한국 취학전 어린이들의 사회적 행동에 관한 연구

Children's Social Behavior in a Korean Preschool

연세대학교 아동학과
지 혜 련 교수
Yonsei University
Dept. of Child Development and Family Life
Professor, Helen R. Tieszen

〈CONTENTS〉

〈요 약〉

한국 유아 교육 기관에서 3, 4, 5세 어린이 63명을 대상으로 시간에 따라 표집을 하여 관찰한 결과를 변량분석 하였다.

그 결과 이 세 연령의 어린이에게서 병행놀이가 다른 어느 형태의 놀이보다도 가장 많이 나타났으며, 나이가 많아짐에 따라 증가하는 것으로 나타났다. 두번째로 많이 나타난 안하는 상태(unoccupied)의 행동은 연령 증가에 따라서 줄어 드는 경향을 보였고, 3세에서 여섯번째로 나타났던 협동놀이가 5세에서는 세번째로 많이 나타나 증가의 경향을 보였다.

손으로 다루는 (manipulative) 장난감과 바퀴달린 장난감의 사용은 연령 증가에 따라 감소하는 경향을 나타냈으나 미술 공예 자료와 책의 사용은 증가하였다.

장난감 사용에 있어 남녀의 차이를 나타냈는데, 즉 남아들은 여아들 보다 손으로 다루는 장난감, 나무토막, 바퀴달린 장난감들을 많이 사용하고 여아들은 소꿉놀이와 미술 공예 자료를 더 많이 갖고 노는 것으로 나타났다. 또 오전 오후반으로 나뉘어진 4세에서는 오후반 남아들이 오전반 남아들에 비해 소꿉놀이 미술 공예 자료를 더 많이 사용하였고, 여아들은 오후반이 오전반 보다 미술 공예 자료를 더 많이 사용하였다. 또 오전반

4세 여아들은 같은 성 같은 연령의 어린이와 가장 오랫동안 노는 경향을 나타냈다.

본 연구 결과와 Parten의 연구결과에 대한 설명을 Parten의 놀이이론과는 다른 입장에서 설명하였다.

I. Introduction

Starting with the observations of Karl Groos in 1896, the study of play and its place in development has been a concern of students of psychology. The nursery school movement and Piaget's theories gave added impetus to research concerning play. Among the functions of play is the place it holds in the child's social development. Hartup (1978, in press) suggests that isolated only children may fail to develop constructive patterns of social interaction in later life. The development of children's social interactions, then, may be considered an important area for research in child development. Very little is known about variation in the development of social interaction in various cultural contexts. In fact, Hartup (1970) in his extensive review of the literature on peer interation and social organization notes that most of the research on this subject has been done on U.S. children. He states (1970, p437) "It is clear...that peer influences impinge upon children at different times and with differing extensiveness across cultures... At present however, it is impossible to make precise normative statements concerning the crosscultural variations that exist in children's encounters with peers."

Parten's study (1932, 1933) on social play among preschool children is a classic which has been quoted frequently but has only recently been replicated (Barnes 1971; Rubin, et. al. 1976). She describes 6 stypes of children's social interaction during indoor free-play in the preschool: unoccupied behavior (U) where the child just wanders around the room or just sits, without involvement in play materials or other children: solitary play (S) where the child plays alone with materials different from the children nearby, no conversation or interaction with others: onlooker behavior (O) where the child watches what others are doing but doesn't participate in their ongoing activity; parallel play (P) where the child plays with toys similar to children nearby without interacting with the other children (imitating the play of other children is also included in parallel play); associative play (A) where the child plays with others without any differentiation of roles, and cooperative play (C) where the child participates in an organized group with or without the use of toys but with differentiation of roles.

Parten considered unoccupied, solitary, and onlooker behaviors to be negative social behaviors and accorded them negative weights (−3, −2, and −1, respectively) in her analyses. Parallel, associ-

ative, and cooperative play were considered to be increasingly positive social behaviors and were accorded corresponding positive weights (+1, +2, and +3, respectively). This point-of-view was recently questioned when Moore, Evertson, and Brophy (1974) found that goal-directed and educational activities accounted for 50% of the solitary play of kindergarten children.

