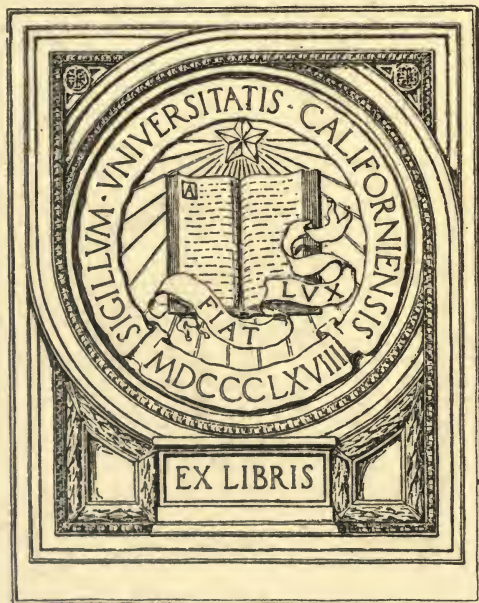


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Research Publications of the University of Minnesota

Vol. VIII No. 1

February, 1919

Current Problems

Number 10

THE RELATION BETWEEN DEPENDENCY AND RETARDATION:
A STUDY OF 1,351 PUBLIC SCHOOL CHILDREN KNOWN
TO THE MINNEAPOLIS ASSOCIATED CHARITIES

BY

MARGARET KENT BEARD, B.A.



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PREFACE

It is the purpose of this preface to acknowledge the service rendered by various individuals, and to express my understanding of the scope of the following study.

It is fitting that acknowledgment be made first to Mr. Frank J. Bruno, General Secretary of the Minneapolis Associated Charities, who conceived the idea that such a survey be undertaken. To him, and, in as full measure, to Dr. Arthur J. Todd, Professor of Sociology at the University of Minnesota, I am indebted for encouragement and counsel in the development of the work.

The Department of School Attendance, under the directorship of Mr. David H. Holbrook, was of great service in the collection of data. This department not only made accessible files and registers, and lent its name to printed circulars of inquiry, but also showed a very ready appreciation of the function of such work. Sincere thanks are due Superintendent B. B. Jackson whose letter of introduction acted as an "open sesame" to the schools. The principals of the four schools—Miss Kate Allen of the Holland, Mr. Ernest J. Hardaker of the Logan, Miss Irene Joslin of the Lyndale, and Miss Maria A. Lynch of the Washington—gave many minutes of their valuable time, enabling me to make the respective statistics more accurate.

Our schools are mines of material which by the researcher's perseverance and skill must be fused into a useful product. Individual experience isolated may mean little; individual experience, amassed, arranged, interpreted, becomes history upon which the future may be builded. It is indeed a source of gratification when the officials of our schools appreciate this.

I am grateful to Miss Jean E. Hirsch of the Medical Art Shop at the University of Minnesota for giving her time and skill to the execution of the figures.

The aim of the study has been to establish a definite relationship between dependency and retardation. It is hoped that in the future some one may make this complete and more valuable, first by determining how many dependent children there are in the Minneapolis Public Schools, and secondly by discovering those causes coëxistent with dependency which are retarding the child. This work is, therefore, but the first of three steps. Moreover, it is an attempt in a field, at present, almost unentered by the research worker, and for that reason does not pretend to be other than a simple statement of facts.

MARGARET KENT BEARD

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THE RELATION BETWEEN DEPENDENCY AND RETARDATION

STATEMENT OF THE PROBLEM

Are the financial dependence of a family and the intellectual retardation of the children coexistent? Does the fact that the family can not independently maintain the normal standard of living mean that most likely the child can not maintain the normal standard of intellectual life as measured by school grades? This is the problem involved in seeking for the relation between dependency and retardation. The results of a study made in Minneapolis, Minnesota, in 1917, are here given as an answer to the question.

THE NORM ESTABLISHED

Before discovering whether dependent families furnished a disproportionate share of retarders it was necessary to establish a "norm" or authoritative standard for measuring retardation. This was accomplished by determining the amount of retardation in a typical group of school children.

