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A PRELIMINARY EVALUATION OF NURSERY SCHOOL EXPERIENCE ON THE LATER SCHOOL ADJUSTMENT OF CULTURALLY DISADVANTAGED CHILDREN.

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*KINDERGARTEN, *PRESCHOOL EVALUATION, *NURSERY SCHOOLS, *STUDENT ADJUSTMENT, *CULTURALLY DISADVANTAGED, PRESCHOOL EDUCATION, COMPARATIVE ANALYSIS, FIRST GRADE, SECOND GRADE, THIRD GRADE, SOCIOECONOMIC STATUS, NEW YORK, STATEN ISLAND, BROOKLYN

THE MAJOR OBJECTIVE WAS TO DETERMINE WHETHER CULTURALLY DISADVANTAGED CHILDREN IN AN URBAN AREA WITH PRESCHOOL EXPERIENCE ARE BETTER ADJUSTED IN THE PRIMARY GRADES THAN ARE SIMILAR CHILDREN WITHOUT SUCH EXPERIENCE. A SECONDARY OBJECTIVE WAS TO DETERMINE WHETHER THERE ARE DIFFERENCES IN ADJUSTMENT BETWEEN THOSE HAVING NURSERY SCHOOL AS OPPOSED TO KINDERGARTEN EXPERIENCE. THE SAMPLE CONSISTED OF 42 FIRST-GRADE, 43 SECOND-GRADE, AND 32 THIRD-GRADE PUBLIC SCHOOL STUDENTS LIVING IN A LOW SOCIOECONOMIC GEOGRAPHIC AREA OF STATEN ISLAND, NEW YORK. THREE TYPES OF PRESCHOOL EXPERIENCE WERE STUDIED--(1) NURSERY SCHOOL, (2) KINDERGARTEN (WITH NO PRIOR NURSERY SCHOOL EXPERIENCE), AND (3) NO KINDERGARTEN AND NO NURSERY SCHOOL. ANALYSIS OF SCHOOL ADJUSTMENT WAS MADE THROUGH USE OF SCHOLASTIC RECORDS, GUIDANCE COUNSELOR REPORTS, ABSENCE, TARDINESS AND TRUANCY REPORTS, RESULTS OF GROUP ACHIEVEMENT (CALIFORNIA ACHIEVEMENT TESTS) AND GROUP INTELLIGENCE (CALIFORNIA TEST OF MENTAL MATURITY) TESTS, TEACHER RATINGS OF PERSONAL-SOCIAL ADJUSTMENT (CASSEL BEHAVIOR RATING SCALE) AND PEER RATINGS OF SOCIAL ACCEPTABILITY (HEREFORD'S SOCIOMETRIC RATING TECHNIQUE). THE MAJOR FINDINGS OF THE STUDY WERE THAT LOW SOCIOECONOMIC LEVEL CHILDREN WITH FORMAL PRESCHOOL EXPERIENCE (EITHER NURSERY SCHOOL OR KINDERGARTEN) ARE BETTER ADJUSTED AT THE PRIMARY (1-3) GRADE LEVEL THAN CHILDREN WITHOUT PRESCHOOLING. IT APPEARS THAT CHILDREN WITH NO PRESCHOOLING ARE ESPECIALLY POOR PERFORMERS IN READING AND ARITHMETIC ACHIEVEMENT. THERE WERE NO SIGNIFICANT DIFFERENCES IN SCHOOL ADJUSTMENT BETWEEN NURSERY SCHOOL AND KINDERGARTEN-TRAINED CHILDREN. (GC)

A PRELIMINARY EVALUATION OF NURSERY SCHOOL EXPERIENCE ON THE LATER SCHOOL ADJUSTMENT OF CULTURALLY DISADVANTAGED CHILDREN

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PROBLEM

The poor school performance of culturally disadvantaged children is of major concern to educators. In an effort to improve the school performance of these children, formal preschool programming (i.e., nursery education) is being popularized to provide these individuals with compensatory education. The reported effectiveness of preschool experience for disadvantaged children has been largely extrapolated from studies involving nondeprived populations, raising some question as to the validity of this premise. The purpose of this study is to provide pilot data on the relationship between preschool experience and the early school adjustment of culturally disadvantaged children.

BACKGROUND

The culturally disadvantaged child, compared to the child from the dominant middle class culture, is reported to have disproportionate difficulties in school adjustment (Deutsch, 1964a, 1964b, Hollingshead, 1949, Hunt, 1964, McCandless, 1961). Some authorities (e.g., Cooke, 1965, Feldmann, 1964, Gray & Hess, 1965, Heffernan, 1965, Hymes, 1962) feel that exposure of the culturally disadvantaged child to a nursery school type of experience may present an educational solution to this school adjustment problem.

The experimental literature in this area, however, is sparse, and provides equivocal evidence on the effectiveness of this type of education solution. Aside from recent Head Start research, there has been little controlled empirical evidence on the effects of preschool experience for disadvantaged children. When control groups have been used in previous studies, there has generally been an absence of appropriate matching procedures to insure unequivocal interpretation of obtained differences. Conclusions about the education of the culturally disadvantaged child have generally been extrapolated from studies using different cultural populations; these populations are often from private nursery schools or nursery schools associated with orphanages and universities.

The focus of nursery school programs has often been on intellectual and social development. Whereas some studies have reported moderate gains in tested intelligence as a function of nursery school attendance, other studies have failed to confirm this relationship (cf. McCandless, 1961). Generally, where social and academic gains have been reported, there is some evidence to suggest that they tend to be permanent and related to long range success (e.g., Jersild & Fite, 1939, Kawin & Hoefer, 1931, Lindemann & Ross, 1955, McCandless, 1961, Peterson & Cattell, 1958). The implications of these studies present the possibility that culturally disadvantaged children too may benefit from preschool (nursery school or kindergarten) experience.

Further, because of the earlier age at which nursery school experience occurs and because of the length and nature of such experience, it may have a greater effect on adjustment than does kindergarten experience alone.

OBJECTIVES

1) To determine if culturally disadvantaged children with preschool (nursery or kindergarten) experience are better adjusted in the primary grades of school than are culturally disadvantaged children without such experience.
2) To determine if culturally disadvantaged children with nursery school experience are better adjusted in the primary grades of school than are culturally disadvantaged children with kindergarten experience.
3) To provide data regarding the relationships between background characteristics and school performance of children in the low socioeconomic class.

