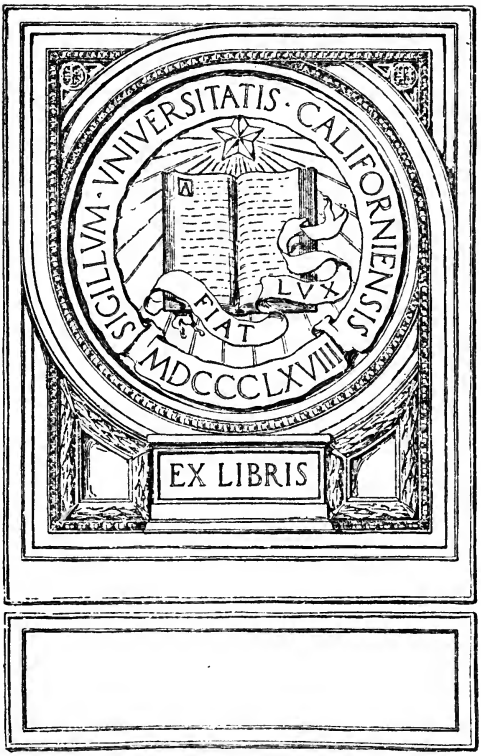
SIGILLVM · VNIVERSITATIS · CALIFORNIENSIS
LVX
FIAT
MDCCCLXVIII
EX LIBRIS

The Relationship between Persistence in School and Home Conditions

THESIS

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATION IN THE GRADUATE SCHOOL OF THE UNIVERSITY OF ILLINOIS

1915

BY

CHARLES ELMER HOLLEY

A.B. University of Illinois, 1912
A.M. University of Illinois, 1913

Reprinted from
THE FIFTEENTH YEARBOOK OF THE NATIONAL SOCIETY
FOR THE STUDY OF EDUCATION
1916

Published April 1916

Composed and Printed By
The University of Chicago Press
Chicago, Illinois, U.S.A.

THE RELATIONSHIP BETWEEN PERSISTENCE IN SCHOOL AND HOME CONDITIONS[1]

CHARLES ELMER HOLLEY
Ohio Wesleyan University

PART I

INTRODUCTORY STATEMENT

THE PROBLEM

This study is concerned primarily with the qualitative analysis of the relationships which exist between the schooling of children and their home conditions. It is concerned secondarily with a rough determination of the relative importance of the hereditary and the environmental factors involved in these relationships.

ORIGIN AND DEVELOPMENT OF THE STUDY

The study is an outgrowth of a social survey of the Decatur, Illinois, high school made by the writer during the school year of 1912–13. In making this survey a large amount of data was secured, most of which proved to be of relatively little importance, but among the many facts there were a few which suggested family tendencies in the matter of educating children. Some of the families gave all the older children a high-school education, while other families, of similar size and age-composition, did not have one child who had completed the high-school work. All the families having two or more children no longer in the public school were selected and examined. There proved to be 198 such families, containing 642 older children, 334 of whom had secured a high-school education. A further examination showed that 40 per cent of the 198 families furnished 72 per cent of those who had finished the high school, and 30 per cent of the families furnished 57 per cent of those who

[1] This study was accepted as the dissertation for the doctorate of philosophy in education by the Graduate School of the University of Illinois. The writer wishes to acknowledge his indebtedness for counsel and suggestions given by Dr. W. C. Bagley and Dr. L. D. Coffman. Further, many useful suggestions were received from Dr. G. M. Whipple, Dr. C. H. Johnston, and the graduate students in education.

had not finished the high school. This difference suggested that there must be corresponding differences in the homes which might be ascertained. Data were secured and it was found that these two groups of homes differed markedly with respect to economic, educational, and social conditions.

Three years ago Dr. J. K. Van Denburg published the results of an investigation conducted in the New York City schools. He found that "on the whole, the economic status of these pupils (so far as it is shown by monthly rental) seems to be only a slight factor in the determination of length of stay in the high schools. The one most marked influence seems to be that the superior economic status in girls leads to a longer stay in spite of failure to progress at the 'normal' rate."[1]

At another place Dr. Van Denburg shows[2] (Table I) the percentages of the different rental groups[3] who graduated from the high school which

TABLE I

PERCENTAGE GRADUATING, CLASSIFIED ACCORDING TO RENTAL GROUPS

Amount	Graduates	Total Entering	Percentage Graduating
Boys			
Not specified.....	22	.....	.....
$ 8 to $17.....	9	76	11.8
$18 to $27.....	8	34	23.5
$28 and up.....	4	48	8.3
Girls			
Not specified.....	40	.....	.....
$ 8 to $17.....	14	99	14.1
$18 to $27.....	10	71	14.0
$28 and up.....	4	65	6.1

they entered four years earlier. He, however, has no record of those who left the public schools and went to private schools, a group mentioned as a factor of some importance. Hence the group "28 and up," would

[1] *Causes of the Elimination of Pupils in Public Secondary Schools* (New York: Published by Teachers College, 1912), p. 113.