Four schools in Minneapolis were selected—the Washington, the Lyndale, the Holland, and the Logan. These schools may be roughly characterized as follows. The Washington School represented the most problematic district. Originally a pioneer residence district, it had degenerated into a rooming-house section of the city. There was the problem of extreme poverty, of immorality, of congested living conditions, and of an alien population. There were but six grades in the Washington. The Lyndale School in contrast represented a prosperous residence section of the city which was inhabited by people of sturdy American stock. Most of the homes were owned by their residents, who were salaried men. There were still many open lots and plenty of play room. The Holland district presented the problem of a large foreign, non-English-speaking population, mostly Slavic. Many of the children attended parochial schools for several years. The Logan district was a combination of the best residence district of North Minneapolis and the worst. Like the Lyndale it represented mainly a home-owning population. Unlike the Lyndale the population, largely German and Scandinavian, was of the

successful wage-earning class rather than of the salaried class.¹ Such was the typical group chosen as the basis for determining retardation in the normal group.

The study was based on the enrollment at a given date falling between February 19, 1917 and March 14, 1917, when each school was surveyed. The ages were for February 1, 1917—the beginning of the semester. The years of a child's age were counted only when they were completed; e.g. a child was not called 14 unless he was fully 14 on February 1. "Normal age" was called 6 to 8 years for the first grade, 7 to 9 years for the second grade, etc.² "Retarded pupils" were those over normal age; "advanced pupils" were those under normal age. So that the school district might be especially typical, all children in "special rooms" for the defective or delinquent coming from the four districts were included in their own district.

The sources of information were the teachers' registers for three schools. In these, September ages were given, to which five months were added to bring February ages. Some registers were much confused, and it was discovered that while some teachers determined ages by reference to birth dates on school nativity cards, others did so by asking the pupil. In the Logan, an age and grade report for February 1, prepared by the principal, was used. For pupils in special rooms, birth-record cards were used for ages, and as most of the special classes were ungraded, approximate grades were given.

The four schools had an enrollment of 2,828 pupils; 504 pupils were found to be retarded, or 17.8 per cent (see Figure 1).

332 pupils or	11.74 per cent of the whole	were retarded 1 year
118 pupils or	4.17 per cent of the whole	were retarded 2 years
35 pupils or	1.23 per cent of the whole	were retarded 3 years
9 pupils or	.32 per cent of the whole	were retarded 4 years
6 pupils or	.21 per cent of the whole	were retarded 5 years
3 pupils or	.1 per cent of the whole	were retarded 6 years
1 pupil or	.03 per cent of the whole	was retarded 7 years

These 504 pupils represented 764 years of retardation.

¹ This description was received from Miss Anne Ferguson, Public School Attendance Department.

² Normal age is so designated by Mr. Leonard Ayres in *Laggards in Our Schools*. It also follows that such would be normal when school entrance age is 6 to 7 years.

Grade	Age of Pupils																Total of pupils per grade	Advanced	Retarded
	4	5	6	7	8	9	10	11	12	13	14	15	16	17					
1B		21	131	31	6	2	2										193	21	10
1A			124	60	19	4	2	1									210	0	26
2B			7	91	46	7	1	4									156	7	12
2A			1	84	58	18	4		2	1							168	1	25
3B				22	93	43	14	7	1						1		181	22	23
3A				5	89	65	15	5	2	1	2	3					187	5	28
4B				2	31	88	34	16	5	1	1						178	33	23
4A					4	65	68	36	11	3	1	2					190	4	53
5B						20	76	48	23	7	5	2					181	20	37
5A						6	72	66	25	12	2	1					185	6	41
6B						2	29	70	42	25	3	2					173	31	30
6A							7	81	66	28	21	7					210	7	56
7B								1	24	61	42	22	5				158	25	30
7A								1	18	55	55	37	13	3			182	19	53
8B									1	18	47	29	17	5			117	19	22
8A										1	7	66	50	24	10	1	159	8	35
Totals:	0	21	263	295	346	320	326	378	318	286	173	79	20	1			2828	228	504

Total number of pupils 2828
 Total number of pupils advanced 228
 Total number of pupils retarded 504

FIGURE 1. Holland, Logan, Lyndale, and Washington Schools

The four schools individually presented the following results. In the Holland (see Figure 2) out of an enrollment of 694 pupils, 140 pupils or 20.1 per cent were retarded.

- 96 pupils or 13.8 per cent of the whole were retarded 1 year
- 31 pupils or 4.5 per cent of the whole were retarded 2 years
- 10 pupils or 1.4 per cent of the whole were retarded 3 years
- 2 pupils or .3 per cent of the whole were retarded 5 years
- 1 pupil or .1 per cent of the whole was retarded 6 years

The 140 pupils were retarded 204 years.

