Introduction

Ellen Vineberg Jacobs

This book is about child care and play. The context for the collection of studies in this text is the child care setting—either a family day care home or a group day care center. The substantive focus of each of the papers is play. Child care has become an accepted aspect of childhood for a large percentage of North American families. Play, which is the essence of childhood, should be a quintessential feature of a child care program, particularly as the child may spend the majority of his/her waking hours in the child-care setting. If we believe that play is an essential part of childhood, then providing a forum for the presentation of research on the importance of play in the child-care setting is crucial. Therefore, we have undertaken the task of compiling studies that address the topic of play in the child-care setting from a variety of perspectives.

The introduction to this book is structured to provide the reader with definitional information about child-care and play. The relationship between child-care attendance and development is presented and the developmental issues associated with the quality of the care are discussed. Cognitive and social play categories are defined and the association between play and development is explored. Environmental influences on play such as the availability of materials, novelty, realism and types of materials are examined in depth, as is the influence of caregivers on children's play. The individual chapters are introduced and concerns about play issues in child-care settings are raised at the conclusion of the chapter.

In the current child-care context a wide variety of formal arrangements and options are available. For the purpose of this text we will confine the discussion to group care wherein a child is cared for in an environment other than his/her own home. The two most common forms of out-of-home group care are family day care and center care. In family day care the caregiver offers child care in her own home. He/she may look after a number of children within a wide age range. In most communities licensing regulations regarding family day-care homes usually stipulate that no more than five to six children can be cared for in the home and this number includes the caregiver's children. However, some homes are licensed to take twelve to fifteen children. Generally, there are no regulations regarding age grouping. One of the advantages of family day care is that the caregiver's hours of operation may be very flexible and he/she can offer the type of support that a parent on a variable schedule may require. The training and experience of these caregivers varies as does the physical environment of the

indoor and outdoor space of the home. Consequently the daily activities and experiences of the children in this type of care arrangement will vary as well.

Group day-care centers are usually located in large public places such as community centers, schools, religious institutions, recreation centers and shopping centers. In some cases the day care is housed in a building constructed or renovated specifically for the day-care center. There are usually a number of children of approximately the same age and this permits the grouping of children by age. Licensing requirements vary from one locale to another, however, older preschoolers are usually assigned to groups of fifteen to twenty with a ratio of one caregiver for eight to ten children. Where infants are concerned the ratio may be one adult to three children and for toddlers it may be one adult to four or five children. The education and training of caregivers in this type of setting is usually stipulated in licensing procedures. The most stringent rules require one in three caregivers to have a university degree in early childhood education and all other caregivers in the center must have at least a college or junior college level certificate in early childhood education. These centers usually have well defined routines, organized programs for the children and a fixed operating schedule that is convenient for parents who work a regular eight to nine hour day. The fees vary in accordance with the facilities and services offered and the operating philosophy of the center. Nonprofit and for-profit centers may charge the same fees, however, the services and provisions will differ as the profit must be derived from the fees. The indoor and outdoor physical environment of each group center will depend upon location of the center and the equipment and materials available to the children. Some employers offer day care in the workplace and some schools offer after school care for children of all ages.

As more children participate in nonparental child-care arrangements, questions related to the effects of these arrangements on their development has become more pertinent. We know from the multitude of studies that have been conducted to date that we cannot point to simple, causal relationships between any aspect of day care and the child's development. Taken together, the studies allow us to discuss the relationship between child-care attendance and the particular aspects of development that have been researched.

For example, studies that examined social development found that day-care attendance was related to increased aggressiveness (Schwarz, Strickland & Krolick, 1974), more positive peer interactions (Vlietstra, 1981), less attentiveness and social responsibility (Schwarz et al., 1981), but more advanced perspective-taking skills, more operative behavior and more confidence in social interactions (Clarke-Stewart, 1984; Howes & Olenick, 1986; Ramey, McPhee & Yates, 1982; Rubenstein & Howes, 1979). In studies of children's cognitive development, day-care attendance was related to higher measures of cognitive competence (Andersson, 1989; Carew, 1980), more complex speech and higher Peabody Picture Vocabulary Test (PPVT) scores (Rubenstein, Howes, & Boyle, 1981).

It has been postulated that high quality care can make a difference in the experiences that children have in their child-care environment, but the question remains as to the definition of high quality care. Is it the aspects of the center that can be measured and regulated such as teacher-child ratios, group size, total population size within the center, teacher training, teacher experience and director education? Or, might quality be more dependent on global variables such as personal care routines, furnishings and displays for children, fine- and gross-motor activities, creative activities, language and reasoning activities, as measured by the Early Childhood Environmental Rating Scale (Harms & Clifford, 1980) or curriculum, adult-child interactions, relations between the home and program and the developmental evaluation of children as suggested by the Developmentally Appropriate Practice (Bredekamp, 1987)? Quality might actually be a delicate combination of these variables. It would seem likely that these elements of quality interact to create an atmosphere within the child-care environment that influence a child's behavior and development.