METHOD

Subjects. The 117 culturally disadvantaged children in the study consisted of 42 first, 43 second, and 32 third grade students living in a low socioeconomic geographic area of Staten Island, New York, and attending the public school serving that area. The sample was drawn from among 418 children who comprised the first, second, and third graders of that public school. From this pool, children with three types of preschool experience were selected for study: those whose preschool experience consisted of attendance at a day care nursery (N=32), those who attended kindergarten classes at the public school without any nursery school experience (N=57) and those who had no formal preschool experience whatsoever and who entered the first grade directly from the home (N=28). Of the 117 children in the sample, 71 (61%) met the school's criteria of family need and were receiving free lunches at the school. (At least six of these children were also receiving Aid to Families with Dependent Children relief, and at least 43 definitely were not, with a mean weekly income for this non-AFDC group of $79.00/week, and an average of slightly over 6 dependents per family).

Because classroom influences might be an important factor, an attempt was made to match subjects within a specific school class.[1] A list was made by class of those children who had attended the nursery school. An indication was made as to whether the child was male or female, and as to whether or not he was receiving a free lunch. (Receiving free lunch is regarded by the school as being an indication of low socioeconomic status).

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[1] Excluded from the population at the request of school officials were children in two classes for the emotionally disturbed, due to the difficulty of testing these children.

Since the vast majority of students had kindergarten experience, it was relatively easy to match kindergarten children to nursery school children in each class by sex and free lunch, while retaining the proper proportions. The matching of children with no preschool experience to children who attended nursery school was not possible because of the small sample size; thus, every child with no preschooling was included in the study. It was due to matching difficulties and sample size that 46 non-free lunch children of presumably low socioeconomic status background (based on area of residence) were included in the sample. Since no other background information was available for these children, some of them may not have been of low socioeconomic status.

Instruments. A) Cognitive Level. The California Test of Mental Maturity, Short Form was administered (level 0 for first graders, level 1 for second and third graders). To insure standard administration procedure, the test was given by research assistants, using the classroom teacher to aid in classroom management. The CTMM was revised in 1963 and is designed to assess the functional capacities which are basic to learning, problem solving, and responding to new situations. The test measures four factor areas (Logical Reasoning, Numerical Reasoning, Verbal Concepts, & Memory), and differentiates responses to verbal stimuli from responses to nonverbal, or pictorial, stimuli.

B) Achievement. Achievement was measured with the Reading and Arithmetic subtests of the California Achievement Test (lower primary level for first and second graders, upper primary level for third graders). The CAT is designed to measure, evaluate and diagnose school achievement; 1963 norms were used.

School records which were available (for second and third graders) were: grade placements on the Word Knowledge and Reading subtests of the Metropolitan Achievement Test, teacher report card grades in reading, oral expression, written expression and handwriting, and mathematics. Grades were assigned on a four-point scale from excellent to unsatisfactory.

C) Personal-Social Adjustment. Teachers' ratings were obtained to provide information on the child's non academic adjustment. Concurrent with CAT administration each teacher was given 17 behavior rating scales and requested to indicate which of the five points along each scale was most appropriate for each child in the class. The 17 behavior rating items were taken, in part, from the Office of Economic Opportunity teacher rating instruments from Project Head Start.

The full descriptions of the items are presented in Appendix B; the following is a listing of the 17 items: (1) Poor Quality of Speech, (2) Poor Peer Relationships, (3) Non-Independence, (4) Motor Discontrol, (5) Non-Cooperation, (6) Aggressive Reactions, (7) Low Verbal Skills, (8) Passivity of Speech, (9) The Child with Separation Problems, (10) The Fearful or Tearful Child, (11) The Isolated Child, (12) The Child who Doesn't Learn, (13) The Silent Child, (14) The Provocative Child, (15) The Disruptive Child, (16) The Unhappy Child, and (17) The Hyperactive Child.

Also available as indices of personal-social adjustment for second and third graders were teachers' report card ratings of social behavior, work habits, and health-safety habits. The number of days absent and late was also used as an index of adjustment for all subjects.

RESULTS

Each child performance measure (cognitive, achievement, or personal-social) was evaluated in a three-by-three analysis of variance (grade level by preschool experience level; see figure 1). Since different levels of the tests administered across grade levels had different raw score ceilings, scores for the CTMM, CAT, and MAT were standardized within each grade level before inclusion into the analysis of variance design. Where statistically significant F ratios were obtained, further analyses were made with t tests using the following formula suggested by Lindquist (1953):

$$t = (M_1 - M_2) / \sqrt{(1/n_1 + 1/n_2)\, ms_w}$$

Means for the nine treatment groups are presented in Table 1. The results of the analyses of variance are summarized in Table 2. Detailed analyses of these results follow.

Background Characteristics of The Sample. There were no significant age differences across the three preschool experience groups and no significant differences for distribution by sex. With regard to free lunch, both main effects (grade level and preschool experience) were statistically significant. That is, the children with no preschooling (neither nursery nor kindergarten) were receiving less economic aid than were both the kindergarten and nursery school groups; there were no significant differences in financial aid between the kindergarten and nursery groups. Also, more first grade children were receiving free lunches than were either the second and third graders. Finally, there was a significant grade by preschool experience interaction for number of siblings in the family, those third grade children with no preschooling

	No Preschool Experience	Kindergarten Experience	Nursery School Experience	
First Grade	(10)	(18)	(14)	42
Second Grade	(10)	(23)	(10)	43
Third Grade	(8)	(16)	(8)	32
	28	57	32	N=117