Parten found that only the youngest children (2~3 years of age) engaged in unoccupied, solitary, and onlooker behavior. Parallel play was also most popular with the 2-year-olds, but the older children engaged increasingly in associative and cooperative play.*

The present study was designed to investigate the social behavior of Korean preschool children with the use of Parten's categories. Specifically, age and sex differences in social behavior, age and sex preference for play-mate and age and sex preference for play materials was investigated. It was predicted that a pattern of social behavior similar to that found by Parten would be discovered, in which the younger children would engage mostly in unoccupied, solitary, and parallel play, while older children would be found mostly in associative and cooperative play.

Ⅱ. METHOD

1. Subjects:

The subjects were all of the 63 children attending the preschool program of the Child Development Research Institute of Yonsei University. All of the children were of Korean professional and managerial social background. Several of them had lived overseas and were bilingual. The two morning groups were composed of 13 (7 boys and 6 girls) 3-year-olds and 18 (11 boys and 7 girls) 4-year-olds. The two afternoon groups were composed of 12 (7 boys and 5 girls) 4-year-olds and 20 (10 boys and 10 girls) five-year-olds: 63 children altogether. Age was defined by last birthday preceding public school opening on March 2, 1979. The two age groups in each half-day period were assigned their own rooms and teachers but the doors between the rooms were open and children moved freely between them and chose the area in which they played.

2. Procedure:

A time sampling similar to that used by Parten was employed in the current study. Each of the children was observed in random order from the observation booths for one minute during the indoor free-play period on successive days until 35 observations were made for each child.

* Parten's research has been reported by Choo, Chung Il (1978) and Cho, Bok Hee (1977).

Two trained observers made the observations and recorded the child's activity in code on the record sheet. Three lines per child for each observation were used to record a) the child's type of social behavior, b) the materials the child used, and c) the names of the children and/or adults with whom the child interacted.

In addition to the Parten categories, notations were made for quarreling (Q), for mother-initiated mother contact(MM), child-initiated mother contact(MC)*, teacher-initiated teacher contact (TT) and child-initiated teacher contact (TC). These additional categories were added during the initial pilot study, when it was discovered that the Parten categories were inadequate to describe all of the children's social behavior. Since the children engaged in a variety of activities within the one minute sampling periods, their social behaviors were recorded sequentially. Observations began one week after the beginning of the school year and continued for 4 weeks. no one child was observed continuously, but one child might be observed more than once (not more than 2 times) on any single day. Calculations of inter-observer reliability were made on the basis of 10 simultaneous observations. There was 93.6% agreement between observers.

Other studies (Johnson 1935; Kritchevsky, Prescott, and Walling 1969) have indicated that the contents, size, and organization of play space affects the quality of behavior in the preschool. The floor space in the two playrooms totalled 63.8 square meters or 2 square meters per child. A complete list of the play materials was made at the beginning of the study. Though there were some variations from time to time, the basic structure and quantity of the materials available remained about the same. The materials were coded into seven categories: manipulative (puzzles, beads, tinkertoy type building materials, matching games and other table games for cogni tive development); housekeeping (dolls; kitchen, dining, and bedroom furniture; doll dishes; dress-up clothes); blocks (hollow blocks, cardboard blocks, and unit blocks); wheel toys (trucks, cars, etc.); art materials (crayons, paints, paper, scissors, easel, paste, etc.): water play (water, sinks); books (50 story books); other (balls, climbing equipment on rainy days). Parten (1932) does not report the play materials available for indoor play or the size of the playrooms. She does mention an upstairs gym that was used in inclement weather, and she gives some examples of parallel play, associative, and organized supplementary play (cooperative play) at a sandbox. Among materials she reported as most popular in a follow-up analysis (Parten 1933), the sandbox and swings were missing in the present study.

* Since the observations were started early in the school year, a few children had not yet made the mother separation.