In the Logan (see Figure 3) out of an enrollment of 751, 117 pupils or 15.5 per cent were retarded.

80 pupils or 10.6 per cent of the whole were retarded 1 year
 26 pupils or 3.5 per cent of the whole were retarded 2 years
 9 pupils or 1.2 per cent of the whole were retarded 3 years
 1 pupil or .1 per cent of the whole was retarded 4 years
 1 pupil or .1 per cent of the whole was retarded 5 years

The 117 pupils were retarded 168 years.

Grade	Age of Pupils																Total of pupils per grade	Advanced	Retarded
	4	5	6	7	8	9	10	11	12	13	14	15	16	17					
1B		2	28	7	3	1											41	2	4
1A			23	18	4	1											46	0	5
2B				1	24	10				4							39	1	4
2A				1	13	22	4	1									41	1	5
3B					1	17	12	4	3								37	1	7
3A					2	13	24	3					1	1			44	2	5
4B						3	21	8	5	1							38	3	6
4A						2	23	12	5	1	1			1			45	2	8
5B							3	14	10	7	1	2					37	3	10
5A							2	13	16	8	2						41	2	10
6B								5	16	10	6	2	1				40	5	9
6A									16	11	7	6	1				41	0	14
7B										2	20	17	8	5			52	2	13
7A									1	8	24	24	15	6	1		79	9	22
8B											5	11	8	6			30	5	6
8A												14	17	11	1		43	0	12
Totals:	0	2	53	65	74	91	61	85	87	83	59	32	2	0	0	694	38	140	

Total number of pupils 694
 Total number of pupils advanced 38
 Total number of pupils retarded 140

FIGURE 2. Holland School

In the Lyndale (see Figure 4) out of an enrollment of 919 pupils, 120 pupils or 13 per cent were retarded.

76 pupils or 8.3 per cent of the whole were retarded 1 year
 33 pupils or 3.5 per cent of the whole were retarded 2 years
 7 pupils or .8 per cent of the whole were retarded 3 years
 1 pupil or .1 per cent of the whole was retarded 4 years
 1 pupil or .1 per cent of the whole was retarded 5 years
 1 pupil or .1 per cent of the whole was retarded 6 years
 1 pupil or .1 per cent of the whole was retarded 7 years

Grade	Age of Pupils														Total of pupils per grade	Advanced	Retarded		
	*4	5	6	7	8	9	10	11	12	13	14	15	16	17					
1B	11	50	11	3	1											76	11	4	
1A		23	15	4												42	0	4	
2B		2	22	9	1	1										35	2	2	
2A			28	10	3	1										42	0	4	
3B			7	25	4	2	2	1								41	7	5	
3A			1	31	8	2										42	1	2	
4B				6	25	6	5	2								44	6	7	
4A					11	20	11	3								45	0	14	
5B					6	18	8	6	3	2	1					44	6	12	
5A						1	20	14	4	1	1		1			42	1	7	
6B							1	11	19	7	4					42	12	4	
6A								2	24	27	10	4	4			71	2	18	
7B									8	16	10	5				39	8	5	
7A										3	15	14	7	1	1	41	3	9	
8B											2	15	10	6		33	2	6	
8A												5	34	19	7	7	72	5	14
Totals:	0	11	75	84	88	61	83	94	88	91	48	19	9	0	0	751	66	117	

Total number of pupils.....751
 Total number of pupils advanced.....66
 Total number of pupils retarded.....117

FIGURE 3. Logan School

The 120 pupils represented 185 years of retardation.

In the Washington (see Figure 5) out of an enrollment of 464 pupils, 127 pupils or 27.3 per cent were retarded.

- 80 pupils or 17.2 per cent of the whole were retarded 1 year
- 28 pupils or 6.0 per cent of the whole were retarded 2 years
- 9 pupils or 2.0 per cent of the whole were retarded 3 years
- 7 pupils or 1.5 per cent of the whole were retarded 4 years
- 2 pupils or .4 per cent of the whole were retarded 5 years
- 1 pupil or .2 per cent of the whole was retarded 6 years

The 127 pupils represented 207 years of retardation.

The four schools with their enrollment of 2,828 showed 228 pupils or 8 per cent advanced—that is under normal age (see Figure 1).