Figure 1. Experimental Design and Number of Subjects in Each Group

Table 1

Means for the Nine Treatment Groups
On Various Performance Measures

Variable[a]	Grade 1			Grade 2			Grade 3		
	O	K	NS	O	K	NS	O	K	NS
CTMM L	-.76	.31	.14	.35	-.09	-.13	-.10	-.05	.21
CTMM N	-.44	.08	.21	.33	-.06	-.19	-.18	-.05	.28
CTMM V	-.02	.24	-.30	-.01	.07	-.14	.07	.19	-.44
CTMM M	-.26	.25	-.13	.58	-.06	-.44	.13	-.12	.10
CTMM TL	.32	.03	-.38	-.03	.01	.02			
CTMM NL	-.75	.27	.18	.42	-.13	-.13	-.11	-.06	.24
CTMM T	-.50	.34	-.07	.43	-.06	-0:29	-.08	-.03	.15
CAT RV	-.59	.15	.23	.21	-.11	.06	-.92	.27	.39
CAT RC	-.17	.14	-.06	.15	-.06	-.01	-.88	.40	.08
CAT TR	-.60	.16	.21	.20	-.10	.04	-.94	.36	.21
CAT AR	-.66	.21	.20	.12	-.03	-.06	-.61	.32	-.03
CAT AF	-.47	.13	.17	-.04	.15	-.30	-.46	.34	-.22
CAT TA	-.67	.21	.21	.03	.08	-.22	-.54	.36	-.18
MAT WK				.50	-.23	.02	-.50	.08	.35
MAT RD				.36	-.05	-.24	-.27	.08	.10
R (X-O)	.02	.36	.15	.25	.20	-.01	.36	-.59	.24
A (X-O)	.40	.55	.34	.61	.46	.42	.07	-.10	.16
ABSENT	4.33	2.88	2.15	2.88	1.77	2.10	2.86	1.56	2.25
LATE	0.00	.35	.69	0.63	.14	.00	0.71	.44	1.25

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Table 1. continued

Variable[a]	Grade 1			Grade 2			Grade 3		
	O	K	NS	O	K	NS	O	K	NS
SOC BH				2.25	1.95	2.50	2.00	2.38	2.38
WRK HB				1.75	2.14	2.30	2.43	2.50	2.25
HEALTH				1.63	1.82	2.00	1.86	2.06	2.13
LA RD				2.00	2.36	2.30	3.00	2.31	2.50
LA ORL				2.13	2.33	2.00	2.57	2.63	2.38
LA WRT				1.88	2.27	2.50	2.71	2.63	2.63
MATH				2.25	2.23	2.40	2.00	2.06	2.25
FACT 1	5.27	5.03	4.80	4.97	5.33	4.68	5.27	4.69	4.78
FACT 2	4.44	4.86	4.59	5.86	5.17	5.69	4.06	5.04	5.18
FACT 3	5.73	4.97	5.39	4.68	5.04	5.15	3.83	4.88	4.98
AGE (mos)	75.5	77.3	77.1	87.1	87.9	87.3	103.4	100.9	100.9
SEX	1.6	1.3	1.3	1.5	1.4	1.4	1.4	1.5	1.5
SES	.40	.94	1.21	.20	.61	.60	.25	.69	.63
NO. SIBS	1.9	3.2	3.7	2.5	3.3	3.4	5.3	3.0	2.6

[a] See Appendix A for an explanation of the variables. Scores on the first 15 variables were standardized within each of the three grade levels.

Table 2

Summary of Analyses of Variance
For Various Performance Measures

Variable[a]	Grade Level F	Grade Level p	Preschooling F	Preschooling p	Interaction F	Interaction p
CTMM L	.23	NS	.74	NS	2.49	<.05
CTMM N	.06	NS	.37	NS	1.38	NS
CTMM V	.02	NS	2.08	NS	.20	NS
CTMM M	.09	NS	.93	NS	1.84	NS
CTMM TL	.02	NS	1.00	NS	.89	NS
CTMM NL	.26	NS	.64	NS	2.72	<.05
CTMM T	.13	NS	.26	NS	2.00	NS
CAT RV	.23	NS	5.11	<.01	2.65	<.05
CAT RC	.26	NS	2.19	NS	2.06	NS
CAT TR	.31	NS	4.86	<.025	2.58	<.05
CAT AR	.15	NS	3.26	<.05	1.52	NS
CAT AF	.04	NS	2.69	NS	.87	NS
CAT TA	.08	NS	3.67	<.05	1.40	NS
MAT WK	.29	NS	.43	NS	3.56	<.05
MAT RD	.04	NS	.08	NS	1.46	NS
R (X-O)	3.79	<.05	2.07	NS	4.15	<.005
A (X-O)	9.39	<.001	.16	NS	.92	NS
ABSENT	1.11	NS	2.16	NS	.31	NS
LATE	2.29	NS	.78	NS	1.39	NS

-continued-

Table 2 continued

Variable[a]	Grade Level F	Grade Level p	Preschooling F	Preschooling p	Interaction F	Interaction p
SOC BH	.01	NS	1.09	NS	1.19	NS
WRK HB	2.27	NS	.42	NS	.94	NS
HEALTH	1.79	NS	1.57	NS	.06	NS
LA RD	3.51	NS	.21	NS	2.41	NS
LA ORL	4.89	<.05	1.01	NS	.07	NS
LA WRT	5.10	<.05	.64	NS	1.17	NS
MATH	1.43	NS	.65	NS	.04	NS
FACT 1	.11	NS	1.42	NS	.65	NS
FACT 2	8.87	<.001	1.19	NS	2.48	<.05
FACT 3	3.96	<.025	1.12	NS	1.93	NS
AGE (mos)	358.02	<.001	.05	NS	1.19	NS
SEX	.09	NS	.37	NS	.66	NS
SES	5.38	<.025	10.35	<.001	.67	NS
NO. SIBS	1.25	NS	.03	NS	4.67	<.005

[a] See Appendix A for an explanation of the variables.

having a larger number of siblings than other third grade children.

Thus, within limits of available background characteristics, the attempt to match children with kindergarten and nursery school experience was successful. The sample with no preschooling was too small to permit matching and, unselected, they appear to be of a somewhat higher socioeconomic status and, at the third grade level, come from larger families.

Cognitive Level. Seven three-by-three analyses of variance were performed on the measures of cognitive level (Tables 1 and 2). These consisted of the four CTMM factors (Logical Reasoning, Numerical Reasoning, Verbal Concepts, and Memory), composite language scores, composite nonlanguage scores and total scores.

As would be expected due to the process of standardizing raw scores, in none of the seven instances were the grade effects significant. While none of the preschool experience effects upon CTMM cognitive level were significant, there were significant grade-by-preschool experience interactions on the Logical Reasoning factor and the composite nonlanguage score. The profiles represented in these two measures were virtually identical. At the first grade level, children without preschooling performed very poorly in Logical Reasoning and composite nonlanguage intelligence. There were no statistical differences between this group and either nursery or kindergarten preschool experience groups at the second and third grade levels, although inversions in performance level did occur. It thus appears that an initial deficit in the no preschooling group in Logical Reasoning and nonlanguage intelligence is short lived.

Reading Achievement. Three scores of the CAT reading test were used to compare group performance in the analysis of variance design: reading vocabulary, reading comprehension, and total reading. In addition, grade placement scores on the two MAT subtests of word knowledge and reading were available for second and third graders only.