Ⅲ. RESULTS

Variability of children's play behavior during the one minute time samplings has been variously treated by different investigators. Parten used a frequency count and percentages in her tabulations. Some children, however, play at one activity for longer periods of time than others, so a simple frequency count seems inadequate. Rubin, Watson, and Jambor (1978) recorded the nearest 5 seconds of any activity and used time rather than frequency in their analysis. In the present study, the variability of social behavior in any one minute period ranged from 1~8. In order to determine the amount of time (minutes) the child engaged in any particular form of interaction, the amount of time (35 minutes for each child) was divided by the total number of recorded behaviors. The resulting factor was the multiplied by the number of interactions in each category. This product represents a measure of the amount of time (minutes) the child engaged in behavior in that particular category. For example, child A2 engaged in a total of 102 behaviors during the 35 minute period, yielding a factor of 0.343 for 8.58 minutes of unoccupied behavior (25×0.343), 6.17 minutes of onlooker behavior (18×0.343), 7.20 minutes of parallel play (21×0.343), etc. These scores (minutes per type of social behavior) were used in making the analysis of variance (table 1). In a 3 (age) ×2(sex)×11 (type of social behavior) ANOVA, a significant main effect was found for type of social behavior ($F=344.205$, $p<.001$). Significant two-way interaction effects were found for age by social behavior ($F=6.016$, $p<.001$) and

Table 1. Analysis of Variance: Age (3) by Sex (2) by Social Behavior Variables (11)

Source of Variation	Sum of Squares	df	Mean Square	F	Sign. of F
Main Effects	8881.929	13	683.225	264.775	0.001
Age	0.045	2	0.023	0.009	0.991
Sex	0.049	1	0.049	0.019	0.890
Social Behavior	8881.840	10	888.184	344.205	0.001
2-Way Interaction	409.802	32	12.806	4.963	0.001
Age×Sex	0.081	2	0.040	0.016	0.984
Age×Social Behav	310.481	20	15.528	6.016	0.001
Sex×Social Behav	93.368	10	9.337	3.618	0.001
3-Way Interaction Age×Sex	44.040	20	2.202	0.853	0.648
Social×Behav	44.040	20	2.202	0.853	0.648
Explained	9335.771	65	143.627	55.661	0.001
Residual	1617.908	627	2,580		
Total	10953.680	692	15.829		

Table 2. Age Group Means (Minutes) for Each Type of Social Behavior

Social Behavior / Age (N)	U	S	O	P	A	C	Q	MM	MC	TT	TC
3-Year-Olds (13)	7.88	6.73	3.68	10.59	0.45	1.81	0.30	0.05	0.16	1.88	1.43
4-Year-lOds (30)	6.71	5.35	3.62	11.79	0.31	4.24	0.50	0	0.03	1.15	1.46
5-Year-Olds (20)	6.93	3.44	3.59	13.17	0.20	6.01	0.25	0	0	0.64	0.82

for sex by social behavior ($F=3.618$, $p<.001$). Separate ANOVAs for the two 4-year-old grups revealed no significant differences, and so these two groups were combined on the analysis of variance.

Age groups were further compared on social behavior in a multiple range test (table 2). Five-year-olds engaged in significantly less ($F=8.09$, $p<.001$) solitary play than 3- or 4- year olds. Five-year-olds engaged in significanily more parallel play than 3-year-olds ($F=3.54$, $p<.05$) but the difference between 4-year-olds and 5-year-olds and between fours and threes was not significant in this category. In cooperative play, significant differences were found between all groups, with 3-year-olds exhibiting the least cooperative play and 5-year-olds the most ($F=9.45$, $p<.000$). Regarding social contact with adults, though there was little mother contact in any group, a significant difference was found between 3-year-olds and the two older groups in mother-initiated mother contact ($F=4.312$, $p<.05$). Teacher-initiated teacher-child contact was greatest in the 3-year-old group. In fact, the steady decrease with age in this category is highly significant ($F=11.516$, $p<.000$) This trend is further reflected in child-initiated teacher contact, where the difference between 3-year-olds and 5-year-olds is of marginal significance. ($F=2.581$, $p<.06$).

