

THE PHYSICAL, PERSONALITY, AND ACADEMIC STATUS OF CHILDREN WHO ARE MENTALLY RETARDED ATTENDING SPECIAL CLASSES AS COMPARED WITH CHILDREN WHO ARE MENTALLY RETARDED

ATTENDING REGULAR CLASSES * ¹

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INTRODUCTION TO THE PROBLEM

IN the United States, mentally retarded children can be educated by one of two diverse methods. One group of educators believes that mentally retarded children are handicapped to such an extent that they can't receive an adequate education in the regular classes and through ordinary school procedures (5, p. 13). However, another group does not give credence to the values of special education (6, p. 60). These people seem equally assured that the retarded child receives a better education in the regular classes. They believe that the philosophy of special education is undemocratic and they have confidence that the fullest development of the retarded child is more often realized in a regular class.

It seems reasonable to assume that the validity of each point of view can be tested through well-founded research studies. Do children who are mentally retarded profit most from special class education or from regular class education? There is a third possibility which should be considered. Are there no differences in the status of retarded children regardless of the type of education they receive?

The literature reports two studies that have compared retarded children receiving special education with retarded children in regular classes (1, 10). While Bennett and Pertsch found that the retarded child in the special class did poorly in physical, personality and academic areas as compared with the retarded child in the regular class, the authors of these reports, and other researchers, have questioned the validities of these findings (3, 6, p. 60); results may have been due to the selection of subjects rather than to any factors of educational treatment. In both studies, the retarded children, who were chosen from the regular classes, were mainly selected from schools that had special classes too. The regular class children may have been basically superior, although equal in intelligence, to the special class children or they too would have been chosen for special class placement. Therefore, in view of the possibility that special class placement is determined by personality, drive, school achievement, and physical ability as well as by intelligence, it is possible that, in any one community which has special classes, the retarded child found in the special class will not compare favorably with the retarded child in the regular class.

Because researchers have been unable to effect acceptable studies in this area, the desirability for such studies should not be precluded. Kirk and Johnson

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¹ This paper is based on a doctorate thesis submitted in 1956 to the Graduate School of The Pennsylvania State University, University Park, Pennsylvania. The complete statistical considerations, upon which the paper is based, may be found in the thesis.

stated that there is a need for studies to investigate the "... effects of retaining mentally handicapped children in the regular grades" (8, p. 322) and to determine whether "... placement of the children in the special class is accomplishing the desired result" (7, p. 88).

With regard to the above realizations, this study will evaluate two methods of education for the mentally retarded through a comparison of the physical, personality, and academic status of children who are mentally retarded attending special classes with children who are mentally retarded attending regular classes in communities where there are no special classes. Mentally retarded children in the regular classes, who have been selected as subjects for this study, will be referred to as the regular class children. Mentally retarded children in the special classes, who have been selected as subjects for this study, will be referred to as the special class children.

REVIEW OF RELATED LITERATURE

There have been a number of studies that have reported how well the regular class was meeting the social needs of the retarded child (2, pp. 14-17). These studies seemed to be in agreement that there is a fairly high relationship between friend selection and mental level; retarded children are less accepted and more rejected in the regular classes.

A great many studies were reviewed concerning the physical status of children who are mentally retarded (2, pp. 17-29). The consensus seems to indicate that there is a positive relationship between intelligence and the various indices of physique. However, this relationship is not invariable and appears to be too minor to be useful for predictive or educational purposes. This relationship does not appear to be linear

in character and it may be more significant in the more severely retarded group.

From the studies reviewed concerning personality status, it appears that the retarded are more frequently represented among delinquent populations than typical groups but this representation may not be as significant as once was believed (2, pp. 39-45). It is probable that the relationship between intelligence and delinquency is "J" shaped in character. The group known as "borderline normal" may comprise the most significant population among delinquents.