Studies have shown that children who attended high quality centers were rated as more confident in their social interactions, more cooperative and sociable and less dependent and displayed less nonsocial play behavior than children in low quality centers (Holloway & Reichhart-Erickson, 1988; Howes & Olenick, 1986; Owen & Henderson, 1989; McCartney, Scarr, Phillips, Grajek & Schwarz, 1982). Preschool children enrolled in high quality care as toddlers engaged in more social pretend play than preschoolers who had been in low quality care as toddlers (Howes, 1990). These findings which indicate that there is a relationship between quality of care and play behaviors are cause for concern. Play is one of the most frequent, naturally occurring behaviors of childhood and research studies have shown that there is a strong association between play and development. Prior to a discussion of this relationship, it is essential to define and explain what play is and how it is viewed by researchers and early childhood educators.

Play: Definitions and Examples

Play is an intrinsically motivated behavior that is determined by the child and is not controlled by the stimuli around him/her. In play, the child is an active participant and the activity that he/she is engaged in is the focus. Since there is freedom from externally imposed rules in play, the activity can take whatever form the child wishes without regard for an expected pattern of behavior. Play has an "as if" quality which enables the child to transform self, others, objects and situations and behave in accordance with these transformations. This aspect of play allows the child to escape from the rigors of reality and engage in pretense (Garvey, 1977a; Hutt, 1970; Rubin, Fein & Vandenberg, 1983; Vandenberg, 1978).

Parten (1932) categorized play from a social behavior perspective, while Piaget (1962) and Smilansky (1968) categorized it from a cognitive perspective. Parten's differentiations between social and nonsocial play behaviors resulted in three non-social and three social play categories. In the nonsocial play, *unoccupied behavior* is defined as the child wandering aimlessly without focusing on any activity; *onlooker behavior* refers to the child standing at the periphery of groups and/or activities, within hearing and speaking distance of the other children, making comments but not being actively involved; and in *solitary play* the child is involved in an independent activity without the company of any other children. In the social play category, *parallel play* is defined as the independent play of children who are in close proximity to other children and are playing with the same materials, but are not interacting with one another; the distinguishing features of *associative play* are active play together, the occurrence of conversations that concern a common activity and engagement in a similar activity; *cooperative play* involves group organization for the purpose of attaining a goal and there are differentiated roles and a sense of belonging to the group (Parten, 1932).

Studying play from a cognitive perspective, Piaget (1962) divided play into three categories—sensorimotor play, symbolic play and games with rules. Smilansky (1968), taking the lead from Piaget suggested that play might better be divided into four categories—functional, constructive, dramatic and games with rules. In *functional play,* there is simple, repeated motor action with or without an object, while in *constructive play* children use the materials to create other things; in *dramatic play* the children engage in pretense by assuming roles, engaging in the make-believe transformation of objects and situations and in *games with rules* children accept prearranged rules and conform to these rules while involved in the particular game (Rubin, Fein & Vandenberg, 1983).

Researchers have adapted and combined Parten's and Piaget/Smilansky's play categories and explored play behaviors from a socio-cognitive perspective (Rubin, 1977a, 1982b; Rubin, Maioni & Hornung, 1976; Rubin, Watson & Jambor, 1978; Smith, 1978). This has resulted in a recording format which provides early childhood educators and researchers with more substantial information about the relationship between play environments (peers, adults, materials, space, arrangement of furnishings) and the child's level of play.

Play and Development

Research indicates that there are strong correlational relationships between play and the development of cognitive, social and language skills. Several studies have shown that problem-solving skills are enhanced through play experiences (Simon & Smith, 1983; Pepler, 1979; Pepler & Ross, 1981). By playing with puzzle pieces and the form board for the puzzle, children were able

to solve puzzles requiring convergent thinking, while playing with puzzle pieces without the form board led to better solutions of problems requiring divergent thinking (Pepler & Ross, 1981). In a study conducted by Smith and Dutton (1979), children who were given the opportunity to play with the materials required for the solution of the problem performed better on a task requiring innovative thinking than those who had been given specific training in how to solve a particular problem and those who had not had any experience at all with the materials.

Sociodramatic play, wherein children assume the role of another person, was thought to enhance children's perspective-taking abilities as they have to assume the identity of another person which requires the expression of the feelings and thoughts of that person. Studies conducted to date have confirmed this hypothesis (Connolly & Doyle, 1984; Rubin & Maioni, 1975). Those children who are frequent sociodramatic players tend to be more popular and are rated as friendlier and more cooperative than those who spend more time in functional and constructive play (Fein, 1981; Rubin & Maioni, 1975). Sociodramatic play is correlated with prosocial behavior; children who are involved in dramatic play exhibit sharing and other positive behaviors (Freyberg, 1973; Smilansky, 1968).