[2] *Ibid.*, p. 134.

[3] A rental group is a group of families which paid specified amounts of rent per month. All the families selected were divided by Van Denburg into three rental groups: (1) those paying $8 to $17 per month, (2) those paying $18 to $27 per month, and (3) those paying $28 or more per month.

have to be augmented by an unknown quantity to represent the true percentage of those who received the equivalent of four years in the public high school. It is conceivable that this unknown quantity would be large enough to show a definite relationship for the boys between economic status and persistence in school. With the girls the case would not be so clear, for the two smaller groups contain the same percentage of graduates. It may be that the economic factor is of less importance with girls than with boys.

To be conservative, it might be said that the economic status of the families in Dr. Van Denburg's study is not of sufficient importance to overshadow or more than counteract other factors which make for persistence in, or elimination from, the public high schools of New York City. He has shown that the presence or absence of younger children in the family, the nationality of the parents, choice or lack of choice of an occupation, and intention with regard to graduation are factors correlated with the length of stay in the high school. A more detailed study of home conditions might reveal other factors of far greater influence in this city than economic status.

In another study[1] Dr. C. H. Keyes showed that acceleration or retardation were characteristic of certain families. He found that 6.8 per cent of the families produced 24 per cent of the accelerates, while 7.7 per cent of the families produced 24.5 per cent of the arrests. These facts obtained in a New England city tend to support those obtained in Decatur.

The apparent disagreement between the conditions found by Dr. Van Denburg in New York City and those found by the writer in Decatur, Illinois, raised the question: "Is Decatur representative qualitatively of the average middle western city?" With this question in mind it was decided to extend the study to other Illinois cities, and information was collected from the high schools of Centralia, Champaign, Gibson City, and Rochelle, Illinois. While these data were being collected, it occurred to the writer that this study dealt with a special class—those whose children reached the high school—and represented a special situation, and hence that it ought to be extended so as to include statistics from all levels of society. Accordingly the families residing in Urbana who had children between the ages of fourteen and twenty-one were selected, and

[1] C. H. Keyes, *Progress through the Grades of City Schools* (New York: Published by Teachers College, 1911).

a personal canvass was made by the writer which furnished a mass of facts from 234 homes. When these data had been tabulated and evaluated, and an interpretation was attempted, it was found that, although important relationships existed between the amounts of schooling that the children received and certain objective home conditions, it was impossible to distinguish between environmental and hereditary factors, a distinction that is very important from social and educational points of view. In order more accurately to determine the relative importance of these two types of factors it was decided to secure similar facts about the education and home conditions of adopted children.

In outline this presents the origin and development of the study. The presentation of the data will follow the same general order.

THE DATA

Sources.—The facts presented in Part II were secured from the high-school pupils of Decatur, Illinois, during the fall of 1912. Those in Part III were collected from the high-school pupils of Centralia, Champaign, Gibson City, and Rochelle, Illinois, during the fall of 1913. The main data, those in Part IV, were gathered directly from the homes and from the courthouse records in Urbana, Illinois, during the summer and fall of 1914. The information about the adopted children, given in Part V, was secured from the Urbana courthouse records and from various individuals who resided in Champaign and Urbana during the early months of 1915.

Method of collecting.—The original data which uncovered the problem were secured from the high-school pupils of Decatur during the fall of 1912. One morning in November the writer called at the school with a supply of blanks asking the following questions, as well as a number of others which had no bearing on the present problem:

Name.....Sex.....Age.....
Country of your mother's birthplace.....
Country of your father's birthplace.....
What language is commonly spoken in your home?.....

OLDER BROTHERS

No.	Age	Has he finished high school?	What is he doing now?
1.			
2.			
3.			
4.			
5.			