The CAT reading vocabulary and total reading scores were differentially distributed across preschool experience levels. In both instances the children with no preschooling performed poorer than either the children with kindergarten or nursery school experience, these latter two groups showing no statistical differences from each other. In addition, both CAT measures showed highly similar interaction effects; the children without preschooling evidenced significantly poorer reading achievement at the first and third grade levels, compared with the other two preschool experience groups. A significant grade-by-preschool experience interaction was also obtained for the

MAT grade placement on word knowledge: the group with no preschooling was performing significantly better than the kindergarten children at the second grade level, and poorer (but not significantly so) than both kindergarten and nursery school experience groups at the third grade level. The apparent discrepancies between the results of the CAT and MAT could be due to the different test items or to differences in test administration.

Although the evidence is not entirely consistent, it appears that children with no preschooling are achieving at a lower level in reading, at least in the first and third grades. No differences were obtained between children with kindergarten and nursery school experience on any of the tests.

Arithmetic Achievement. Three scores of the CAT Arithmetic Test were used to compare group performance in the analysis of variable design: arithmetic reasoning, arithmetic fundamentals, and total arithmetic. The arithmetic reasoning and total arithmetic variables showed significant preschool experience level effects. In both instances the children with no preschooling performed poorer than did the kindergarten experience group, the lack of a significant interaction effect indicating that this difference was constant across grades. There were no statistical differences between the arithmetic achievement of kindergarten and nursery school experience groups on any of the three measures.

Achievement Relative to Ability. The Evaluation and Research Section of the Los Angeles City School Districts (1955) has made available a list of norms of expected achievement grade placement (XAGP). These norms were established on the basis of the child's IQ and chronological age, and are generally based on the formula: XAGP= (2MA+CA)/3. These XAGPs were determined for the children in the present study from 1955 norms. As might be expected on the basis of the total IQ and age variables, the XAGPs showed no statistically significant differences among groups.

In order to obtain difference scores between the child's expected and obtained achievement, it was necessary to convert both the CAT total reading and CAT total arithmetic scores to grade placement levels, as reported in the test manual. Thus one set of expected minus obtained deviation scores was calculated for reading and another for arithmetic.

Both reading and arithmetic deviation scores showed significant grade effects; in both cases third graders were "extra-achieving" more than first or second graders. That is, they were obtaining higher achievement scores than was to be expected on the basis of their IQs and ages. The read-

ing deviation scores also showed a significant interaction effect, kindergarten and nursery school experience groups showing increasing extra-achievement and children with no preschooling showing increasing underachievement, the difference being statistically significant only at the third grade level.

Thus third graders appear to be extra-achieving in both arithmetic and reading. The one exception appears to be for children with no preschooling, who are underachieving in reading.

Academic Report Card Ratings. Four academic report card ratings by teachers were available for second and third graders: oral expression, written expression, reading, and mathematics. Both oral and written expression showed significant grade effects, third graders having poorer grades than second graders. There were no statistically significant differences for ratings of reading and mathematics. Thus there were no statistically significant differences in report card academic variables relating to preschool experience.

Attendance and Lateness. Attendance and lateness records were obtained on all subjects from the period beginning September through the end of November, 1965. There were no statistically significant differences among the groups on either of these variables.

Report Card Ratings of Personal-Social Adjustment. For second and third graders, three areas of adjustment were rated by teachers on report cards: social behavior, work habits, and health-safety habits. The teacher ratings in these areas did not differentiate among preschool experience or grade level groups.

Teacher Ratings of Behavior. The 17 teacher-ratings of behavior for each child were intercorrelated for the entire sample of 117 children (Table 3). A principal axis factor analysis was performed on the correlations of the 17 items. This analysis resulted in three significant roots, which accounted for 86% of the total variance. A rotation to a varimax criterion was performed, and the resulting item loadings and communalities are presented in Table 4.

The first factor ("Aggressive-Disruptive"), which accounted for 48% of the variance, appeared to be concerned with the provocative, disruptive, aggressive, uncooperative child. The second factor ("Passivity"), accounted for 28% of the variance and was concerned with passivity of speech, nonlearning, non-independence, and poor speech patterns. The final significant factor ("Withdrawal"),accounted for 10% of the variance and described the child who is isolated,

Table 3

Intercorrelations of the 17 Teacher-Ratings of Behavior
(N=117)

Variable[a]	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
POOR SPCH (1)	41	31	25	27	7	47	46	29	33	17	46	28	10	4	36	10
POOR PEER (2)	--	27	20	16	-2	23	47	20	23	5	35	16	-1	-7	36	5
NONINDPNDNC (3)		--	43	48	31	42	41	23	10	-2	52	2	25	15	25	21
MTR DSCNTRL (4)			--	50	34	18	10	28	9	-2	19	-19	36	39	14	29
NONCOOP (5)				--	67	35	9	37	12	-2	27	-12	68	56	18	55
AGGRESSIVE (6)					--	29	-4	44	12	-8	7	-17	62	62	6	57
LOW VERBAL (7)						--	59	28	28	-1	38	19	25	15	28	22
PASS SPCH (8)							--	16	32	12	51	35	-3	-11	38	3
SEP PROB (9)								--	44	-16	45	-3	47	47	24	28
FEARFUL (10)									--	23	41	35	19	13	46	16
ISOLATED (11)										--	8	42	-10	4	41	7
LEARN PROB (12)											--	22	20	12	44	19
SILENT (13)												--	-11	-7	18	0
PROVOCATIVE (14)													--	74	16	53
DISRUPTIVE (15)														--	7	44
UNHAPPY (16)															--	19
HYPERACTIVE (17)																--

[a] See Appendices A and B for explanations of the variables.

Table 4

Loadings of 17 Teacher-Ratings of Behavior on Three Factors After Varimax Rotation

Variable[a]	Loading On Factor 1	Factor 2	Factor 3	Communality
PROVOCATIVE	85	4	1	.717
DISRUPTIVE	81	-9	8	.677
AGGRESSIVE	80	5	-10	.652
NON COOP	77	29	-11	.696
HYPERACTIVE	62	8	10	.403
SEP PROB	51	31	10	.368
MTR DISCNTRL	46	29	-16	.322
PASS SPCH	-10	77	22	.648
LEARN PROB	18	66	23	.520
POOR SPCH	10	61	24	.442
NONINDPNDNC	30	61	-15	.485
LOW VERBAL	24	59	9	.418
POOR PEER	-2	55	12	.320
ISOLATED	-4	0	59	.355
SILENT	-16	19	58	.401
FEARFUL	19	32	53	.427
UNHAPPY	14	42	48	.424

[a] See Appendices A and B for explanations of the Variables

silent, fearful, and unhappy.