In a study of the relationship between explicit language and play, Pellegrini (1986) found that children tended to use more elaborated language in dramatic play than in block play. The research indicated that it was necessary for the children to make themselves clearly understood, particularly when they were referring to items that were imaginary and called for agreement as to the existence and inclusion of these items in the play episode.

In this chapter the quality of the child-care environment has been shown to be linked to the play behaviors that the children display while in child care. If the quality of the child care is determined by teacher training (regulatable issues) and the materials available to the children within the environment (global issues) then quality of care should have some relationship to the play observed in the child-care setting. Research studies have indicated that there is a relationship between play behaviors and environmental factors, personal factors, peer experiences, culture, socioeconomic status, and child-rearing factors (Rubin, et al., 1983). For the purpose of this introduction the discussion will be limited to the relationship between play behaviors and environmental factors, particularly those that are related to child-care settings.

Environmental Influences

The materials that are available to children in their environmental settings are seen to influence the type of play behavior that the children exhibit. The novelty, realism and types of materials are associated with the type of play

behavior displayed. When children are given novel materials to play with, exploration seems to take precedence over play (Berlyne, 1960, 1969; Hutt, 1970). The child will manipulate the novel item in an effort to see what the object does and as the exploration of the object nears completion, the exploratory behavior diminishes and play behavior increases (Ross, Rheingold & Eckerman, 1972). The child's play interactions with the materials switches to an investigation of what he/she can do with the object rather than examining the object to see what it does (Hutt, 1966).

Once the child has had the opportunity to explore the play materials and begins to play actively with the materials, it becomes evident that certain materials are associated with particular types of play behaviors. Through observational research, investigators have been able to specify the social and cognitive levels of play associated with specific materials. Art materials are associated with solitary or parallel behavior and constructive play (Rubin, 1977a, 1977b; Shure, 1963). Most children engaged in cutting, gluing and painting do so seated side by side with a peer and are quite intent on producing a particular item. Verbal interactions may occur, however much of the focus is on creating, rather than communicating and engaging in group interactions. Housekeeping toys, dolls, dress-up clothes and vehicles encourage group dramatic play in which children assume roles and interact cooperatively with one another to enact the scenario successfully (Johnson, Christie & Yawkey, 1987). While beads, play dough and sand and water are usually used in solitary or parallel functional play (Rubin, 1977a, 1977b); blocks are associated with all levels of social play and constructive and dramatic cognitive play (Rubin & Seibel, 1979). In the Rubin and Seibel study (1979), the block play that was solitary in nature tended to be associated with constructive forms of play, while the block play that was group based was associated with dramatic play.

Realism of the play material is related to the content of the play (Pulaski, 1973). Children who are provided with highly structured toys such as the realistic food items (fried egg) designed by Fisher Price tend to use these props in an item-specific manner. The fried egg included in the play is just that and is not transformed into any other item.

The quantity of play materials available is also associated with the play behaviors that occur in indoor and outdoor play settings. When the amount of play materials is decreased, social interaction among the children is increased. This is true for both positive (sharing) and negative (aggression) interactions. An increase in the amount of play material is associated with a decrease in sharing and aggression (Bjorklund, 1979; Eckerman & Whatley, 1977, Smith & Connolly, 1980). The amount of play space is another issue which influences play.

We know that crowding (less than 25 usable square feet available per child) can lead to aggressive behavior. However, a reduction in play space that does not result in a crowded situation influences the type of play that is displayed in that environment in a different manner. Rough and tumble play and running tend to decrease with a decrease in space, while imaginative play and onlooker

behavior increase (McGrew, 1972; Peck & Goldman, 1978; Smith & Connolly, 1976). The manner in which the available space is organized is also associated with children's play behaviors.

Decreasing the amount of large open space in the classroom by creating well-defined, smaller play spaces devoted to particular activities reduces rowdy behavior (Sheehan & Day, 1975). Making materials easily accessible to the children by placing them at the child's eye level and within the child's reach results in greater use of these materials (Pollowy, 1974). Organizing the space so that there is an unrestricted flow of traffic in the room reduces aggression as does the erection of low barriers which define and protect particular areas (e.g., blocks) from accidental intrusions (Kritchevsky, 1977). The classroom environment is not composed solely of materials and equipment, the human beings within the classroom also contribute to the total environment.