OLDER SISTERS

No.	Age	Has she finished high school?	What is she doing now?
1.			
2.			
3.			
4.			
5.			

The teachers were instructed briefly as to the facts desired and the collection of data was then left in their hands. The first period of the morning was used and each of the pupils attending at that time was required to fill out one of the blanks. Through the assistance given by the room-charge teachers the entire high school furnished the desired information in a short time.

After it was discovered that one group of homes educated its children more than the other group, it was thought that an objective description of these homes might be secured from the children who attended high school. For this purpose a blank was prepared asking for the following data:

a) Father's occupation.....
b) Father's education..... mother's education.....
c) What is the family income?.....
d) What rent does the family pay per month (estimated by the kind of house in which they live)?.....
e) Church affiliation of father.....of mother.....
f) What newspapers does the family take?.....
What magazines?.....
g) What is the size of the family library?.....
h) What clubs or organizations does the father attend?.....
.....
The mother?.....

These blanks were given to the pupils from the selected homes and were filled out in conference with the teachers or principal. The results were later checked up by the principal, and reports containing obvious errors were marked so that the erroneous portions could be eliminated.

As stated earlier, the facts reported in Part III were secured from the high-school pupils of Centralia, Champaign, Gibson City, and Rochelle, Illinois. A blank asking for the following information was used.

Name..... Sex.....
1. Country of mother's birth.....
2. Country of father's birth.....
3. Father's occupation.....
4. Father's education (in years of schooling).....
5. Mother's education (in years of schooling).....
6. What monthly rent do your parents pay for the house in which they live? (If they own their home, estimate the rent by comparing with rented houses in the neighborhood.).....
7. How many volumes in your home library?.....

OLDER BROTHERS			OLDER SISTERS		
No.	Age	Education in years of schooling	No.	Age	Education in years of schooling
1.			1.		
2.			2.		
3.			3.		
4.			4.		
5.			5.		

Copies of this were sent to the principals or superintendents of Centralia, Gibson City, and Rochelle, and they secured the information from the pupils as best they could. In Gibson City this method resulted in returns from all the pupils attending on the day the information was secured. In Centralia and Rochelle less pressure was put upon the pupils and some failed to furnish any information. In Champaign the writer gathered the data during the English class periods, personally directing the work of the pupils. By answering any queries which arose because of a misunderstanding of any of the questions and by suggesting ways of estimating some of the items, he secured careful replies from almost all the pupils. They were told that it was not necessary for them to sign their names. Hence it was easy to meet any objections which a pupil might have to answering personal questions, and all the pupils filled out the blanks. In the other three towns the pupils signed the blanks, a fact which made them a little more reserved in their replies.

The information which forms the basis of Part IV was secured through a personal canvass made by the writer during June and July, 1914, in Urbana. The university-community portion of the town is a students' residence district and education is a thing uppermost in the minds of those who live there. It contains many families who have moved to Urbana to educate their children. Because of this emphasis on education and because of the difficulty of gauging an economic index where there are so many temporary residents, all families who lived west

of Coler Street and south of Springfield Avenue were eliminated from consideration. The families of the university faculty who lived outside of this area were also eliminated. The preliminary list of names was secured from the 1913 school census records, which gave every home containing an individual under twenty-one years of age. The list finally selected was restricted to those homes which included individuals fourteen to twenty-one years of age, and contained about 550 names. When the actual canvass was made, it was found that a few of these homes contained no children over fourteen (roomers under twenty-one years of age having been found by the school census taker and recorded) and that a few of the listed families had moved out of town. These two factors reduced the list of possible calls to slightly less than 500. The writer called at the homes on all the east and west streets (most homes in Urbana face these streets). Sometimes no one was at home. When convenient a second or even a third call was made to secure the desired information. The canvass resulted in securing information from 234 homes of whites and 5 homes of colored people and gave a random sampling of the community. The colored homes are not included in the study because their members belong to a race which is not as yet a homogeneous element of the population. Their number was too small to be studied separately. As an aid and guide in securing the information the following blank was used:

1. Occupation of father.....
2. Country of father's birth..... of mother's birth.....
3. Father's native language..... mother's native language.....
4. Education of father.....of mother.....
5. Number of books in the home.....
6. Number of living-rooms in home.....
7. Number of people living in house over fourteen years of age.....
   Under fourteen years of age.....
8. Number of members of family living at home.....
9. Rent per month.....
10. Children above fourteen years of age.....