In the area of general personality characteristics, the literature seems to agree that the mentally retarded have more problems of personality than typical groups (2, pp. 29-39). Three basic suggestions offered for the correction and prevention of personality difficulties among retarded children were special education, psycho-therapy, and counseling for child and parents.

The studies concerned with the academic status of children who are mentally retarded generally agreed that, although the retarded child does not achieve more absolutely, he often achieves more relatively than the average and gifted child when mental abilities rather than chronological ages are considered (2, pp. 45-50). Among the various explanations that have been offered for this circumstance is the possibility that the relationship between growth of intellectual power and chronological age may not be linear and thus, mental age comparisons to academic achievement may not be valid.

METHODS AND PROCEDURES EMPLOYED

Because of their similar socio-economic characteristics and because they were able to provide an adequate sam-

TABLE I

THE CHRONOLOGICAL AGE IN MONTHS, THE INTELLIGENCE QUOTIENT,* AND THE MENTAL AGE IN MONTHS OF THE SPECIAL CLASS CHILDREN AS COMPARED WITH THE CHRONOLOGICAL AGE IN MONTHS, THE INTELLIGENCE QUOTIENT, AND THE MENTAL AGE IN MONTHS OF THE REGULAR CLASS CHILDREN

Measure	Chronological Age			Intelligence Quotient			Mental Age		
	S	D	R**	S	D	R	S	D	R
N	75		50	75		50	75		50
% Girls	29.33		30.00	29.33		30.00	29.33		30.00
M	145.46		142.10	66.40		68.80	95.92		96.74
M ₁ -M ₂		3.66			2.40			.82	
σ	17.10		24.23	7.43		7.37	11.71		20.36
σ _m	1.97		3.43	.86		1.04	1.35		2.88
σ _d		3.96			1.35			3.18	
C.R.		.92			1.78			.26	
P		.50***			.10				>.50
σσ	1.40		2.42	.61		.74	.96		2.04
σ _{dσ}		2.80			.96			2.25	
C.R.		2.55			.06			3.84	
P		.01			>.50			.01	

* All but four subjects received the Stanford-Binet Scale of Intelligence. The four that did not receive the Stanford-Binet were given the Wechsler Intelligence Scale for Children. To compensate for differences in standard deviations in the two tests, the four Wechsler scores were converted to Stanford-Binet scores using the following formula:

$$IQ = 100 - \frac{100 - \text{Wisc Score}}{15} \times 16$$

One requisite for a wholly satisfactory age scale test of intelligence that the Stanford-Binet was not able to accomplish is that the variability of distributions of scores be equal for each age level. To compensate for these differences in variability, McNemar, in *The Revision of The Stanford-Binet Scale* on pages 172-174, provided a table whereby IQ adjustments for variability differences could be computed. This table was used to adjust IQ's for subjects participating in this study.

** S—Special Class Children.

D—Difference.

R—Regular Class Children.

*** Probability is recorded to the nearest table value as is described by Garrett in *Statistics in Psychology and Education* on page 190.

pling of subjects, Blair and Clearfield Counties in Pennsylvania were chosen as the areas from which to draw subjects for this study. The selection and examination of subjects covered a five month period of testing. Eight civil units, 19 schools, and 45 classrooms contributed the 125 children that participated in this study. The 125 children were the total number of children that

met the criteria for selection as subjects.

The 75 special class children, chosen as subjects, were selected on the following basis: each child was in the process of completing at least two years of special class elementary education and was not less than 8.6 nor more than 16 years old; each child had received an individual intelligence evaluation by a certified psychometrician and had been

TABLE II

THE HEIGHT IN INCHES OF THE SPECIAL CLASS CHILDREN AS COMPARED WITH THE HEIGHT IN INCHES OF THE REGULAR CLASS CHILDREN

Group	N	% Girls	M	M ₁ -M ₂	σ	σ _m	σ _d	C.R.	P
S	75	29.33	57.07	.51	4.44	.51	.87	.59	>.50
R	50	30.00	56.56		5.49	.78			