Research has shown that caregivers who have either university or post-secondary education are more likely to provide programs and activities for the children that are developmentally appropriate than caregivers who had only a high school diploma (Goelman & Pence, 1988; Ruopp et al. (1979) Whitebrook, Howes & Phillips, 1990). The Ruopp et al. study in particular indicates that there is a strong positive relationship between the caregiver's child-care related training and children's cooperative behavior, task persistence and gains in general knowledge. Another study revealed that those caregivers who had university level training which included courses related to child care and child development appeared to be less restrictive in their interactions with the children and encouraged independent behavior and verbal interactions (Berk, 1985). Adults have an effect on children's play and caregivers who interact with the child during most of the child's waking hours can have a powerful effect on the child's play and hence, the child's development.

Studies have shown that when adults who understand child development issues participate in children's play, the play episodes are longer-lasting and richer (Sylva, Roy & Painter, 1980; Dunn & Wooding, 1977) and the play is likely to be at a higher level (Bruner, 1980). Caregivers who have had specific early childhood training know how to set the stage for positive play experiences by providing the right amount of time for the play to evolve (Griffing, 1983); adequate and appropriate space within which it can occur (Segal & Adcock, 1981; Woodard, 1984); and appropriate materials to support the play. Given these attributes, caregivers in child-care centers seem to be able to determine the kind of play experiences that the children will have.

If caregiver education, different environmental arrangements and the provision of particular toys can "pull for" specific types of play behavior, it becomes obvious that the caregiver can manipulate children's play to a large extent. In so doing they can subject the child to an "environmental press" which "shapes the behavior and the development of the child in the setting" (Garbarino, 1989, p. 19). How acceptable is this action? Should we be manipulating the

children's environment and to what extent? Would it be more "natural" to let play evolve in the day care setting?

The Current Volume

The ten papers in this text have examined play from an applied, rather than a philosophical, perspective. All of the issues that the authors have addressed are pertinent to the development of young children. The topics examined in each paper are presented in an index format in Figure 1. It includes the age of the subjects, the environmental quality measure, observational measures of play behaviors, caregiver measures, and type of care studied.

Carollee Howes and Darlene Clements have written about the teacher's influences on the development of children's play with peers in child care. They used a longitudinal approach to study changes over time in teacher-child interactions in day-care settings and the extent to which teachers mediated peer contacts. The issue of age of entry of children into day care was also examined. The results indicated that teacher-child interactions did change over time in the direction of a decrease in the time that children spent close to teachers. They were surprised to find that teachers in their study tended to monitor the children's play for safety issues, but did little to mediate the peer contacts. These authors suggest that the teachers in this study might have believed that children ought to be free to interact with one another at will during unstructured periods within the day-care routine—e.g., free play and play time and therefore, they did not use the opportunity afforded by free play to manage peer contacts.

Michael Lamb, Kathleen Sternberg, Nan Knuth, Carl Hwang and Anders Broberg authored the chapter on peer play and nonparental care experiences. They focused on four issues in their attempt to understand the relationship between the quality of the care setting and the extent to which peer social skills were developed. The authors were interested in the possibility of obtaining reliable measures of the quality of children's peer play and the nonparental care setting; whether peer social skills are part of a broader social construct—sociability with others; to what extent a child's sociability is influenced by the quality of care at home and in the nonparental care setting; and whether children play with peers differently in the various out-of-home care environments. This chapter reports on several studies that were conducted to answer these questions. The conclusions that the authors offer are that reliable measures of the quality of peer play can be obtained; that individual differences in peer skills are good predictors of children's behavior in other nonparental care environments and that high quality care at home and in out-of-home care is associated with skilled interaction with peers.

Donna Wittmer and Alice Honig have addressed the issue of caregiver responses to toddlers and three year olds in specific activities within the day-care routine. The caregivers in this study did not display the same hands-off behavior

as the caregivers in the Howes & Clements study did. In fact, positive peer interactions were associated with positive teacher-child interactions, whereas negative interactions with peers and play materials were not associated with positive shaping of children's play. They also addressed the issue of caregivers' different responses to children according to the age and sex of the child.

Ellen Vineberg Jacobs and Donna Romano White examined the relationship between day-care quality and play behavior of kindergarten children in a two-part study. The first study established the fact that there was a positive relationship between day-care attendance and the child's interest and participation in the kindergarten classroom. The ECERS was used to measure quality and there was no association between the quality of the day care attended and play behavior in kindergarten. The second study determined that there was a relationship between negative play behavior in the day-care center and apathy and withdrawal in the kindergarten. The authors explain that negative behavior was coded whenever the focal child was engaged in a negative or aggressive interaction either as an initiator or as a target. Thus, children involved in negative play situations may have learned to withdraw from social interaction in the classroom and may have carried this behavior with them into the kindergarten. The authors believe that the results of these studies indicate that there is a longitudinal relationship between child-care experiences and social behavior in the elementary school.