	Sex	Age	Years of schooling each has received
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

In conducting the canvass, the writer, after introducing himself, usually began with an inquiry as to the number of children in the home, their age, and education. Experience showed that parents were quite ready to talk about their children and that, after getting somewhat acquainted with the writer, they were then more free in answering the other questions. By this procedure the facts were secured to question No. 10 first and then the blank was filled out in order, beginning with question No. 1.

The figures for the personal property and real estate assessments were taken from the courthouse records giving the assessments for the 1915 taxes. In case a name did not appear here, the previous year's records were examined. In a few cases the figures were obtained in the latter way.

The data which furnish the basis for the discussion of adopted children, presented in Part V, were gathered by the writer through a personal canvass. The original list of names was secured from the court records which gave the adoptions made in Champaign County since 1871. From these records the sex, date of birth, date of adoption, names of foster-parents with their town addresses, the changed name of the child, and cause of adoption were secured for each child. Excluding all children who would not now be at least fourteen years old, the list contained 155 cases of adoption. The present addresses of as many as possible of these foster-parents, of the children, or of someone who could give the desired information were secured from directories and from people who have long resided in Champaign or Urbana. That the results might be comparable with those presented in Part IV, only those parents who lived in Champaign or Urbana and reared the children there were included in the study.

In securing these data a form quite similar to that used in the earlier canvass was employed. It was as follows:

Parents' names.....
1. Occupation of father.....
2. Nativity of father.....of mother.....
3. Schooling of father (in years).....of mother.....
4. Estimated number of books in home.....
5. Financial status of parents: very poor, poor, average, well-to-do, wealthy (check).
6. Estimated rent of home in which family lived when children were in school.....
7. Facts about all children living or dead, who reached fourteen years of age.....

	Date of birth	Sex	Schooling in years
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

The procedure was approximately the same, after the list of names and addresses was secured, as that followed in gathering the data for Part IV. Members of the family or relatives furnished the information for all but one of the children studied.

Errors.—The data secured from the pupils through questionnaires which they themselves filled out were probably more inaccurate than those secured by the writer through the personal canvass. The greatest constant error is that of omission. It is thought by the writer that the effect of this is nearly that of pure chance, though this may be proved otherwise if carefully investigated. However, since this is primarily a qualitative study, such errors will be less serious than if it were a purely quantitative investigation. Wilful untruths may have existed in the data, but they were very rare. From the nature of the questions and the conditions under which they were answered, some of the data are estimates, more or less inaccurate. Errors peculiar to one kind of data will be mentioned during its discussion.

Method of treatment.—The statistical method[1] will be used in this study. All the important relationships will be expressed through coefficients of correlation. All correlations will be worked according to the "product-moment" method of Pearson where $r = \frac{\Sigma xy}{n \sigma_1 \sigma_2}$. The reliability of all correlations will be expressed according to the formula $P.E. = 0.6745 \frac{1 - r^2}{\sqrt{n}}$. The reliability of the difference between two medians will be expressed according to the formula $P.E.D. = \sqrt{\frac{P.E._1^2}{n_1} + \frac{P.E._2^2}{n_2}}$. All central tendencies will be expressed by medians.

[1] All the formulas used can be found in any standard work on statistical methods. See Thorndike, *Mental and Social Measurements;* or Whipple, *Manual of Mental and Physical Tests*, 2d ed., Part I, "Simpler Processes." Whipple gives on p. 35 a table showing the reliability of *P.E.* according to its relative size.

PART II

RELATIONSHIPS FOUND IN DECATUR

The original data collected in Decatur during the fall of 1912 revealed 198 children from homes having two or more older children no longer in the public school. These homes when examined could be distributed readily among three groups: (I) those from which all the older children had completed the high-school work; (II) those from which none of the older children had completed the high-school work; (III) those in which some of the older children had graduated from the high school and others had not.

In all there were 642 older brothers and sisters, 334 of whom had secured a high-school education. Group I contained 78 families and furnished 72 per cent of the 334 children. Group II contained 59 families and furnished 57 per cent of the 308 who had not finished high school.

This section will be devoted to a discussion of the differences between home conditions in the first two groups.

The replies were most nearly complete with respect to the education of the parents, though a few children failed to give this information. When the replies were checked, it was found that some information was secured concerning 60 homes of Group I and 43 homes of Group II. On some of the blanks there was very little information, probably because the pupils, or even the parents in some cases, could not give the facts desired.