Within-group analysis (Table 3) yielded

Table 3. Age Related Within Group Variability of Social Behavior

3-Yr-olds (N=13)		4-Yr-Olds(N=30)		5-Yr-Olds(N=20)		Total Group Means (N=63)	
1)-P	10.59	1)-P	11.79	1)-P	13.17	1)-P	11.98
2)-U	7.88	2)-U	6.71	2)-U	6.93	2)-U	7.02
3)-S	6.73	3)-S	5.35	2)-C	6.01	3)-S	5.03
4)-O	3.68	4)-C	4.24	3)-O	3.59	4)-C	4.30
5)-Tt	1.88	4)-O	3.61	3)-S	3.44	5)-O	3.62
C	1.81	5)-Tc	1.46	4)-Tc	0.82	6)-Tc	1.25
Tc	1.43	5)-Tt	1.15	Tt	6.64	Tt	1.14
6)-A	0.45	6)-Q	0.50	Q	0.25	Q	0.38
7)-Q	0.30	7)-A	0.31	A	0.20	7)-A	0.30
Mc	0.16	Mc	0.03	Mc	0.00	Mc	0.05
Mm	0.05	Mm	0.00	Mm	0.00	Mm	0.01

(Homogeneous Subsets in Numbered Parenthesis)

Table 4. **Sex Differences in Social Behavior**

Social Behavior / Sex(N)	U	S	O	P	A	C	Q	MM	MC	TT	TC
Boys (35)	6.42	5.68	3.56	11.45	0.39	4.67	0.46	0.01	0.07	1.21	1.08
Girls (28)	7.77	4.21	3.70	12.65	0.20	3.84	0.27	0.01	0.01	1.46	1.05

7 homogeneous subsets (clusters) for the three age groups taken together also number 7 ($F=292.37$, $p<.000$). The subsets are given in table 3 in descending order of time spent in each of the social behavior categories. Among 3-year-olds, 1) parallel play, 2) unoccupied, 3) solitary, and 4) onlooker behavior are each subsets different from each other and all the others. The fifth homogeneous subset for 3-year-olds consists of teacher-initiated teacher contact, cooperative play, and child-initiated teacher contact. These are not statistically different from each other but are statistically different from all the other subsets; 6) child-initiated teacher contact and associative play form another subset in which the items are not statistically different from each other but are different from all the others, and 7) associative play, quarreling, child-initiated mother contact and mother-initiated mother contact are the final subset, representing the least engaged-in type of social behavior of the 3-yearolds. The four-year-olds have the same top three subsets as the 3-year-olds: 1) parallel play, 2) unoccupied, and 3) solitary play, but 4) cooperative play forms a subset with onlooker behavior (a jump from 6th place among the threes to 4th place among the fours). The 5-year-olds have fewer subsets than the other age groups. They retain 1) parallel play in first place, followed by 2) unoccupied behavior and cooperative play as the second subset. Subset 3) consists of onlooker behavior and solitary play while subset 4) is the catch-all for both types of teacher contact, quarreling, associative play, and both types of mother contact.

All age groups were collapsed to make a comparison between boys and girls on social behavior (table 4). Girls engaged in significantly more unoccupied behavior than boys ($F=7.15$, $p<.010$), and boys engaged in significantly more solitary play than girls ($F=5.22$, $p<.05$). Difference in parallel play approached significance, with girls engaging in more parallel play than boys ($F=2.79$, $p<.10$). Difference in associative play also approached significance, with boys engaging in more associative play than girls ($F=3.22$, $p<.08$).

Analysis of variability within sex groups (table 5) revealed six highly significant subsets for boys ($F=147.82$, $p<.000$) and 6 similar but not identical subsets for girls ($F=160.53$, $p<.000$). The subsets for boys are 1) parallel play; 2) unoccupied and solitary play; 3) cooperative play; 4) onlooker behavior; 5) teacher-initiated teacher contact,

Table 5. Sex-Related Within Group Variability of Social Behavior

Boys (35)		Girls (28)	
1)-P	11.45	1)-P	12.65
2)-U	6.42	2)-U	7.77
2)-S	5.68	3)-S	4.21
3)-C	4.67	3)-C	3.84
4)-O	3.56	3)-O	3.70
5)-Tt	1.21	4)-Tc	1.46
5)-Tc	1.08	4)-Tt	1.05
6)-Q	0.46	5)-Q	0.27
6)-A	0.39	5)-A	0.20
6)-Mc	0.07	6)-Mc	0.01
6)-Mm	0.01	6)-Mm	0.01

(Homogeneous subsets indicated by numbers in paranthesis)

child-initiated teacher contact, and quarelling; and 6) quarreling, associative play child-initiated mother contact, and mother initiated mother contact. For girls, the subsets are 1) parallel play; 2) unoccuppied behavior; 3) solitary play, cooperative play, and onlooker behavior, 4) child-initiated teacher contact, and teacher-initiated teacher contact, 5) quarreling, and associative play, and 6) quarreling, associative play, child-initiated mother contact, and mother-initiated mother contact. Of interest in a comparison of the two is the similarity between them of the ordering of social behavior categories. They are identical except for the reversal in child-and teacher-initiated teacher contact.