Tiffany Field described three longitudinal projects in which she studied the social behavior of children who had attended quality infant child-care centers. In these studies, Field attempted to deal with confounding influences which have typically plagued other studies of this nature. Thus, she designed her studies to eliminate differences between families who chose to place their infants in day care and those who did not, differences in children's age of entry into care, as well as length of time in care and stability and quality of care. The data from the three studies showed that at the preschool level children who had more years of quality care were not at risk and were actually more social. Those at the grade one level who had attended full time care in quality center-based infant care appeared to be more involved with peers, had more friends and were more assertive than those who had spent less time in infant care. Children in grade six who had spent more time in infant care actually had more positive results for academic, emotional and social well-being than those who had spent less time in infant care.

Nina Howe, Lora Moller and Bette Chambers have addressed the issue of dramatic play in the day-care curriculum. They examined the relationship between the design of dramatic play centers and children's play behavior; more specifically they compared the relationship between social and cognitive play of children and the theme, novelty and duration of traditional versus novel dramatic play centers. Their results indicated that different novel dramatic play centers were associated with different types of social play behaviors and that more dramatic play occurred in familiar, rather than novel dramatic play centers. The

authors call for more teacher involvement in the planning and design of dramatic play centers so that children will be stimulated to engage in dramatic play at all social play levels.

Eliana Tobias examined the play behaviors of special needs children who were enrolled in four different types of preschool programs of varying environmental quality. The group composition within each of these programs differed. In segregated programs all of the children were handicapped; in the reversed mainstreamed setting, 50 percent had a handicap; and in community based day care and the nursery setting the special needs child might be the only one with a handicap. The results indicated that the developmentally delayed children engaged in high rates of solitary play in segregated and day care settings and in low rates of cooperative play. An analysis of the cognitive levels of play indicated that there was more constructive play in segregated, reversed mainstreamed and nursery school settings than in day-care centers where the special needs children displayed more functional play. It is interesting to note that dramatic play by the special needs child was infrequently observed in all settings. Tobias states that the play of the special needs children is not enhanced just by bringing them together with nonhandicapped children. She calls for teachers to set the stage for more enriching play experiences and to guide the children in their play within an environment that takes into account the needs of these children.

Miriam Rosenthal examined the social and nonsocial play of infants and toddlers enrolled in family day-care settings. On the basis of previous studies, Rosenthal hypothesized that (1) the quality of the family day-care environment would influence play behavior in terms of the levels of play with peers and with toys, (2) the quality of the family day-care environment would be a better predictor of children's play in the day-care settings than would be their home background and (3) spatial organization per se would have an effect on social play. The author used a time sampling observational technique to examine children's play with objects and peers, and used the same methodology to study the caregiver's spontaneous interactions with the children. Her findings indicated that age, sex and separation difficulties affected social play rather than play with objects. Even when family background effects were taken into account, the children's play behavior was mainly influenced by factors in the child-care environment.

Hillel Goelman and Alan Pence have explored play, talk and literacy in child development and the family day-care environmental context. They have focused on the association between symbolic play and the development of literacy and the relationship between the ecological features of child care and child language development. The authors used the Day Care Home Environmental Rating Scale (DCHERS) to obtain global measures of family day care homes and regulatable measurements as well. They found that both were positively associated with scores on language development and levels of interactive play.

Goelman and Pence analyzed the specific features of adult and child discourse patterns observed in play situations. In particular, they examined (1) relationships between levels of cognitive stimulation in the child's home and the family day care and levels of receptive and expressive language; (2) relationships between literate features of oral discourse in adult and child talk in home and family day care and the child's overall level of receptive and expressive language; and (3) similarities and differences between adult-child discourse in home and family day care. In summary, their findings indicated that the general level of cognitive stimulation was positively related to the children's receptive and expressive language test scores, and that the nature of the adult-child language interactions in terms of amount, style and content in home and family day care were positively related to outcomes on tests of expressive and receptive language. The authors state that high quality family day-care homes provide language experiences that are similar to and consistent with that which is available in high quality homes. They postulate that the two complement one another and offer the child a supportive environment for the growth and development of expressive and receptive language.

Jaipaul Roopnarine, Josephine Bright and Nancy Riegraf have addressed the topic of family dynamics and day-care children's peer group participation. Their research is focused on the relationships between mothers' and fathers' parenting skills, their personal well-being, martial relationship, job satisfaction, support networks and preschoolers' play behaviors and social activities in day care. The question which drives their research is "What behaviors are derived from and shaped in specific socialization systems?" In their study they assessed parent-child relationships, marital relationships and children's cooperative activities and sharing behavior with peers and found that parent-child relations were embedded within the larger social contexts in which development occurs. To obtain more specific information concerning these social contexts, they observed children's peer play interactions in the day care setting. The results indicated that maternal personal well-being and marital relations, but not parenting, showed significant associations with higher forms of children's cognitive and social modes of play. These findings are discussed at length in their paper and stimulate a number of interesting questions for further research.