RESULTS OF THE INVESTIGATION

The differences between the two types of homes are striking.

a) *Occupations.*—The fathers of Group I (the families that gave their children a high-school education) are chiefly engaged in professional and commercial occupations (see Table II). The fathers of Group II (the families that did not provide a high-school education for their children) are chiefly engaged in artisan trades, and in semi-skilled and unskilled occupations (Table II).

b) *Schooling.*—The median number of years of schooling received by the parents of Group I is twelve; by the parents of Group II, eight

(see Table III). In Group I, 60 per cent of the fathers and 61 per cent of the mothers have had the equivalent of a high-school education,

TABLE II

OCCUPATIONS OF FATHERS

GROUP I		GROUP II	
Occupation	No.	Occupation	No.
Farmer	8	Farmer	6
Lawyer	4	Retired farmer	3
Insurance	4	Carpenter	3
Real estate dealer	3	Minister	3
Retired farmer	2	Blacksmith	3
Physician	2	Cabinet-maker	2
Public official	2	Night watchman	2
Jeweler	2	Janitor	2
Cashier	2	Railroad engineer	1
Minister	2	Railroad conductor	1
Implement dealer	1	Mail clerk	1
Druggist	1	Shoeman	1
Millwright	1	Lock-maker	1
Business	1	Factory employee	1
Painter and decorator	1	Boiler-maker	1
Floor-walker	1	Clothier	1
Nurseryman	1	Gardener	1
Mason	1	Cement contractor	1
Railroader	1	Commission dealer	1
Music store	1	Horse-dealer	1
Brick business	1	Grocer	1
Bookkeeper	1	Miller	1
Auto trimmer	1	Clerk	1
Proprietor, machine-shop	1	Passenger engine inspector	1
Hotel-keeper	1		
Machinist	1		
Cement factory	1		
Carpenter	1		
Secretary and treasurer	1		
Barber	1		
Furnaceman	1		
Railroad engineer	1		

while more than 91 per cent of the fathers and mothers of Group II have had less than four years of high-school work. Indeed, 74 per cent of

the fathers and 71 per cent of the mothers of Group II did not go beyond the eighth grade. The mathematical differences between the medians of the two groups, 3.68±0.38 years for fathers and 3.70±0.38 years for mothers, have a high degree of reliability.

TABLE III

THE EDUCATION OF FATHERS AND MOTHERS

NUMBER OF YEARS OF SCHOOLING	GROUP I		GROUP II	
	Fathers	Mothers	Fathers	Mothers
2			1	
3				
4				
5				1
6	2			
7	2		1	3
8	11	12	24	21
9		1		
10	5	6	4	4
11			2	3
12	15	16	1	2
13	4	2		
14	5	11	2	1
15	1			
16	3	1		
18	2			
Median years of education	12.33 years	12.34 years	8.65 years	8.64 years

Difference between median education of Groups I and II, fathers=3.68±0.38 years

Difference between median education of Groups I and II, mothers=3.70±0.38 years

c) *Incomes and rent.*—As would readily be inferred from the facts concerning occupation and schooling just presented, the yearly incomes and monthly rentals are higher with those who sent their children through the high school than with the other group. The median yearly income of Group I is $2,000; of Group II, $1,350 (Table IV). Each family studied in this section contained at least three children, and the average is almost five. Thus it seems that the problem of furnishing the necessaries of life must be a serious one for many families of Group II.

The differences between the rental values of the two groups of homes are evident to one who simply glances at Table V. Statistically they are shown by the difference in the medians. They are marked, for 81 per

TABLE IV

INCOMES*

	Group I	Group II		Group I	Group II
Below $699	.....	2	$1,800 to $1,899	.....	2
$ 700 to $ 799	1	3	1,900 to 1,999	1	1
800 to 899	1	3	2,000 to 2,099	1	1
900 to 999	1	2	2,100 to 2,199	.....	.....
1,000 to 1,099	3	3	2,200 to 2,299	.....	1
1,100 to 1,199	.....	1	2,300 to 2,399	.....	.....
1,200 to 1,299	6	1	2,400 to 2,499	.....	1
1,300 to 1,399	1	1	2,500 to 2,599	3	1
1,400 to 1,499	.....	2	3,000 to 3,999	5	1
1,500 to 1,599	2	3	4,000 to 4,999	5	.....
1,600 to 1,699	2	1	5,000 and above	5	.....
1,700 to 1,799	1	1	Median income	$2,000	$1,350