Chi square was used to analyze age and sex differences in the use of play materials. Frequency in each category was used in making the analysis but means are reported in tables 6 through 11 for purposes of easy comparison. A significant effect (table 6) was found for age differences in use of play materials ($X^2=219.97$, $df=16$, $p<.01$). Children used less manipulative materials with age but use of art materials and books increased with age. Housekeeping materials were used somewhat less by 5-year-old than threes and wheel toys were used much less by fives than by threes. Use of music instruments and water play was negligible and might be classified with "other" in future work on this subject.

Sex differences in the use of play materials was analyzed separately for each age group and are reported on tables 7, 8, and 9. Significant effects were found for sex differences in each age group ($p<.01$ on each analysis). Differences between boys and girs are in the same direction for each of the 5 most

Table 6. Play Materials Used by 3-, 4-, and 5-Year-Olds

(Unit: Frequency Means)

Play mates / Age (N)	Manipulative	Music	Housekeeping	Blocks	Wheel Toys	Art	Water	Books	Other
3-Yr-Olds (13)	12.77	1.00	6.54	3.46	8.54	7.38	0.08	1.00	1.23
4-Yr-Olds (30)	10.93	0.73	6.73	3.90	4.90	11.17	0.17	1.10	1.20
5-Yr-Olds (20)	7.75	0.63	5.45	3.05	1.95	13.95	0.20	3.90	3.25

$X^2=219.97$, $df=16$, $p<.01$

Table 7. Sex Differences in Use of Play Materials--3-yr-olds

(Unit: Frequency Means)

Play Mats. / Sex(N)	Manip-ulative	Music	House Keeping	Blocks	Wheel toys	Art	Water	Books	Other
Boys (7)	11.57	0.71	4.57	5.29	13.14	5.57	0.00	1.29	1.14
Girls (6)	14.17	1.33	8.83	1.33	3.17	9.50	0.17	0.67	1.33

$X^2=73.26422$, df=8, $p<.01$

Table 8. Sex Differences in Use of Play Materials--4-yr-olds

(Unit: Frequency Means)

Play Mats. / Sex(N)	Manip-ulative	Music	House Keeping	Blocks	Wheel Toys	Art	Water	Books	Other
Boys (18)	13.89	0.83	4.11	5.72	7.22	7.33	0.11	1.11	1.39
Girls (12)	6.50	0.58	10.67	1.17	1.42	16.92	0.25	1.08	0.92

$X^2=233.59$, df=8, $p<.01$

Table 9. Sex Differences in Use of Play Materials--5-yr-olds

(Unit: Frequency Means)

Play Mats. / Sex(N)	Manip-ulative	Music	House Keeping	Blocks	Wheel Toys	Art	Water	Books	Other
Boys (10)	7.60	0.30	1.10	5.10	3.50	12.60	0.20	3.60	4.30
Girls (10)	7.90	0.90	6.80	1.00	0.40	15.30	0.40	4.20	2.20

$X^2=71.922$, df=8, $p<.01$

Table 10. Differences between Morning and Afternoon 4-yr-old Boys in Use of Materials

(Unit: Frequency Means)

Play Mats. / Time of Day	Manip-ulative	Music	House-Keeping	Blocks	Wheel Toys	Art	Water	Books	Other
Morning (N=11)	15.64	0.64	2.91	6.27	7.82	6.18	0.18	0.91	1.45
Afternoon (N=7)	11.14	1.14	6.00	4.86	6.29	9.14	0.00	1.43	1.29

($X^2=27.94$, df=8, $p<.01$

Table 11. Differences between Morning and Afternoon 4-yr-old Girls in Use of Materials

(Unit: Frequency Means)

Play Mats. / Time of Day	Manip-ulative	Music	House-Keeping	Blocks	Wheel Toys	Art	Water	Books	Other
Morning (N=7)	6.57	0.43	11.14	1.71	1.71	14.00	0.29	1.29	1.14
Afternoon (N=5)	6.40	0.80	10.00	0.40	0.50	21.00	0.20	0.80	0.60

$X^2=15.74$, df=8, $p<.05$

used play materials: boys used manipulative materials, blocks, and wheel toys more than girls at each age level, and girls used housekeeping and art materials more than boys at each age level.