Summary

The articles included in this text should provide a substantial amount of interesting information for adults who work with children in various types of day care arrangements and those who are involved in child development issues. Adults seem to have a rather influential role in children's development, either directly or indirectly, in their interactions with the children or by structuring the environments in which children function on a daily basis. Adult manipulation of

play situations and play environments can have an effect on the play behaviors that the children display and these in turn are related to the young child's development. If adults structure the environment to pull for certain types of play behaviors are we likely to see "real" play? If adults refrain from engaging in this type of manipulation will children derive enough developmental value for the time invested in play, particularly in a day-care setting where there are so many hours that can be devoted to play experiences? Howes and Clements thought that caregivers would act as managers of children's play much the same way that mothers do when their children are engaged in interactions with peers. However, they found that caregivers made few attempts to mediate peer contacts for toddlers and preschoolers. They tended to station themselves at the periphery of the children's play and stepped in solely for safety reasons. Some play advocates would applaud this finding and the educators who have managed to convince caregivers to keep their hands off children's play. However, in this text there are indications that adult involvement in children's play is essential in specific instances.

Howe et al., implore caregivers to consider the dramatic play environment and to facilitate the development of higher levels of dramatic play by taking a more active role in setting up dramatic play spaces and providing the materials that "pull for" group, as well as solitary and parallel dramatic play. Tobias states that play for special needs children is not enhanced simply by bringing handicapped and nonhandicapped children together. These children need a carefully planned physical environment that will influence the complexity of play behaviors and stimulate participation in activities to encourage independence and social competence. Goelman and Pence state that adult-child communications during play episodes in the day care setting are linked to outcomes on children's language measures. These results should have an impact on the practices of caregivers who work with young children. A careful reading of the following chapters should provide interesting insights into children's play in various childcare environments and the importance of the adult's role in children's play.

	AGE OF SUBJECTS INF. TOD. PRE. EL.	QUALITY MEASURE INCLUDED	LONGITUDINAL PERIOD	PLAY OBSERVATION FORMAT	CAREGIVERS OBSERVED YES/NO	TYPE OF CARE FDC/CC/HC/NS
Field	Infant/Toddler	unspec.	12 yrs	Parten	no	CC
Goelman and Pence	Preschool (4.0)	HOME DCHERS	no	Modified Smilansky/Parten	yes	FDC
Howe	Preschool (2.6–5.0)	—	no	Smilansky/Parten	no	CC
Howes et al.	Toddler–Preschool (1.1–4.0)	ECERS	3 yrs	Social behaviors	yes	CC/FDC
Jacobs and White	Preschool (4.0–5.0)	ECERS	2 yrs	Parten/Dodge modified	no	CC
Lamb	Toddler (2.0–3.0)	HOME	3 yrs	Howes Peer Play Scale (1980) Peer Observation Technique	no	FDC/CC
Roopnarine et al.	Preschool	—	no	Smilansky/Parten	no	CC
Rosenthal	Toddler (2.0)	EQR ECERS	no	Rubenstein and Howes (1979), Howes (1980)	yes	FDC
Tobias	Preschool (4.0–5.0)	ECERS	no	Smilansky/Parten	no	CC/NS/SACC
Wittmer	Toddler–Preschool (2.0–3.0)	—	no	APPROACH (Caldwell and Honig)	yes	CC

REFERENCES

Adessky, R., & White, D. R. (1991). Child Care Experience Predicts Teacher Ratings of Aggression in Kindergarten Girls. Washington, DC.

Andersson, B. E. (1989). Effects of public day care: A longitudinal study. *Child Development, 60*, 857-866.

Berk, L. (1985). Relationship of educational attainment, child orientated attitudes, job satisfaction, and career commitment to caregiver behavior toward children. *Child Care Quarterly, 14*, 103-129.

Berlyne, D. E. (1960). *Conflict, arousal and curiosity*. New York: McGraw-Hill.

Berlyne, D. E. (1969). Laughter, humor and play. In G. Lindzey & E. Aronson (Eds.), *The Handbook of Social Psychology* (Vol. 3). Reading, MA: Addison-Wesley.

Bjorklund, G. (1979). *The effects of toy quantity and qualitative category on toddlers' play*. Paper presented at the meeting of the Society for Research in Child Development, San Francisco.

Bredekamp, S. (1987). *Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8*. Washington, DC: National Association for the Education of Young Children.

Bruner, J. (1980). *Under five in Britain*. Ypsilanti, MI: High/Scope.

Carew, J. (1980). Experience and the development of intelligence in young children. *Monographs of the Society for Research in Child Development, 45* (12, Serial No. 183).

Clarke-Stewart, A. (1984). Day care: A new context for research and development. In A. Collins (Ed.), *Minnesota Symposium on Child Psychology*. Hillsdale, NJ: Erlbaum.