Difference between medians of Group I and II = $650 ± $242

* A number of families had such indefinite incomes that the parents themselves could not estimate them.

cent of the families in Group I pay $25 or more a month while 77 per cent of Group II pay less than this amount. A house with modern improvements, bath, toilet, etc., large enough for a family of six costs

TABLE V

RENTAL VALUES OF HOMES*

Per Month	Group I	Group II	Per Month	Group I	Group II
$10	.....	1	$20	1	11
11	.....	.....	22.50	1	1
12	.....	.....	25	10	4
13	.....	2	30	6	.....
14	.....	1	35	4	2
15	1	3	40	5	1
16	1	1	50	1	.....
17	1	1	Median rent	$30	$20.80
18	1	3	No. who own their homes	14	9
19	.....	.....			

Differences between medians of Groups I and II = $9.20 ± $1.17

*The question which asked for this information was poorly constructed. It was: "What rents does the family pay per month (estimated by the kind of a house in which they live)?" Some replied by merely stating that they owned the home. Others estimated the rent even if they owned the home.

at least $25 a month in Decatur. Hence a large part of the families of Group II live in somewhat undesirable houses. The number reported as owning their homes, 14 families of Group I and 9 families of Group II, is too small to be a basis for any significant conclusions.[1]

TABLE VI

NEWSPAPERS TAKEN

	Group I	Group II
Decatur papers	77	55
Chicago papers	15	5
Other local papers	8	2

TABLE VII

MAGAZINES TAKEN

	Group I	Group II
Ladies' Home Journal	23	20
Woman's Home Companion	13	5
Saturday Evening Post	11	1
Cosmopolitan	9	2
Pictorial Review	7	3
Youth's Companion	6	4
Good Housekeeping	6	2
Popular Mechanics	6	1
Literary Digest	6	.....
Everybody's	5	2
Religious papers	4	4
Collier's	4	3
McClure's	4	1
Woman's World	3	6
Farm papers	2	3
Motor Age	2	.....
Life and *Judge*	2	.....
Review of Reviews	1	1
Boys' paper	1	.....
Home-Life	1	.....
Current Events	1	.....
Success	1	.....
Travel	1	.....

d) Home culture.—There is only a slight relationship between the number of newspapers taken by a home and the schooling and financial standing of the parents (Table VI). Every home in both groups took

[1] The difference between the median rents of the two groups is much more reliable than the differences between median incomes. The latter is barely large enough to justify statistical consideration.

a daily newspaper with one exception, a home of Group I. This home took several magazines.

The two groups of homes showed a much greater difference when the quantity and quality of the periodical literature were examined. Magazines of the better class were found in the homes represented by Group I, but were very infrequently found in the homes of Group II (Table VII).

The library facilities of the two groups of homes correspond to the other characteristics already discussed. The median number of books found in homes of Group I was 271; in Group II, 83 (Table VIII). In other words, the average home of Group I had more than three times as many books in it as the average home of Group II. All but one of the homes of Group II, or 97 per cent, had smaller libraries than the average home of Group I.

TABLE VIII

LIBRARIES

Volumes	Group I	Group II	Volumes	Group I	Group II
Less than 50	4	10	301–400	7	.....
51– 75	.....	6	401–500	1	.....
76–100	2	5	501 and over	6	1
101–200	6	12	Median number of volumes	271	83
201–300	7	1			

Difference between medians of Groups I and II = 188 ± 24 volumes

e) *Clubs and organizations.*—The number of clubs and organizations attended by the fathers of Group I was larger than the number attended by the fathers of the other group (Table IX). The fathers of Group I were more often members of those social and recreational societies which are somewhat of an economic burden. Among the mothers the only important difference to be noted is that the mothers in Group I attended the "women's clubs" while mothers in Group II attended the "mothers' club" of the public school.

f) *Religious affiliations.*—The differences which appeared between the two groups with respect to this point (Table X) were not significant in their bearing upon persistence in school. A more extended study might reveal important facts which did not appear in the small number of cases secured in this study.