Three-by-three (grade level by preschool experience) analyses of variance were performed for each of the three factors. As may be seen in Table 2, factors #2 and #3 (Passivity and Withdrawal) showed significant grade effects, factor #2 also showing a significant grade by preschool experience interaction. Further analysis indicated that second graders were rated as less passive than either first and third graders; the profiles for the three groups are similar except at the third grade level, where children with no preschooling are rated as evidencing more passive behavior than those with preschool experience. Also, third graders were rated as being significantly more withdrawn than were first graders.

Background Characteristics as Correlates of Performance.[2] Data on four background variables (age, sex, free lunch, and number of siblings) were correlated with the measures of performance and adjustment (Table 5). Only significant correlations are reported. Age was positively related to extra-achievement in arithmetic (.204), report card ratings of poor oral expression (.242), and a high reported withdrawal (.203). Being female was correlated with scoring higher on the CAT vocabulary (.217), comprehension (.265), and total reading achievement (.268) subtests; also with higher absenteeism (.208), higher report card grades in personal-social behavior (.248), better work habits (.252), and better health habits (.320), less passivity (.184), and more withdrawal (.204). Receiving financial aid in the form of free lunch was related to poorer scores in verbal concepts (.301), language (.252), and total intelligence (.256) and to higher hostility (.198) and higher passivity (.300). The greater the number of siblings, the lower the scores in the non-language (.197) and total intelligence (.193),in MAT word knowledge (.198) and reading grade placement (.240),in report card grades for work habits (.249), health habits (.235), and oral expression (.285), in high passivity (.218) and withdrawal (.206). These 26 statistically significant correlations were accompanied by 75 nonsignificant relations.

Because additional data were available at the nursery school, it was possible to derive nine family background indices which might relate to school performance. These variables consisted of mothers' and fathers' level of education,

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[2] Correlations are reported in the text without sign to adjust for direction of scoring and to facilitate meaningful interpretation.

Table 5

Correlations Between Background Characteristics and School Adjustment Variables (N varied up to 117)

Variable[a]	AGE	SEX	SES	NO. SIBS
CTMM L		-00	-16	-15
CTMM N		-07	-07	-05
CTMM V		05	-30*	-16
CTMM M		05	-10	-14
CTMM NL		05	-25*	-20*
CTMM TL		-02	-15	-12
CTMM T		03	-26*	-19*
CAT RV		22*	-11	-10
CAT RC		27*	-08	-10
CAT TR		27*	-11	-11
CAT AR		17	-11	-06
CAT AF		13	-09	-05
CAT TA		16	-09	-04
MAT WK		06	-15	-20*
MAT RD		13	-13	-24*
R (X-0)	-13	-15	-08	-05
A (X-0)	-20*	01	-10	-14
ABSENT	-14	21*	12	05
LATE	11	-06	-01	06
SOC BH	13	-25*	01	03
WRK HB	15	-25*	-02	25*
HEALTH	19	-32*	23	24*
LA RD	15	-19	06	23
LA ORL	24*	01	12	29*
LA WRT	23	-18	08	20
MATH	-13	-09	20	02
FACT 1	-07	15	-20*	04
FACT 2	15	18*	-30*	-22*
FACT 3	-20*	-20*	-02	-21*
AGE	--	06	-26*	05
SEX	06	--	-17	-00
SES	-26*	-17	--	29*
NO. SIBS	05	-00	29*	--

a See Appendix A for an explanation of the variables

* $p < .05$

mothers' and fathers' employment status, family intactness, family density, sibling density, sibling order, and number of rooms at home (see Appendix A for the scaling of these variables). The 29 performance measures included those on achievement, intelligence, and behavior described throughout this report. Because of missing data, the N upon which any correlation is based ranged from 15 to 29.

As may be seen in Table 6, fathers' being employed full time was related to poorer scores in logical reasoning (.384) to poorer scores in nonlanguage intelligence (.371), but to higher report card math grades (.508). Family intactness was related to lower report card grade in social behavior (.518) and to higher rated aggressive-disruptive behavior (.526). The greater the number of rooms at home, the greater was the rated aggressive-disruptive behavior (.414). Also, the greater the sibling density (closeness in age of siblings to the study child), the higher the CTMM memory factor score (.473). These seven correlations were the only significant ones out of the 261 computed.

Length of Nursery School Experience and Performance. Length of nursery school experience ranged from 6 months to 39 months, with a mean of 23.3 months. Table 7 reports the correlations between length of nursery experience and the measures of adjustment and performance. Of the 29 correlations computed, only one was significant beyond the five percent level of confidence. Thus, there appears to be no relationship between length of the nursery school experience and the child's subsequent adjustment in school.

DISCUSSION

The major finding of the study was that low socioeconomic level children with formal preschool experience (either nursery school or kindergarten) are better adjusted at the primary (1-3) grade level than are children without preschooling. The most obvious explanation of this finding is that children whose early experiences are rooted in conditions of economic deficit require the "priming" or "enabling" benefits of formal preschool programming in order to overcome deficits in the intellectual stimulation reportedly characteristic of this socioeconomic level.

It could be postulated that, prior to entering the first grade, all children must acquire (1) basic emotional readiness to relate to adults in a learning situation and (2) those cognitive skills (form discrimination, auditory discrimination, attention span, etc.) which are the fundamental building blocks for subsequent academic success. Where conditions nuturing

Table 6

Correlations Between Background and Performance Measures
For The Nursery School Sample
(N varied between 15 and 29)