Clarke-Stewart, A. (1987). *In Search of Consistencies in Child Care Research*. Washington, DC: National Association for the Education of Young Children.

Connolly, J., & Doyle, A. B. (1984). Relation of social fantasy play to social competence in preschoolers. *Development Psychology, 20*, 797-806.

Dunn, J., & Wooding, C. (1977). Play in the home and its implications for learning. In B. Tizard & D. Harvey (Eds.), *Biology of play*. London: Heinemann.

Eckerman, C. D., & Whatley, J. L. (1977). Toys and social interaction between peers. *Child Development, 48,* 1645-1656.

Fein, G. G. (1981). Pretend play: An integrative review. *Child Development, 52,* 1095-1118.

Freyberg, J. (1973). Increasing the imaginative play of urban disadvantaged kindergarten children through systematic training. In J. L. Singer (Ed.), *The child's world of make-believe.* New York: Academic Press.

Gabarino, J. (1989). An ecological perspective on the role of play in child development. In N. Block & A. D. Pellagrini (Eds.) *The Ecological Context of Children's Play.* Norwood, NJ: Ablex Publishing Corporation.

Garvey, C. (1977a). *Play.* Cambridge, MA: Harvard University Press.

Goelman, H., & Pence, A. R. (1988). Children in three types of day care: Daily experiences, quality of care, and developmental outcomes. *Early Child Development and Care, 33,* 67-76.

Griffing, P. (1983). Encouraging dramatic play in early childhood. *Young Children,* 38(4), 13-22.

Harmes, T., & Clifford, R. (1980). *Early Childhood Environmental Rating Scale.* New York: Teachers College Press.

Hutt, C. (1966). Exploration and play in children. *Symposium of the Zoological Society of London, 18,* 61-81.

Hutt, C. (1970). Specific and diverse exploration. In H. Reese & L. Lipsett (Eds.). *Advances in child development and behavior.* New York: Academic Press.

Holloway, S. D., & Reichart-Erickson, M. (1988). The relationship of day care quality to children's free-play behavior and social problem-solving skills. *Early Childhood Research Quarterly, 3,* 39-53.

Howes, C. (1980). Peer play scale as an index of complexity of peer interaction. *Developmental Psychology, 16,* 371-372.

Howes, C., & Olenick, M. (1986). Family and child care influences on toddlers' compliance. *Child Development, 57,* 202-216.

Howes, C. (1990). Can age of entry into child care and the quality of child care predict adjustment in kindergarten? *Developmental Psychology, 26,* (2), 292-303.

Johnson, J. E., Christie, J. F., & Yawkey, T. D. (1987). *Play and Early Childhood Development.* Glenview, IL.: Scott, Foresman & Company.

McCartney, K., Scarr, S., Phillips, D., Grajek, S., & Schwarz, J. C. (1982). Environmental differences among day care centers and their effects on children's development. In E. Zigler & E. Gordon (Eds.), *Day Care: Scientific and social policy issues* (pp. 126-151). Boston: Auburn.

McGrew, W. C. (1972). *An ethological study of children's behavior.* London: Academic Press.

Owen, M. T., & Henderson, V. K. (1989). *Relations between child care qualities and child behavior at age four: Do parent-child interactions play a role?* Paper presented at the Biennial meeting of the Society for Research in Child Development, Kansas City, MO.

Parten, M. B. (1932). Social participation among preschool children. *Journal of Abnormal Psychology, 27,* 243-269.

Peck, J., & Goldman, R. (1978). *The behaviours of kindergarten children under selected conditions of the social and physical environment.* Paper presented at the meeting of the American Education Research Association, Toronto.

Pellegrini, A. (1986). Play centres and the production of imaginative language. *Discourse Processes, 9,* 115-125.

Pepler, D. J. (1979). *Effects of convergent and divergent play experience on preschoolers' problem-solving behaviors.* Unpublished doctoral dissertation, University of Waterloo.

Pepler, D. J., & Ross, H. S. (1981). The effects of play on convergent and divergent problem-solving. *Child Development, 52,* 1202-1210.

Phillips, D., McCartney, K., & Scarr, S. (1987). Child-Care Quality and Children's Social Development. *Developmental Psychology, 23* (4), 537-543.

Piaget, J. (1962). *Play, dreams and imitations in childhood.* New York: Norton.

Pollowy, A. M. (1974). The child in the physical environment: A design problem. In G. Coates (Ed.), *Alternative living environments.* Stroudsburg, PA: Dowden, Hutchison, and Ross.

Ramey, C., McPhee, D., & Yates, K. (1982). Preventing developmental retardation: A general systems model. In L. Bond & J. Joffee (Eds.), *Facilitating infant and early childhood development: Vol. 6.*

Primary prevention of psychopathology. (pp. 343-401). Hanover, NH: University Press of New England.