Tables 10 and 11 show the differences in the use of play materials by the morning and afternoon 4-year-old groups. Significant differences were found for both boys and girls (boys: $X^2=27.94$, df $=8$, $p<.01$), (girls: $X^2=15.74$, df $=8$, $p<.05$). Afternoon boys used housekeeping materials and art materials more than morning boys, and morning boys used manipulative materials, blocks, and wheel toys more than afternoon boys. Afternoon boys thus showed a marked shift in the direction of preference for the more traditionally feminine play materials. Among girls, the most marked difference is the stronger preference of afternoon girls for art materials. Morning girls have a slightly stronger preference for housekeeping, blocks, and wheel toys than afternoon girls.

Trends in the choice of play mates were for same-age, same-sex playmates, but statistical sgnificance was achieved only for 4-year-old girls ($X^2=4.16$, $p<.05$) who played most with other 4-year-old girls.

Ⅳ. DISCUSSION

The results of the present study only partially confirmed the Parten heirarchy for social behavior. As in the Parten study, cooperative play increased with age, but parallel play, rather than declining actually increased with age and continued to be the predominant form of social behavior for 5-year-olds. Unoccupied behavior, seen only rarely in the Parten study diminished only slightly with age and continued to be the second most predominant form of social behavior among 5-year-olds.

We must ask why parallel and unoccupied behavior was the predominant form of social behavior in this group. Though these observations were made within the first 5 weeks of the school year, all but 2 of the of the 5-year-olds had attended this nursery school at least one semester, so the surroundings were not unfamiliar to them. Though newness of the environment, thus, should not account for the predominance of parallel play and unoccupied behavior among the 5-year-olds, it is entirely possible that the beginning of the school year, after the long winter vacation had some effect on their behavior. Teaching styles in the nursery school, the relatively crowded indoor play space, an abundance of play materials bordering on over-abundance could also contribute to the predominance of parallel play over cooperative at even the 5-year-old level. Hartup (1970, p437) has suggested that "cultural differences in peer socialization should be associated with variations in children's personality and social development." Mussen (1973) describes contrasting maternal styles among Japanese and American mothers and suggests that differing maternal styles

may be the critical factor in the differing behavior of 3-to 4-month-old infants in the two cultures. Such an effect might be responsible, in part, for differing behavior among Korean preschool children as well.

In the introduction, we mentioned Parten's opinion that unoccupied, solitary, and onlooker (USO) represents immature social behavior, while parallel, associative, and cooperative (PAC) represents mature social behavior. This finding was called into question by the research of Moore, Evertson, and Brophy (1974) who found that 50% of kindergarten children's solitary behavior was spent in constructive activities. Rubin, Maioni, and Hornung (1976) considered that parallel play was indicative of the least mature form of social behavior among 3-and 4-year-olds. In the opinion of the present researcher, none of the categories of social behavior could be considered more or less mature than other forms. Just to sit still in an unoccupied manner may not indicate immature behavior at all. Sitting still doesn't mean that one's brain isn't working. Singer (1961) in his research on creativity found that boys with most vivid imaginations were able to sit still the longest. Far from being immature, "unoccupied" may be the most mature thing to be in certain circumstances. Parallel play, too, may be the most mature form of behavior under certain circumstances, and although cooperative behavior may surely represent a mature form of behavior, a child who always had to be playing with someone else and never sat still or played alone might begin to look like a hyperactive child.

Also of interest is the very small incidence of quarreling among these children. This has been noticed by visitors from other countries and is born out, statistically, by this study.

In the Rubin, Watson, and Jambor study (1978), associative and cooperative play were combined to form a single group play score because some of the same behaviors were scored associative by some observers and cooperative by others. In the present study, the observers also complained about problems in differentiation between associative and cooperative play. In the future, these two categories could well be collapsed into a single category.