220 pupils or 7.8 per cent of the whole were advanced 1 year
 8 pupils or .2 per cent of the whole were advanced 2 years

The total number of years advanced by the 228 pupils was 236 years.

Grade	Age of Pupils														Total of pupils per grade	Advanced	Retarded			
	4	5	6	7	8	9	10	11	12	13	14	15	16	17						
1B		5	32	5												42	5	0		
1A			45	15	3											63	0	3		
2B			3	34	9	3										49	3	3		
2A				29	11	4	1									45	0	5		
3B				9	32	16	1	1						1		60	9	3		
3A					38	21	4	2	2		1	1				69	0	10		
4B					16	35	6	4	2	1						64	16	7		
4A					2	31	21	7	1							62	2	8		
5B						8	31	18	2	1						60	8	3		
5A						3	29	22	6	4	1	1				66	3	12		
6B						1	12	24	16	4						57	13	4		
6A							3	26	17	3	5	1				55	3	9		
7B								1	14	25	15	9	3			67	15	12		
7A									7	16	17	15	6	1		62	7	22		
8B										1	11	21	11	5	5	54	12	10		
8A											1	2	18	14	6	2	1	44	3	9
Totals:	0	5	80	92	111	122	109	127	100	84	56	23	9	1	919	99	120			

Total number of pupils919
 Total number of pupils advanced..... 99
 Total number of pupils retarded.....120

FIGURE 4. Lyndale School

The report for the individual schools was as follows. From the Holland's enrollment (Figure 2) of 694, 38 pupils or 5.4 per cent were advanced.

37 pupils or 5.3 per cent of the whole were advanced 1 year
 1 pupil or .1 per cent of the whole was advanced 2 years

The total number of years advanced was 39.

From the enrollment of 751 pupils in the Logan (Figure 3) 66 pupils or 8.7 per cent were advanced.

Grade	Age of Pupils																Total of pupils per grade	Advanced	Retarded
	4	5	6	7	8	9	10	11	12	13	14	15	16	17					
1B		3	21	8				2									34	3	2
1A			33	12	8	3	2	1									59	0	14
2B			1	11	18	3											33	1	3
2A				14	15	7	1		2	1							40	0	11
3B				5	19	11	7	1									43	5	8
3A				2	7	12	6	3		1		1					32	2	11
4B				2	6	7	14	2				1					32	8	3
4A							15	13	6	2	1	1					38	0	23
5B						3	13	12	8	2	1	1					40	3	12
5A							10	14	7	5							36	0	12
6B							1	11	9	11	1	1					34	1	13
6A							2	15	11	8	6	1					43	2	15
7B																			
7A																			
8B																			
8A																			
Totals:	0	3	55	54	73	46	73	72	43	30	10	5	0	0	0	0	464	25	127

Total number of pupils 464
 Total number of pupils advanced 25
 Total number of pupils retarded 127

FIGURE 5. Washington School

65 pupils or 8.6 per cent of the whole were advanced 1 year
 1 pupil or .1 per cent of the whole was advanced 2 years

These represent 67 years of advancement.

From the enrollment of 919 pupils in the Lyndale (Figure 4)
 99 pupils or 10.7 per cent were advanced.

95 pupils or 10.3 per cent of the whole were advanced 1 year
 4 pupils or .4 per cent of the whole were advanced 2 years

The 99 were advanced 103 years.

From the enrollment in the Washington (Figure 5) of 464
 pupils, 25 pupils or 5.3 per cent were advanced.

23 pupils or 4.9 per cent of the whole were advanced 1 year
 2 pupils or .4 per cent of the whole were advanced 2 years

These represent 27 years of advancement.

Normal age, as has been said, was called 6 to 8 years for the first grade, 7 to 9 years for the second grade, etc. Was the actual average different from the theoretical normal age? The statistics for average age computed from the four schools were as follows:

GRADE	AGE		GRADE	AGE
1B.....	6.17 years		1A.....	6.57 years
2B.....	7.45 years		2A.....	7.67 years
3B.....	8.44 years		3A.....	8.81 years
4B.....	9.3 years		4A.....	10.08 years
5B.....	10.71 years		5A.....	10.89 years
6B.....	11.54 years	For	6A.....	11.97 years
7B.....	12.49 years	three	7A.....	12.84 years
8B.....	13.50 years	schools	8A.....	13.63 years

Individually the schools showed the following results:

HOLLAND

GRADE	AGE	GRADE	AGE
1B.....	6.3 years	1A.....	6.7 years
2B.....	7.6 years	2A.....	7.7 years
3B.....	8.7 years	3A.....	8.9 years
4B.....	9.4 years	4A.....	9.7 years
5B.....	10.86 years	5A.....	10.87 years
6B.....	11.6 years	6A.....	12.1 years
7B.....	12.88 years	7A.....	12.83 years
8B.....	13.5 years	8A.....	14. years

LOGAN

GRADE	AGE	GRADE	AGE
1B.....	6.1 years	1A.....	6.5 years
2B.....	7.3 years	2A.....	7.4 years
3B.....	8.26 years	3A.....	8.26 years
4B.....	9.3 years	4A.....	10.10 years
5B.....	10.81 years	5A.....	10.81 years
6B.....	11.4 years	6A.....	12.02 years
7B.....	12.3 years	7A.....	12.7 years
8B.....	13.6 years	8A.....	13.6 years

LYNDALE

GRADE	AGE	GRADE	AGE
1B.....	6.0 years	1A.....	6.3 years
2B.....	7.2 years	2A.....	7.9 years
3B.....	8.3 years	3A.....	8.8 years
4B.....	9.1 years	4A.....	9.5 years

LYNDALE (Continued)

GRADE	AGE	GRADE	AGE
5B.....	10.2 years	5A.....	10.7 years
6B.....	11.1 years	6A.....	11.7 years
7B.....	12.3 years	7A.....	13.0 years
8B.....	13.4 years	8A.....	13.3 years

WASHINGTON

GRADE	AGE	GRADE	AGE
1B.....	6.3 years	1A.....	6.8 years
2B.....	7.7 years	2A.....	8.2 years
3B.....	8.5 years	3A.....	9.3 years
4B.....	9.4 years	4A.....	11.05 years
5B.....	11. years	5A.....	11.2 years
6B.....	12.08 years	6A.....	12.09 years

To summarize, 17.8 per cent of retardation is contrasted with 8 per cent of advancement; 764 years of retardation with 236 of advancement. The Lyndale School, representing families living much above the marginal standard of living, presented the lowest retardation per cent and the highest advancement per cent, while the Washington with its many dependent families showed the opposite results. The average age was found in all but one grade to be in the first year of the two years called normal. The one grade showing an exception was 4A, which instead of giving an average age of 9+ gave 10.08 years. This would indicate that retardation was especially acute at that period. In comparing the Washington and Lyndale, it was found that while the Washington had 12.08 and 12.09 years as average ages for 6B and 6A grades, the Lyndale had 11.1 and 11.7, a difference in 6B of nearly a year. The 4A grade presented the most striking contrast—11.05 years for the Washington and 9.5 in the Lyndale—thus showing the pupils in the Washington 1.55 years older. These facts alone forecast the deduction that there is a definite relation between dependency and retardation.

RETARDATION AMONG CHILDREN OF DEPENDENT FAMILIES

Having determined normal school progress, thereby establishing a standard by which the retardation of children of dependent families might be measured, the next step was to select a typical group of these children. This was accomplished, it was judged,

by considering the children from the families coming under the care of the Minneapolis Associated Charities between October, 1916 and March, 1917.

In general, children falling between the ages of 6 and 16, on February 1, 1917, were selected from the records for study. The grade for each child was established at any specific time, and the age at the beginning of that semester ascertained. Such procedure caused variation in dates but prevented the dropping of many children who could not be located at one set time. Most of the grades and ages were for February 1, 1917, a large number were for September 1, 1917, while smaller numbers were for February, 1918, February and September, 1916 and 1915.

The sources of information for the grades of the children were fivefold, being, in order of the frequency of their use, grade record cards, teachers' registers, school directories, the child's teacher, and the principal's memory. The relative merits of these are varied. Most accurate were the grade record cards. As these were classified generally according to grades and were often distributed in the rooms, it was not practical or possible to use them entirely. When these cards were once located their information was authoritative. Least trustworthy were the principal's memory and an old directory wherein the advance from the fall grade to the spring grade was not consistently noted. In ascertaining grades the greatest difficulty lay in the location of the child. The school district he was in at the time the Associated Charities case was active was very often not the one he was in at the time of the study. The schools of Minneapolis have not yet afforded the expense of an alphabetical file for all pupils giving their school district. Therefore when a child had once moved and his census card was transferred to his new district, he was extremely difficult to find. Two other methods were used to find the grades of children who had moved from the original school which they attended at the time the Associated Charities case was active. The first was made possible by Mr. David H. Holbrook, director of the Department of Attendance and Vocational Guidance of the Board of Education. To forty-five school principals, circulars containing children's names were mailed with the request that the grades and present place of attendance be indicated. In this way some 227 children were located. The

second method used for obtaining the grades of the residue of children still remaining was the telephoning of schools.