TABLE III

THE WEIGHT IN POUNDS OF THE SPECIAL CLASS CHILDREN AS COMPARED WITH THE WEIGHT IN POUNDS OF THE REGULAR CLASS CHILDREN

Group	N	% Girls	M	M ₁ -M ₂	σ	σ _m	σ _d	C.R.	P
S	75	29.33	84.69	.65	25.20	2.91			
R	50	30.00	85.34		24.25	3.43	4.50	.14	>.50

diagnosed as being educable mentally retarded.

The 50 regular class children, chosen as subjects, were selected on the following basis: each child was in a regular class, was never enrolled in a special class, and was not less than 8.6 nor more than 16 years old; each child lived in a community that had no special classes; each child had received an individual intelligence evaluation by a certified psychometrician and had been diagnosed as being educable mentally retarded.

The special class group was equated with the regular class group on chronological age, intelligence, mental age, and sex. Table I shows that there are no significant differences of means between groups in these comparisons. However, the regular class group is significantly more variable in both chronological age and mental age. This variability indicates that the regular class group consists of a population that includes significantly more older and younger subjects—both chronologically and mentally. This greater variability is manifested throughout the findings in larger standard deviations for the regular class

group in physical and achievement comparisons.

ANALYSIS OF DATA

These results have been found for the following problems and sub-problems:

1. What is the physical status of children who are mentally retarded attending special classes as compared with children who are mentally retarded attending regular classes?

A. Tables II and III show that the height and weight of the special class children are not significantly different from the height and weight of the regular class children. However, when compared with weight, height, age norms for typical children, 25.33 per cent of the special class children were more than 10 per cent underweight while only 10 per cent of the regular class children were more than 10 per cent underweight.

B. Table IV shows that the special class children have significantly more uncorrected or permanent physical defects than the regular class children. A critical ratio of 2.30 indicates that this difference is significant at the .02 level of confidence.

Table V shows that the number of dental defects of the special class children and the regular class children does not significantly differ. These results are based on school records. The validity of these records cannot be determined.

TABLE IV

THE NUMBER OF PHYSICAL DEFECTS OF THE SPECIAL CLASS CHILDREN AS COMPARED WITH THE NUMBER OF PHYSICAL DEFECTS OF THE REGULAR CLASS CHILDREN

Group	N	% Girls	M	M ₁ -M ₂	σ	σ _m	σ _d	C.R.	P
S	75	29.33	1.55	.46	1.26	.15			
R	50	30.00	1.08		1.03	.15	.2	2.30	.02

TABLE V

THE NUMBER OF DENTAL DEFECTS OF THE SPECIAL CLASS CHILDREN AS COMPARED WITH THE NUMBER OF DENTAL DEFECTS OF THE REGULAR CLASS CHILDREN

Group	N	% Girls	M	M ₁ -M ₂	σ	σ _m	σ _d	C.R.	P
S	75	29.33	3.92	.25	2.73	.32			
R	48*	31.25	4.17		4.91	.71	.78	.32	>.50

*Due to absences during some part of the testing period or because of lost school records, all of the children participating in this study will not always be represented in every aspect of the study.

C. Table VI shows that the number of days absent from school of the special class children and the regular class children does not significantly differ.

D. Table VII shows that, as measured by the vertical jump, the power of the special class children and the regular class children does not significantly differ.

E. Tables VIII and IX show that, as measured by the hand dynamometer, the grip strength of the special class children and the regular class children does not significantly differ.

F. Table X shows that, as measured by the Brace Scale of Motor Ability, the motor ability of the special class children and the regular class children does not significantly differ.

G. Table XI shows that, when compared with norms for typical children of the same chronological age, the special class children and regular class children are not as proficient in motor ability as typical children.

