graduate teaching assistant for several undergraduate courses in the Department of Family and Child Development.

Arleen began employment with the University of Memphis, Memphis, Tennessee in August of 1994. She is an assistant professor of early childhood education in the College of Education's Department of Instruction and Curriculum Leadership. She teaches courses on infant and toddler curriculum, and observation and assessment of childhood behavior in addition to supervising student teachers.

A handwritten signature in cursive script that reads "Arleen T. Dodd". The signature is written in black ink and is positioned above a horizontal line.

Signature