The birth dates of the children were taken from the school census cards. These dates are considered sufficiently reliable for court evidence and are secured from "nativity cards" filled out at home by the parents of the child. In comparing them with the dates given on the Associated Charities records, many differences were found. As the Associated Charities records did not completely give the birth dates for all the children, and as the method of obtaining them was usually subtraction by each Visitor of the given age, and was not done with pencil and paper in hand at the time of receiving the information, it was decided that of the two the school census cards were more accurate. However, in cases where deception was purposed, it is realized that ages given the school tended to be older than was true, for two reasons. An over busy parent may first have wished to enter the child in school early, and secondly, may have planned to secure an employment certificate for him as soon as possible. In regard to ages, it is especially emphasized that a child was not called, for example, 14 on February 1, 1917, unless he had fully completed his fourteenth year at that time—even if the incompleteness may have been only one day. This tended toward the report showing children younger than they were and explains, for example, the twelve five-year-old children in 1B grade (Figure 6) who were in reality probably six during the first month of the semester. This was the basis upon which the study of normal retardation was made.

Such was the method of procedure. The names of 2,052 children were taken from the Associated Charities records. Of these, 386 children could not be located, and for 41 the birth dates could not be found, as the school census cards were misplaced; 226 children were listed as attending parochial schools although their attendance there was not verified. These children were dropped as the normal retardation in parochial schools was not known. Twenty children had employment certificates and were therefore not in school, 14 had "home permits," 11 were in special state schools such as state reformatories, hospitals, or feeble-

minded homes, and 3 were married. This made a total of 701 who were eliminated, leaving 1,351 of whom the study was made.

These 1,351 pupils were, of course, distributed among the different grades and ages in proportions different from the 2,828 pupils in the four schools (Figures 1 and 6). The first, second, and third grades numbered respectively 237, 202, and 193 pupils of the 1,351, while the eighth grade had only 74 members. There was a drop from 137 in the seventh grade to 74 in the eighth, which may be partially accounted for by the fact that some becoming 16 years of age in the seventh grade may have left school to be wage earners. Swelled numbers in the lower grades and scant numbers in the higher grades may also be due to the greater number of young children in dependent families. This may explain too the disproportionately large number of children young in years. Among the 1,351, the maximum number in any year group was 182 who were 8 years of age. The numbers in the other year groups were almost uniformly graduated from this maximum. That the maximum number was not 6 or 7 years old, as the grade distribution would indicate, may be accounted for by the fact that the compulsory education law does not force the child to be in school till he is 8 years old.

Of the 1,351 pupils, 418 were retarded or 30.94 per cent (Figure 6).

232 pupils or	17.17 per cent of the whole were retarded 1 year
119 pupils or	8.81 per cent of the whole were retarded 2 years
42 pupils or	3.11 per cent of the whole were retarded 3 years
17 pupils or	1.26 per cent of the whole were retarded 4 years
3 pupils or	.22 per cent of the whole were retarded 5 years
5 pupils or	.37 per cent of the whole were retarded 6 years

The 418 pupils represented 709 years of retardation.

Among the same 1,351 pupils there were 80 advanced pupils or 5.92 per cent.

75 pupils or	5.55 per cent of the whole were advanced 1 year
5 pupils or	.37 per cent of the whole were advanced 2 years

The 80 pupils thus represented 85 years of advancement.