2. What is the personality status of children who are mentally retarded attending special classes as compared with children who are mentally retarded attending regular classes?

A. Tables XII and XIII show that, as rated by teachers using the New York City Scales of Social Maturity and Emotional Stability,

the special class children are more socially mature and emotionally stable than regular children. Critical ratios of 5.80 and 6.71 indicate these differences to be significant at the .01 level of confidence. In view of the fact that the validities of these Scales have not been ascertained, results may be due to the subjective feelings of the teachers, actual differences among the children, or an unknown combination of both teachers' feelings and actual differences.

B. Table XIV shows that, as measured by the California Test of Personality, the personal adjustment and social adjustment of the special class children and the regular class children do not significantly differ.

C. In general, as measured by school records and interviews with teachers, the delinquency and behavior records of the special class children and the regular class children do not significantly differ. No significant differences are present between groups in: per cent brought before law enforcement agencies, per cent found stealing in school, per cent ever excluded from school because of behavior, and per cent having spent time in a detention home. There is no significant difference in the per cent of children who regularly attend Sunday School. The special class children show a significantly smaller percentage ever classified as truant, and a

TABLE VI

THE NUMBER OF DAYS ABSENT OF THE SPECIAL CLASS CHILDREN AS COMPARED WITH THE NUMBER OF DAYS ABSENT OF THE REGULAR CLASS CHILDREN *

Group	N	% Girls	M	M ₁ -M ₂	σ	σ _m	σ _d	C.R.	P
S	75	29.33	3.47	.03	4.43	.51			
R	50	30.00	3.44		3.38	.48	.70	.04	>.50

*The days absent of the special class children and the regular class children were recorded for the first three months of the school year, 1955-56.

TABLE XVI

THE TOTAL ACHIEVEMENT GRADE OF THE SPECIAL CLASS CHILDREN AS COMPARED WITH THE TOTAL ACHIEVEMENT GRADE OF THE REGULAR CLASS CHILDREN AS MEASURED BY THE CALIFORNIA ACHIEVEMENT TESTS

Group	N	% Girls	M	M ₁ -M ₂	σ	σ_m	σ_d	C.R.	P
S	75	29.33	3.16	.11	.82	.09		.55	.50
R	49	29.57	3.27		1.20	.17			

and language achievement of the regular class children.

B. The special class children improve more academically from one year to the next than the regular class children. A critical ratio of 2.50 indicates that the reading improvement of the special class children is significant at the .01 level of confidence. The study disclosed no other areas of significant academic improvement for either group.

C. Table XVII shows that, when compared with norms for typical children of the same mental age, the special class children and the regular class children have greater achievement in total reading, total arithmetic, and total language than typical children of the same mental age.

IMPLICATIONS OF STUDY AND RECOMMENDATIONS FOR PRACTICAL APPLICATION

The results of this study, their implications, and recommendations for practical application should be considered only as they affect those communities that have participated in the study.

1. Mentally retarded children in both special classes and regular classes appear to be less able physically than typical

children. It is recommended that schools offer treatment as well as diagnosis of physical conditions. School lunch programs may be extended to include more children and to provide morning milk. Evaluations of existing health and physical education services may be undertaken to determine possible areas for improvement.

2. Mentally retarded children in special classes appear to have more physical defects than mentally retarded children in regular classes. Because this comparison was based on data not controlled by this study, it is recommended that further comparisons be made to verify these findings.

3. Mentally retarded children in both special classes and regular classes appear to have a greater degree of personality maladjustments than typical children. It is recommended that schools evaluate guidance services for mentally retarded children and their families. Curriculum revisions may be considered to re-

TABLE XVII

THE ACADEMIC ACHIEVEMENT GRADES OF THE SPECIAL CLASS CHILDREN AND REGULAR CLASS CHILDREN AS COMPARED WITH THE ACADEMIC ACHIEVEMENT GRADE NORMS OF THE CALIFORNIA ACHIEVEMENT TESTS

Group	N	M.A.*	E.A.	T.R.	T.A.	T.L.	T.A.
S	75	95.92	101	3.07	3.27	3.02	3.16
R	50	96.74	102	3.22	3.33	3.14	3.27
Norm	50,000	96-97	96	2.8	2.8	2.8	2.8

*M.A.—Mental Age.