Performance Measure	MOTH ED	FATH ED	MOTH EM	FATH EM	INTACT	ROOMS	FAMILY DENSITY	SIB ORDR	SIB DENS
CTMM L	-19	-14	24	-38*	24	-05	16	-08	07
CTMM N	-03	15	-05	-13	14	-13	-22	08	-24
CTMM V	09	22	02	-04	04	-21	09	-17	-12
CTMM M	25	15	35	-19	-30	-14	-23	-29	-47*
CTMM NL	25	22	10	-01	-14	-17	-02	-28	-29
CTMM L	-29	-16	12	-37*	26	-04	01	00	-05
CTMM T	02	07	14	-19	04	-16	-00	-20	-23
CAT RV	-10	14	20	-25	27	-14	25	-07	20
CAT RC	08	04	-04	16	22	-26	12	-33	-10
CAT TR	-07	10	09	-19	25	-11	24	-09	13
CAT AR	-18	-21	01	-17	30	-01	12	07	07
CAT AF	04	13	16	-23	33	-25	14	-10	03
CAT TA	-09	-02	07	-20	31	-10	11	00	03
MAT WK	-04	17	32	-12	30	-02	19	-08	11
MAT RD	07	23	19	-06	24	-21	12	-07	-05
R (X-O)	04	13	-07	-24	-13	09	-18	02	-24
A (X-O)	15	16	00	-23	-12	05	-00	-07	-17
ABSENT	-17	-36	-17	07	06	31	-11	-07	-09
LATE	05	-17	08	20	-25	-02	-15	-19	-17

-continued-

Table 6 continued

Performance Measure	MOTH ED	FATH ED	MOTH EM	FATH EM	INTACT	ROOMS	FAMILY DENSITY	SIB ORDR	SIB DENS
SOC BH	42	20	-07	-21	-52*	25	-18	-34	-30
WRK HB	05	22	00	-20	-12	21	-10	-44	-24
HEALTH	05	-09	-03	-19	-29	33	-20	-15	-18
LA RD	-27	13	15	02	14	29	32	-15	32
LA ORL	-19	-16	-09	19	-38	18	-18	01	-04
LA WRT	-07	-02	-10	-03	-34	20	-23	-28	-31
MATH	-17	-13	23	-51*	-05	26	-01	05	08
FACT 1	-12	18	-07	-10	53*	-41*	-04	-05	00
FACT 2	19	-00	19	-20	-16	-07	33	-21	03
FACT 3	-33	-20	-04	17	12	05	-32	18	05
MOTH ED	--								
FATH ED	63*	--							
MOTH EM	20	29	--						
FATH EM	33	-01	-40*	--					
INTACT	-48*	-08	08	-34	--				
ROOMS	-62*	-55*	-36	-06	-00	--			
F DENS	-04	-03	32	-07	22	-02	--		
SIB ORDR	-66*	-53*	-30	-14	07	66*	-02	--	
SIB DENS	-60*	-47*	13	-11	40*	38*	69*	45*	--

[a] See Appendix A for an explanation of the variables

*p < 05

Table 7

Correlations Between Length of Nursery School Experience and School Adjustment/Background Variables (N varied up to 29)

Performance Variable[a]	r
CTMM L	14
CTMM N	-20
CTMM V	26
CTMM M	22
CTMM NL	20
CTMM TL	05
CTMM T	17
CAT RV	12
CAT RC	20
CAT TR	01
CAT AR	11
CAT AF	08
CAT TA	07
MAT WK	-17
MAT RD	-16
R (X-0)	33
A (X-0)	44*
ABSENT	32
LATE	-08
SOC BH	00
WRK HB	18
HEALTH	-06
LA RD	35
LA ORL	-23
LA WRT	15
MATH	35
FACT 1	-15
FACT 2	14
FACT 3	-14

[a] See appendix A for an explanation of the variables

* $p < .05$

the preschool development of such "basic skills" are absent, schools should direct their attention to the definition of such conditions and to the systematic study of corrective educational programs.

As might be expected, there were significant differences at the first grade level in some aspects of measured intellectual potential among children from economically impoverished families when they were compared on the basis of their preschool experience. Those with either nursery school or kindergarten experience obtained higher scores in (CTMM) logical reasoning and total nonlanguage intelligence. These differences disappeared in the second and third grade suggesting that, without preschooling, basic intellectual abilities are initially dulled, but later reclaimed.

Thus, while ability levels may be reclaimed, deficits in the application of such ability in school learning (i.e., reading and arithmetic) and in the mastery of personal-social controls increase with advancing grade level. This was particularly apparent in the cognitive-symbolic area, where children with preschooling performed significantly better in the tool subjects of reading and arithmetic, both in terms of absolute performance scores and in terms of expected grade placement level (based on age and ability). Those children with nursery school or kindergarten experience showed increasing extra-achievement patterns (performance superior to what might be anticipated from measured ability scores) in selected reading and arithmetic areas, in comparison with the group without preschool experience which, conversely, exhibited progressive underachievement. While differences in both absolute and relative achievement levels reached statistical significance only at the third grade level, the diverging trend of the data suggests possible cumulative academic adjustment differences favoring the child with preschool experience. In terms of absolute performance scores, disadvantaged children with preschooling did significantly better than those without preschooling in reading vocabulary and total reading level at the first and third grades, and in arithmetic reasoning and total arithmetic level across each of the first three grades.

While the data failed to disclose any relationship between length of nursery school experience and later measures of school adjustment, the results did imply that second grade children were performing better than were first or third graders, which might account for the seeming interruption of diverging performance levels favoring children with preschooling. This finding could be attributed to unique, sampling factors, or to teacher or curriculum differences. This phenomenon is in need of further study.

With regard to the major finding, that preschool experience is related to more effective primary grade performance, the very small number of children in the "no preschool" experience group suggests possible underlying selection factors. The difficulty in identifying comparison groups which are carefully matched on more than a superficial level of personal-social background characteristics is a problem which has long plagued educational research. The data indicated that of the 418 children comprising the primary grades in this school, only 7 per cent had no preschooling at all. All of these children were included in the comparison group in order to provide an acceptable sample size for statistical analysis. There was some evidence that this "no preschool" group was somewhat atypical; even with the gross socioeconomic level indicators available, this group appeared to be less economically disadvantaged, and also to have significantly more children per family. While family size did not directly relate to obtained (CAT) achievement measures in reading or arithmetic, having more siblings was significantly related to children having lower (CTMM) nonlanguage and total intelligence level scores, lower (MAT) word knowledge and reading grade placement scores, lower teacher rating in work habits, health habits and oral expression, and higher teacher ratings on passivity and withdrawal tendencies.