Grade	Age of Pupils														Total of pupils per grade	Advanced	Retarded		
	4	5	6	7	8	9	10	11	12	13	14	15	16	17					
1B	1	11	72	26	12												122	12	12
1A		1	21	63	18	8	2	1	1								115	1	30
2B			9	37	43	11	6	1		1							108	9	19
2A				29	33	15	11	2	1		3						94	0	32
3B				6	42	22	10	3	2	1	1	1					88	6	18
3A				2	21	46	19	8	6	2		1					105	2	36
4B					10	22	21	12	9	2	3						79	10	26
4A					1	21	35	16	10	4	1						88	1	31
5B						1	11	28	24	15	7	2	2				90	12	26
5A							1	1	19	27	15	17	8	5			93	2	45
6B									8	29	19	15	5	2			78	8	22
6A									4	15	24	22	9	7	1		82	4	39
7B										3	17	18	15	8	2		63	3	23
7A										6	15	16	22	13	2		74	6	37
8B											2	1	17	10	8	1	39	3	9
8A												1	9	12	7	4	33	1	11
Totals:	1	12	102	163	182	157	163	149	136	131	91	54	10	0			1351	80	418

Total number of pupils - - - - - 1351
 Total number of pupils advanced... 80
 Total number of pupils retarded... 418

FIGURE 6. Associated Charities

The dependent group showed the following average ages for each grade.

GRADE	AGE	GRADE	AGE
1B.....	6.30 years	1A.....	7.22 years
2B.....	7.77 years	2A.....	8.38 years
3B.....	8.80 years	3A.....	9.40 years
4B.....	10.07 years	4A.....	10.32 years
5B.....	10.99 years	5A.....	11.74 years
6B.....	11.82 years	6A.....	12.51 years
7B.....	13.22 years	7A.....	13.36 years
8B.....	13.61 years	8A.....	14.12 years

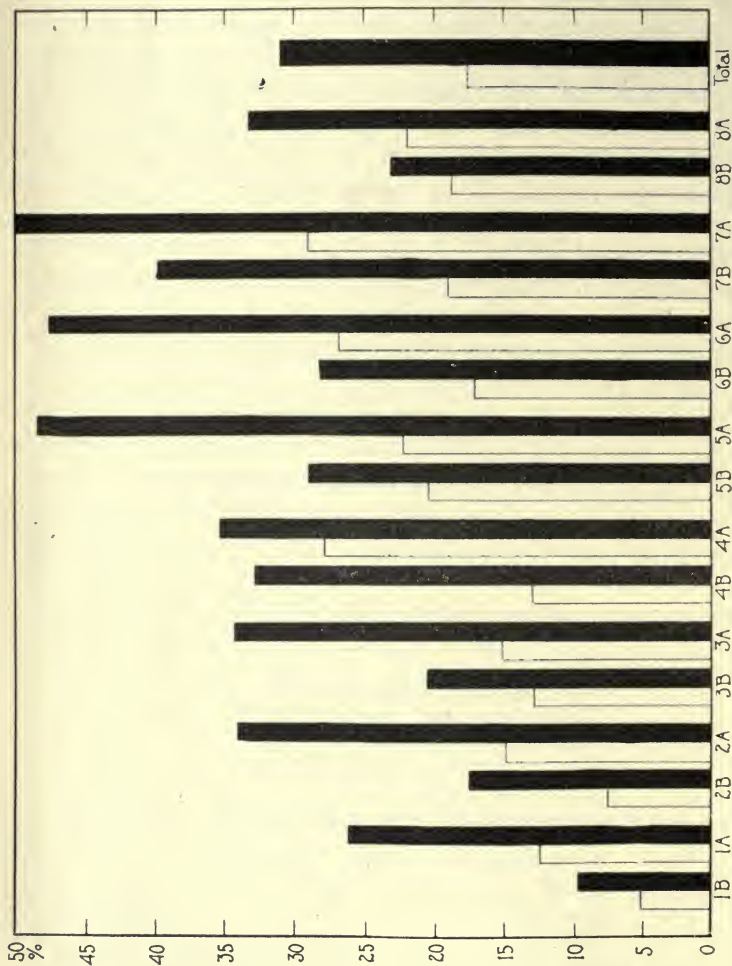


FIGURE 7. Showing comparative retardation in percentages between children of the four schools, or normal group, and children of the Associated Charities, or dependent group. White represents per cent retarded in the four schools; black represents per cent retarded in the Associated Charities.