E.A.—Educational Age.

T.R.—Total Reading Grade.

T.A.—Total Arithmetic Grade.

T.L.—Total Language Grade.

T.A.—Total Achievement Grade.

duce tensions and increase social participation of these children with other children in the school.

4. Mentally retarded children in special classes appear to be more socially mature and emotionally stable than mentally retarded children in regular classes. As comparisons were based on Scales that have no established validity or reliability, it is recommended that investigations be undertaken to ascertain whether special class children are more socially mature and emotionally stable than regular class children or whether special class teachers, because of their special training and experience, tend to accept retarded children more than do regular class teachers, and how acceptance or rejection influence the total development of the children.

5. Mentally retarded children in both special classes and regular classes appear to have greater academic achievement than that which is expected of them as based on their mental ages. It is recommended that, although schools should make every effort to continue to help retarded children progress in academic areas, further consideration should be given to those areas of child growth and development where retarded children may have more serious needs.

CONCLUDING STATEMENT

This study has evaluated two diverse methods of education for children who are mentally retarded through a comparison of the physical, personality, and academic status of children who are mentally retarded attending special classes with children who are mentally retarded attending regular classes. On

the basis of this study, it was found that special class children and regular class children do not significantly differ in physical, personality, and academic status.

However, because significant differences were found in some aspects of these areas of comparison, further research is recommended to determine the most profitable type of education for children who are mentally retarded.

BIBLIOGRAPHY

1. BENNETT, ANNETTE. *A Comparative Study of Sub-Normal Children in the Elementary Grades*. New York: Teachers College, Columbia University, Contributions to Education, No. 510, 1932, 81 pp.
2. BLATT, BURTON. *The Physical, Personality, and Academic Status of Children Who Are Mentally Retarded Attending Special Classes as Compared with Children Who Are Mentally Retarded Attending Regular Classes*. Unpublished Doctor's thesis, The Pennsylvania State University, University Park, Pennsylvania, 1956, 134 pp.
3. COWEN, PHILIP A. "Special Class vs. Grade Groups for Subnormal Pupils," *School and Society*, 48:27-28, 1938.
4. GARRETT, HENRY E. *Statistics in Psychology and Education*. New York: Longmans, Green and Company, 1947, 487 pp.
5. HUNGERFORD, RICHARD H., AND OTHERS. "The Non-Academic Pupil," *Philosophy of Occupational Education*. New York: The Association for New York City Teachers of Special Education, 1948, pp. 10-18.
6. JOHNSON, G. ORVILLE. "A Study of the Social Position of Mentally Handicapped Children in the Regular Grades," *American Journal of Mental Deficiency*, 55:60-89, 1950.
7. JOHNSON, G. ORVILLE, AND KIRK, SAMUEL A. "Are Mentally Handicapped Children Segregated in the Regular Grades," *Journal of Exceptional Children*, 17:65-68, 87-88, 1950.
8. KIRK, S. A. "Needed Projects and Research in Special Education," *The Education of Exceptional Children*. National Society for the Study of Education, The Forty-Ninth Yearbook, Part II, Chicago: The University of Chicago Press, 1950, p. 322.
9. McNEMAR, QUINN. *The Revision of the Stanford-Binet Scale*. Boston: Houghton Mifflin Company, 1942, 189 pp.
10. PERTSCH, C. FREDERICK. *A Comparative Study of the Progress of Subnormal Pupils in the Grades and in Special Classes*. Published Doctor's dissertation, Teachers College, Columbia University, New York, 1936, 101 pp.