TABLE IX

CLUBS AND ORGANIZATIONS ATTENDED BY THE FATHERS AND MOTHERS

	FATHERS		MOTHERS	
	Group I	Group II	Group I	Group II
Masons	17	3	.....	.....
Woodmen	13	4	.....	.....
Oddfellows	8	5	.....	.....
Social or recreational	8	.....	1	.....
Knights of Pythias	5	2	.....	.....
Professional	4	3	.....	1
Moose	2	1	.....	1
Chamber of Commerce	1	.....	.....	.....
Knights of Columbus	1	1	.....	.....
Trade union	1	6	.....	.....
Owls	.....	1	.....	.....
G.A.R.	.....	1	.....	.....
Rebecca	1	1	3	4
Royal Neighbors	.....	1	6	6
Church societies	1	1	12	8
Court of Honor	1	2	1	1
Ben Hur	.....	2	.....	4
Yeomen	1	1	1	.....
Women's clubs	.....	.....	8	1
Eastern Star	.....	.....	2	.....
King's Daughters	.....	.....	1	.....
Mothers' club	.....	.....	1	6
Y.W.C.A	.....	.....	1	.....
W.C.T.U	.....	.....	1	1

TABLE X

CHURCH AFFILIATIONS OF FATHERS AND MOTHERS

	FATHERS		MOTHERS	
	Group I	Group II	Group I	Group II
Methodist Episcopal	15	17	6	8
Presbyterian	11	12	2	3
Christian	5	6	4	4
Congregational	3	3	2	2
United Brethren	3	3	1	2
Baptist	3	2	6	7
Lutheran	2	3	3	4
Catholic	1	3	2	1
Free Methodist	1	1	.....	.....
German Methodist	1	1	1	1
Episcopal	1	1	.....	.....
Christian Science	.....	1	.....	.....
African Methodist	.....	.....	1	1
Church of God	.....	.....	1	1
Unitarian	.....	.....	1	1
Protestant	.....	.....	.....	1

SUMMARY AND CONCLUSIONS

Seventy-eight families, 40 per cent of those which had two or more older children no longer in the public school, furnish 72 per cent of the 334 high-school graduates.

Fifty-nine families, 30 per cent of those studied, furnished 57 per cent of those who did not finish high school.

As a class, the parents of the first group were better educated, were employed in different occupations, received larger incomes, paid more rent per month or lived in better homes, took a greater number and a better type of magazines and newspapers, had larger libraries, and attended a different type of clubs, organizations, and churches than the parents of the group of families none of whose older children finished high school.

There was, in Decatur, Illinois, a decided relationship between advantages of home conditions and the amounts of schooling which children received.

PART III

RELATIONSHIPS FOUND IN CENTRALIA, CHAMPAIGN, GIBSON CITY, AND ROCHELLE

This section is based on the data secured from the high-school pupils of Centralia, Champaign, Gibson City, and Rochelle. Only the replies of those pupils who reported older brothers or sisters no longer in school were used. This selection reduced the total number of homes studied to 318. An appreciable number of the blanks failed to give all the information desired. A blank might omit the schooling of the father or mother, the rental estimate, the number of books in the home, or the schooling or sex of the older children. In such a case it was not rejected, but the available information which it contained was utilized. Consequently the numbers given in the various tables differ. Thirty-three pupils failed to give estimates of the schooling of their parents, 99 gave no estimate of the monthly rental, and 111 did not report the number of books in the home.

The ratio of the number of homes included in this study to the total population is not the same for each of the four towns. It varies rather widely. Centralia is represented by the smallest number of homes, 37, though it is three-fourths the size of Champaign, which has the largest number, 149. Gibson City and Rochelle are both small places but are well represented.

TABLE XI

POPULATION AND HOMES STUDIED

	Population (1910 Census)	No. of Homes Studied
Centralia	9,680	37
Champaign	12,421	149
Gibson City	2,086	67
Rochelle	2,732	65

These towns are situated in four sections of the state, south-central, central, east-central, and northern. It is thought by the writer that as a group they are representative qualitatively of towns of similar size in this state and probably are representative of this section of the

United States. This fact, however, must remain a matter of opinion until it has been demonstrated by similar studies of other towns.

When an attempt was made to present the relationships separately for each town, it was found that the chance variations present exerted so great an influence that relationships were frequently obscured or exaggerated. Hence it was decided to give only the combined data for the four towns.

This section considers only families which had a child in one of the four high schools at the time the data were secured. It does not touch the larger group whose children never go beyond the eighth grade. This sort of sampling necessarily provides a select class, and the results presented here must not be interpreted in any other light.