Sex differences in the materials used for play were in the expected direction of traditional preferences, with boys pla ying more with manipulative materials, blocks, and wheel toys, and girls playing more with housekeeping and art materials. One exception to this was the afternoon 4-year-old boys' preference for housekeeping and art materials compared with morning 4-year-old boys. The nursery school school teachers felt that this was due to the tendency of the 4-year-old boys to follow the lead of the 5-year-old boys in the choice of play materials. Other contributing factors might be general afternoon fatigue.

Cho, Bok Hee (Cho 1977) reports on size of children's play groups. She found

that size of play groups increased with age. This aspect of children's social behavior was not included in the present study. The present study did include material on age and sex of play-mates, however. While there was a general trend favoring same-age, same-sex preference for play mates, this trend was by no means universal and was actually reversed in a few age-sex groups. The only statistically significant preference was found for morning group 4-year-old girls, who played more with other 4-year-old girls.

V. SUMMARY

Analysis of variance of 35 one-minute time samplings of 63 three-, four, and five-year-olds in a Korean nursery school revealed that parallel play was the predominant form of social behavior at all 3 age levels and increased slightly with age. Unoccupied behavior, far from dropping out, continued to hold second place, while cooperative play increased with age, from sixth to third place in the heirarchy. Use of manipulative play and wheel toys decreased with age, but use of art materials and books increased with age. Boys used manipulative materials, blocks, and wheel toys more than girls, and girls used housekeeping and art materials more than boys. Afternoon group 4-year-old boys, however, used housekeeping and art materials significantly more than morning group boys. Afternoon group girls also played with art materials more than morning group girls. Statistically significant play-mate preference was found only for morning group 4-year-old girls, who played more with other same-sex, same-age girls. Explanations for differences found in the Korean sample were discussed in terms other than Parten's evaluations of maturity of play.

REFERENCES

1. Barnes, K., Preschool play norms: a replication, *Developmental Psychology*, 1971, *5*, 99-103.
2. Groos, Karl, The play of man, teasing and love-play (1896), reprinted in Bruner, J. S. (ed), *Play: Its Role in Development and Evolution* Ny: Basic Book, 1976. 68-83.
3. Hartup, W.W., Peer interaction and social organization, in Mussen, P. H. (ed), *Carmichael's Manual of Child Phychology, Vol II*, NY: Wiley, 1970. 361-456.
4. Hartup, W. W., Children and their friends, in H. McGurk (ed) *Childhood and Social Development*, (in press, 1978).
5. Johnson, M.W. The effect on behavior of variation in the amount of play equipment, *Child Development, 6*, 56-68, 1935, reported in Millar, *The Psychology of Play*, NY: Penquin, 1968.
7. Kritchevsky, S, Prescott, E., and L. Walling, *Planning Environments for Young Children Physical Space*, Washington, D. C., Nat'l Assoc. for the Education of Young Children, 1969.
8. Moore, Nancy, V.C. Evertson, and J. E. Brophy, Solitary: some functional reconsiderations, *Developmental Psychology*, 1974, *10* 830-834.
9. Mussen, P. *The Psychological Development*

of the Child, Englewood Cliffs N.J.: Prentice-Hall, 1973.

10. Parten, M.B. Social participation among preschool children, *Journal of Abnorml and Social Psychology*, 1932, *27*, 243-269.
11. Parten, Mildred B. Social Play Among Preschool Children, *Journal of Abnormal and Social Psychology*, 1933, *28*, 196-147, reprinted in Herron R.E. and B. Sutton-Smith, *Child's Play* ,NY: Wliey, 1971.
12. Rubin, K. H., T. C. Maioni, and M. Hornung, Free play behaviors in middle and lower class preschoolers; Parten and Piaget revisited, *Child Development*, 1976, *47*, 414—419.
13. Rubin, K. H., K. S. Watson, and T. W. Jambor, Free-play behaviroos in preschool and kindergarten children, *Child Development*, 1978, *49*, 534—536.
14. Singer, J. L. Imagination and waiting abilty in young children, J. Personality, 1961, *29*, 396—413. Quoted in P H. Mussen (ed), *Carmichael's Manual of Child Psychology, Vol. I*, Ny: Wiley, 1970. p 1259.
15. 주 정일. 아동발달학, 서울·교문사, 1979.
16. 조 복희. 취학전 아동의 놀이 활동에 관한 연구, 대한 가정학회지 15권 3호. 1977. pp. 45—51.