Ross, H. S., Rheingold, H. L., & Eckerman, C. D. (1972). Approach and exploration of a novel alternative by 12-month-old infants. *Journal of Experiment Child Psychology, 13,* 85-93.

Rubenstein, J., & Howes, C. (1979). Caregiving and infant behavior in day care and homes. *Developmental Psychology, 15,* 1-24.

Rubenstein, J., Howes, C., & Boyle, P. (1981). A two year follow-up of infants in community based day care. *Journal of Child Psychology and Psychiatry, 22,* 209-218.

Rubin, K. H. (1977a). The play behaviors of young children. *Young Children, 32,* 16-24.

Rubin, K. H. (1977b). The social cognitive value of preschool toys and activities. *Canadian Journal of Behavioral Science, 9,* 382-385.

Rubin, K. H. (1982b). Nonsocial play in preschoolers: Necessarily evil? *Child Development, 53,* 651-657.

Rubin, K. H., Fein, G. G., & Vandenberg, B. (1983). Play. In P. H. Mussen (Ed.) *Handbook of Child Psychology,* Vol. 4. New York: John Wiley & Sons.

Rubin, K. H., & Maioni, T. (1975). Play preference and its relationship to egocentrism, popularity and classification skills in preschoolers. *Merrill-Palmer Quarterly, 21,* 171-179.

Rubin, K. H., Maioni, T. L., & Hornung, M. (1976). Free play behaviors in middle and lower class preschoolers: Parten and Piaget revisited. *Child Development, 47,* 414-419.

Rubin, K. H., & Seibel, C. (1979). *The effects of ecological setting on the cognitive and social play behavior of preschoolers.* Annual meeting of the American Educational Research Association, San Francisco.

Rubin, K. H., Watson, K., & Jambor, T. (1978). Free play behaviors in preschool and kindergarten children. *Child Development, 49,* 534-536.

Ruopp, R., Travers, J., Glantz, B., & Coelen, C. (1979). *Children at the centre.* Final report of the National Day care Study. Cambridge, MA: Abt Associates.

Schwarz, J. C., Strickland, R. G. & Kroblick, G. (1974). Infant day care: Behavioral effects at preschool age. *Developmental Psychology, 10,* 502-506.

Schwarz, J. C., Scarr, S. W., Capafulo, B., Furrow, D., McCartney, K., Billington, R., Phillips, D., & Hindy, C. (1981, August). *Center, sitter and home care before age two: A report on the first Bermuda infant care study.* Paper presented at the meeting of the American Psychological Association, Los Angeles.

Segal, M., & Adcock, D. (1981). *Just pretending: Ways to help children grow through imaginative play.* Englewood Cliffs, NJ: Prentice-Hall.

Sheehan, R., & Day, D. (1975). Is open space just empty space? *Day Care and Early Education, 3,* 10-13.

Shure, M. E. (1963). Psychological ecology of a nursery school child. *Child Development, 34,* 979-994.

Simon, T., & Smith, P. K. (1983). The study of play and problem solving in preschool children: Have experimenter effects been responsible for previous results? *British Journal of Developmental Psychology, 1,* 289-297.

Smilansky, S. (1968). *The effects of sociodramatic play on disadvantaged preschool children.* New York: Wiley.

Smith, P. K. (1978). A longitudinal study of social participation in preschool children: Solitary and parallel play reexamined. *Developmental Psychology, 14,* 517-523.

Smith, P. K., & Connolly, K. J. (1976). Social and aggressive behavior in preschool children as a function of crowding. *Social Science Information, 16,* 601-620.

Smith, P. K., & Connolly, J. K. (1980). *The ecology of preschool behavior.* Cambridge, England: Cambridge University Press.

Smith, P. K., & Dutton, S. (1979). Play and training in direct and innovative problem solving. *Child Development, 50,* 830-836.

Sylva, K., Roy, C., & Painter, M. (1980). *Childwatching at playgroup and nursery school.* Ypselanti, MI: High/Scope Press.

Vandell, D., & Corasaniti, M. A. (1988). The relation between third graders after school care and social, academic, and emotional functioning. *Child Development, 59,* 868-875.

Vandenberg, B. (1978). Play and development from an ethological perspective. *American Psychologist, 33,* 724-738.

Vlietstra, A. G. (1981). Full-versus half-day preschool attendance: Effects in young children as assessed by teacher ratings and behavioral observations. *Child Development, 52,* 603-610.

Whitebrook, M., Howes, C., & Phillips, D. (1990). *Who cares: Child care teachers in America.* Final report of the national Child Care Staffing Study. Oakland, CA: Child Care Employee Project.

Woodard, C. (1984). Guidelines for facilitating sociodramatic play. *Childhood Education, 60,* 172-177.