Further analyses of the data failed to reveal any significant differences in school adjustment between nursery school and kindergarten trained children. It should be noted, however, that there may have been some real differences in the level of deprivation (beyond detection by the gross economic level data available to the present study) between children who were accepted into the two groups, as the particular nursery school was a day care agency which limited its services to families meeting stringent criteria of economic need. Other factors may have operated to depress possible differences: (1) adjustment following nursery school and kindergarten may differ in areas more specific to social maturity skills relatively untouched by the focus of this study, (2) the educational program of this particular nursery school and this particular kindergarten may not be especially effective or typical of most such programs, and (3) there are unique characteristics of the present sample which limit the ability to generalize results to other disadvantaged populations. To clarify some of these issues, it is suggested that further investigation of the relative effectiveness of kindergarten and nursery school experience include a broader sample of subjects, finer distinctions of deprivation within lower socioeconomic levels, a larger sampling of cooperating nursery schools and public schools, and an even broader range of evaluative instruments than were used in this small study.

SUMMARY

1. Children with preschool experience (either kindergarten or nursery school) do better in school than do children with no preschooling.

2. It appears that children with no preschooling are especially poor performers in reading and arithmetic achievement.

3. There are no differences in performance between children who attended the public school's kindergarten classes and those who spent an average of 23 months at a day care nursery school.

4. Sex, within-group socioeconomic status, and size of family are background factors which are related to school performance. Within the nursery school group a variety of other background variables are unrelated to school performance.

5. The failure of nursery school experience to provide better school adjustment than does kindergarten experience appears to warrant further study. Such an investigation should involve a larger and more diversified sample, more background information on the children, and a broader range of measures of performance and adjustment.

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APPENDIX A

DESCRIPTIONS OF VARIABLE LABELS

Label	Description
CTMM L	CTMM Factor I, Logical Reasoning
CTMM N	CTMM Factor II, Numerical Reasoning
CTMM V	CTMM Factor III, Verbal Concepts
CTMM M	CTMM Factor IV, Memory
CTMM TL	CTMM, total language score
CTMM NL	CTMM, total nonlanguage score
CTMM T	CTMM, total score (language and nonlanguage)
CAT RV	CAT Reading Vocabulary
CAT RC	CAT Reading Comprehension
CAT TR	CAT Total reading
CAT AR	CAT Arithmetic Reasoning
CAT AF	CAT Arithmetic Fundamentals
CAT TA	CAT Total Arithmetic
XAGP	Expected achievement grade placement, based on IQ and chronological age (taken from norms compiled by the Los Angeles City School Districts)
MAT WK	Metropolitan Achievement Test, Word Knowledge (grade equivalent)
MAT RD	Metropolitan Achievement Test, Reading (grade equivalent)
GRADE	Current grade level of child (1=first, 2=second, 3=third)
PRESCH	Child's preschool experience (0=none, 1=kindergarten, 2=nursery)
AGE	Chronological age (in months) at 11/65
SEX	Child's sex (1=male, 2=female)
SES	Socio-economic status (0=no aid, 1=free lunch, 2=free lunch and Aid to Families with Dependent children)
NO. SIB	Number of brothers and sisters of study child.
R(X-0)	Difference between expected and obtained reading grade placement
A(X-0)	Difference between expected and obtained arithmetic grade placement
ABSENT	Number of days absent during year, through 11/30/65
LATE	Number of days late during year, through 11/30/65
SOC BH	Report Card grade in social behavior (1=excellent, 2=good, 3=fair, 4=unsatisfactory)--for 11/65
WRK HB	Report card grade in work habits
HEALTH	Report card grade in health and safety

Label	Description
LA RD	Report card grade in reading (language arts)
LA ORL	Report card grade in oral expression (language arts)
LA WRT	Report card grade in written expression (language arts-originality, spelling, handwriting)
MATH	Report card grade in mathematics
MOTH ED	Mother's education (highest grade completed)
FATH ED	Father's education (highest grade completed)
FATH EM	Father's employment status (0=unemployed, 1=part time, 2=full time)
MOTH EM	Mother's employment status (0=unemployed, 1=part time, 2=full time)
INTACT	Family intactness (1=both parents home, 2=divorce, 3=separation, 4=desertion, 5=death)
ROOMS	Number of rooms at home (dropping 1/2 rooms)
F DENS	Family density (Differences in ages of children divided by the number of children)
SIB ORDR	Sibling order (1=study child is oldest, 2=child is second oldest, etc.)
SIB DENS	Sibling density (differences in ages of siblings from study child divided by the number of children)
NS MOS	Time that the study child spent in the nursery school (in months)
POOR SPCH	Quality of Speech (Teacher rating) 1=least favorable, 5=most favorable
POOR PEER	Poor peer relationships (Teacher rating)
NONINDPNDNC	Non Independence (Teacher rating)
MTR DSCNTRL	Motor Discontrol (Teacher rating)
NONCOOP	Non Cooperation (Teacher rating)
AGGRESSIVE	Aggressive Reactions (Teacher rating)
LOW VERBAL	Low Verbal Skills (Teacher rating)
PASS SPCH	Passivity of Speech (Teacher rating)
SEP PROB	The Child with Separation Problems (Teacher rating)
FEARFUL	The Fearful or Tearful Child (Teacher rating)
ISOLATED	The Isolated Child (Teacher rating)
LEARN PROB	The Child who doesn't Learn (Teacher rating)
SILENT	The Silent Child (Teacher rating)
PROVOCATIVE	The Provocative Child (Teacher rating)
DISRUPTIVE	The Disruptive Child (Teacher rating)
UNHAPPY	The Unhappy Child (Teacher rating)
HYPERACTIVE	The Hyperactive Child (Teacher rating)
FACT 1	Factor #1 of factor analysis of above 17 teacher ratings, labelled AGGRESSION-DISRUPTION (low score=high aggression)
FACT 2	Factor #2 of factor analysis of above 17 teacher ratings, labelled PASSIVITY (low score=high passivity)
FACT 3	Factor #3 of factor analysis of above 17 teacher ratings, labelled WITHDRAWAL (low score=high withdrawal)

APPENDIX B

THE SEVENTEEN BEHAVIORAL SCALES ON WHICH CHILDREN WERE RATED BY THEIR TEACHERS

(1) POOR QUALITY OF SPEECH

1. This child's pronunciation and grammar is so poor that he has difficulty making himself understood even after repetitions.
2. This child's pronunciation and grammar is poor enough to often require repetitions in order to be understood.
3. This child's pronunciation and grammar contains enough inaccuracies to sometimes require repetitions in order to be understood.
4. This child's pronunciation and grammar contains inaccuracies normally expected for this age but can be understood without his having to repeat.
5. This child's pronunciation and sentence structure is very much like an articulate adult - his verbal communication is consistently clear and fluent.