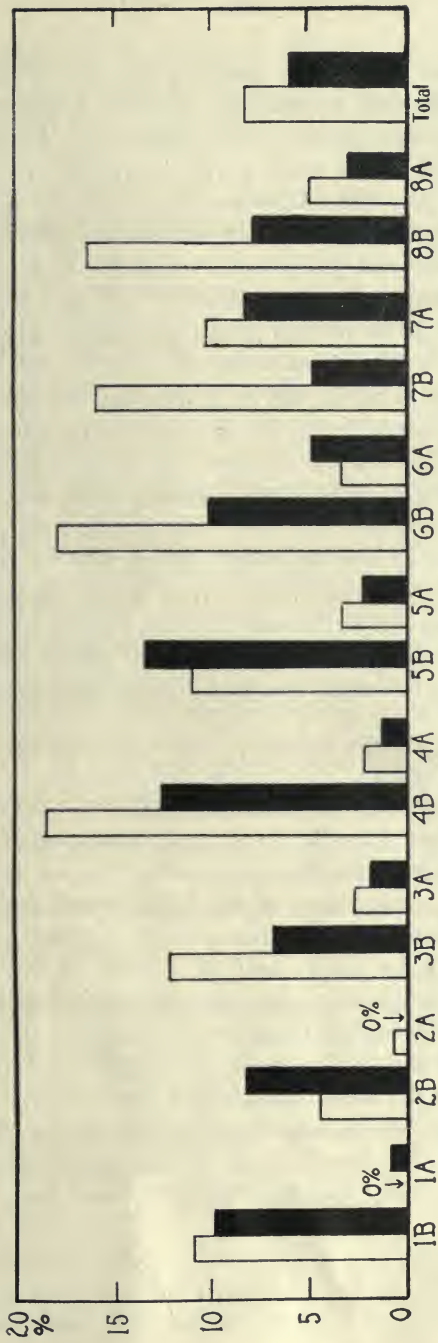


FIGURE 8. Showing comparative advancement in percentages between children of the four schools, or normal group, and children of the Associated Charities, or dependent group. White represents per cent advanced in the four schools; black represents per cent advanced in the Associated Charities.

To summarize and interpret these figures, 30.94 per cent of the children in dependent families are retarded compared to 17.8 per cent in the average group. (See Figure 7.) Five hundred and four pupils of the normal group represent 764 years of retardation, while only 418 of the dependent group represent 709 years. Of the dependent pupils, 5.92 per cent are advanced, while 8 per cent of the normal group are advanced. (See Figure 8.) Average ages present a striking contrast. As has been before noted, average age in the normal group was, in all but one grade, the first year of the two years called normal. In the dependent group, average age in all of the A grades and in two of the B grades was in the second year of the two years called normal. The two B grades having an average age in the second normal year were 4B and 7B. The grade showing most retardation in the normal group studied was 4A. The greatest difference between average age in the dependent group and in the normal group was found in 5A grade, the former being .85 years older. The least difference was in 8B and 1B—the former being .11 and .13 years respectively older. The dependent group were on the average .46+ year, or nearly one half a year, older than the normal group.

CONCLUSIONS BASED ON FACTS

Since, therefore, out of each 100 children of the normal group, approximately 18 will be retarded, while out of each 100 children of dependent families, approximately 31 will be retarded; since the average ages in the latter group are markedly higher—the increase ranging from 1 or 2 months to over 10 months, and averaging nearly half of a year—it is to be concluded that dependency has some vital connection with retardation. Until we know the total number of retarded children in the public schools and the total number of retarded children of dependent families in the public schools, the proportion of retarders furnished by dependent families can not be stated. However, we do here know that families below the normal standard of living are furnishing 13 more retarded children in every 100 than is their share.

We have the fact established. Next to be determined are those causes of retardation which are the inevitable accompaniments of dependency. Is it malnutrition, is it continual shifting

of the family from one locality to another, is it late school entrance, is it bad heredity, is it merely lack of intellectual background—what is it in the life of the dependent family that is retarding the child?

Having established the fact and determined the causes, the next question is, Why shall we eliminate retardation? What will happen if we do not cure or prevent it? Individually the retarded child is below the normal standard of mentality. He has not learned in the few years of his life as much of the 3 R's as his fellow mates. He has not kept up with the race. But from the broader viewpoint of the common welfare, the retarded child, a future citizen, is starting his life as a social misfit. Unless some adjustment occurs, he, as an adult, will still be a misfit, a laggard in the social group. The efficiency of the state, therefore, demands not that the child who is retarded be merely carried along by the school from year to year till the law allows him to drop out uneducated and inefficient, but that the fact of his retardation be faced squarely with a sound program to involve; first, amelioration of the existing condition by placing him where he receives specialized attention; second and more important, an attack individually and socially on the causes of his condition, that retardation may in the future be eliminated.

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