(2) POOR PEER RELATIONSHIPS

1. This child engages in solitary play most of the time with little parallel play and no cooperative play.
2. This child occupies himself equally between solitary and parallel play.
3. This child engages in solitary or parallel play most of the time and occasionally engages in cooperative play.
4. This child occupies himself equally between cooperative play and with parallel or solitary play.
5. This child occupies himself predominantly with cooperative play and occasionally with parallel play or solitary play.

(3) NON-INDEPENDENCE

1. This child seldom undertakes or completes a task unless he is told what to do and is given constant help and encouragement while he is doing it.
2. This child requires encouragement and assistance from others to complete a task even when he is doing something which he could complete on his own.
3. This child usually completes what he has started and seeks some praise and encouragement on projects.
4. This child sometimes starts and completes projects without help or encouragement.
5. This child starts and completes "projects" such as puzzles, paintings, models, structures made of blocks, etc., with no help or need of encouragement from adults or peers - he selects his own activities whenever possible.

(4) MOTOR DISCONTROL

1. This child is in almost continual motion and his movements are characterized by occurring at a very high rate of speed. It is difficult to engage him in any form of subdued or quiet activity for more than one minute at a time.
2. This child is extremely active and his movements are characteristically quite rapid. He is able to engage in subdued or quiet activity for 4 or 5 minutes and with some external help can engage in such activity for about 10 or 12 minutes.
3. This child is quite active, however, he is able to engage in subdued or quiet activity for 10 to 12 minutes and with some external help can engage in such an activity for about 25 or 30 minutes.
4. This child, although active at other times, is able to engage in subdued or quiet activity for about 25 or 30 minutes and with some external help can engage in such activities for about 40 to 45 minutes.
5. This child is able to engage in subdued or quiet activity for about an hour and with some external help can engage in such activities for longer periods.

(5) NON-COOPERATION

1. This child is exceedingly uncooperative and appears to resist in some manner almost any request made of him. Resistance may be in the form of ignoring requests, overt refusal to comply, complying verbally but not following through in action, etc.
2. This child is cooperative at times but is often resistant to suggestions made by adults. He needs considerable supervision and many reminders before he complies with requests.
3. This child usually complies with requests after several reminders.
4. This child is usually eager to comply with suggestions from adults but sometimes has to be reminded.
5. This child is exceedingly cooperative and almost always complies the first time a request is made.

(6) AGGRESSIVE REACTIONS

This child expresses anger verbally or physically i.e., name calling, threats, protests, attacking, destroying objects.

1. Most of the time
2. Often
3. Occasionally
4. Seldom
5. Not at all

(7) LOW VERBAL SKILLS

1. This child typically uses short sentences, short phrases, or single words to communicate with others. His vocabulary is limited to names for concrete objects, a few verbs, and perhaps some pronouns such as "I" and "me".
2. This child tends to use short sentences and phrases and is somewhat limited in his vocabulary.
3. This child seldom uses notably long sentences and phrases yet incorporates all parts of speech in his conversation.
4. This child sometimes uses long sentences and phrases when he speaks, incorporates all parts of speech in his conversation, but does not use many abstract concepts.
5. When he speaks, this child consistently uses long sentences and phrases and possesses an unusually large vocabulary which includes rather abstract concepts.

(8) PASSIVITY OF SPEECH

1. This child talks very seldom or not at all.
2. This child is typically quite passive in his verbal behavior, rarely talks to classmates, rarely volunteers information or asks questions in a group and will give only very brief answers to questions.
3. This child seldom asks questions or volunteers information or comments in a group and will seldom answer questions and participate in casual conversations with adults or classmates.
4. This child occasionally asks questions or volunteers information or comments in a group and occasionally engages in casual conversations with adults or classmates.
5. This child often asks questions, seems to have no reservations about expressing himself in a group situation, and is engaged in conversation with someone much of the time he is in class.

(9) THE CHILD WITH SEPARATION PROBLEMS

The child with separation problems seems to get along well most of the time, but he has great difficulty early in the school day. His difficulties may be most marked during the first days of nursery school and after weekends or vacations. Early in the day, he may say that he doesn't want to leave his mother or that he wants to go home to his mother. Later on, he settles down and seems to do fine. This child's mother may come to the classroom with the child more frequently than other mothers and may talk to the teacher quite often about how difficult things are for her child.

(10) THE FEARFUL OR TEARFUL CHILD

The fearful child is excessively timid. He cries more often than the other children. Often he cries for no apparent reason. He seems to want to play with other children and do the things which are "fun", but his fearfulness gets in the way. He may be something of a "tattle tale," a "whiner," or a "mother's boy (girl)."

(11) THE ISOLATED CHILD

The isolated child never seems to play with other pupils. He doesn't seem to be able to initiate contact with other children; they seem to ignore him and he them. Other children do not include him in group activities and he does not seem to care.

(12) THE CHILD WHO DOESN'T LEARN

The child who doesn't learn never seems to get any better at what he is being taught. He may try hard, but he doesn't seem to improve. He may have difficulty understanding what he is told, and may have to have things repeated a number of times. He doesn't seem to be as quick or alert as the other children. Often,he seems immature for his age.

(13) THE SILENT CHILD

The silent child never talks. He will use gestures or signs rather than words. He seems to understand what other people say, but he won't respond verbally unless really urged.

(14) THE PROVOCATIVE CHILD

The provocative child is one who deliberately tries to irritate the teacher. He attempts to secure the teacher's attention by doing things which are prohibited or which he should know that the teacher dislikes. He may refuse to go along with group activities, he may curse or otherwise insult the teacher, he may damage or destroy classroom materials, etc. This child does not respond to punishments by "being better".

(15) THE DISRUPTIVE CHILD

The disruptive child is one who disturbs the activities and play of other children. He may do this by pushing or teasing children who are engaged in activities or by snatching or otherwise disturbing the materials with which other children are playing.

(16) THE UNHAPPY CHILD

The unhappy child is always "down-at-the-mouth". He doesn't smile very often and seems to lack a "joy for life". He might not cry very often, but he doesn't appear to enjoy himself or the things that are going on around him.

(17) THE HYPERACTIVE CHILD

This is a child who just can't sit still. He may roam aimlessly about the room. If he is disruptive of other children's activities it is more an accidental result of his running about, than a deliberate aggressiveness. Some hyperactive children don't roam around a great deal. Rather, they occupy themselves with strange motor activities such as shaking their hands or waving their fingers before their eyes, pulling at their ears or other body parts, rocking back and forth. This type of child is often extremely distractible.