Results

The facts toward which attention will be directed are relationships as expressed by coefficients of correlation. Although the data disclose

TABLE XII

Correlation of Education of Parents and Education of Sons in Centralia, Champaign, Gibson City, and Rochelle

Years of Schooling of Sons	Average Years of Schooling of Parents												
	4	5	6	7	8	9	10	11	12	13	14	15	16
20	....	....	....	....	....	....	....	....	....	....	1	....	....
19	....	....	....	....	....	....	....	....	....	....	....	....	....
18	....	....	....	1	2	1	....	....	....	....	....	1	....
17	....	....	....	....	....	....	....	1	....	....	....	....	....
16	....	....	....	....	2	3	2	2	1	3	....	1	
15	....	....	1	1	4	3	....	....	1	1	....	....	1
14	....	....	....	....	4	1	1	3	4	....	....	....	....
13	....	....	....	....	1	1	1	1	2	....	....	....	1
12	....	1	1	5	18	7	10	2	7	5	5	1	1
11	....	2	2	4	10	4	3	2	4	1	....	....	....
10	....	....	2	4	19	7	8	4	....	....	....	1	....
9	1	....	1	7	13	1	4	3	....	....	1	....	....
8	1	7	2	10	38	2	1	5	2	2	....	....	....
7	....	3	2	3	8	2	....	1	....	1	....	....	....
6	....	....	....	....	1	....	....	....	....	....	....	....	....
5	....	....	....	....	....	....	....	....	....	....	....	....	....
4	....	....	....	....	1	....	....	....	....	....	....	....	....

$r = 43 \pm 0.03$
$n = 316$
Median education of sons, 10 years

a number of others, only those existing between the schooling of the children and the schooling of the parents, rental values of the home, and number of books in the home will be presented.

a) Schooling of parents.—It will be noticed when the tables are examined that there is a marked concentration of cases at that point on the scale of the schooling of parents which marks the end of the grammar school. With the children there are two such points, one at

TABLE XIII

CORRELATION OF EDUCATION OF PARENTS AND EDUCATION OF DAUGHTERS IN CENTRALIA, CHAMPAIGN, GIBSON CITY, AND ROCHELLE

Years of Schooling of Daughters	Average Years of Schooling of Parents												
	4	5	6	7	8	9	10	11	12	13	14	15	16
19	....	....	....	....	....	....	....	....	....	....	....	1	....
18	....	....	....	....	....	....	....	....	....	....	....	....	....
17	....	....	....	....	....	....	1	1	....	1	....	....	....
16	....	....	....	1	1	1	2	2	2	4	2	2	1
15	....	1	....	....	2	1	....	2	1	....	1	....	....
14	....	....	2	....	1	3	4	2	5	1	....	....	2
13	....	....	2	....	3	5	2	5	4	1	1	....	....
12	....	1	3	4	24	10	7	5	4	2	6	3	....
11	....	....	1	1	10	2	1	2	1	2	....	....	....
10	....	....	4	5	11	3	2	3	1	1	1	....	4
9	....	....	....	5	9	3	1	....	....	....	....	....	....
8	1	3	....	11	35	5	5	1	1	1	....	....	....
7	....	1	1	3	5	1	....	....	....	....	....	....	....
6	....	....	....	....	....	....	....	....	....	....	....	....	....
5	....	....	....	....	....	....	....	....	....	....	....	....	....
4	....	1	....	....	....	....	....	....	....	....	....	....	....

$r = 0.42 \pm 0.03$

$n = 290$

Median education of daughters, 11 years

the end of the grammar school and the other at the end of high school, with possibly a third at the end of college. Such concentrations disturb the curve of distribution and modify conditions somewhat. The relationships between the schooling of the children and the schooling of the parents are approximately the same for both sons and daughters, 0.43 ± 0.03 for the former (Table XII) and 0.42 ± 0.03 for the latter (Table XIII).

b) Schooling of foreign-born parents.—Out of the total number of homes, 318, 29 had foreign-born parents and 35, one foreign-born and one native-born (Table XIV). The number of homes where both of

TABLE XIV

PARENTAGE—NUMBER OF FAMILIES

	Both Parents Foreign Born	One Parent Foreign Born	Both Parents Native Born
Centralia	4	2	31
Champaign	7	17	125
Gibson City	10	8	49
Rochelle	8	8	49
Total	29	35	254

the parents were foreign born is too small to furnish any reliable coefficients of relationship.

Only a few of the foreign-born parents have had more than a common-school training, while the children have done a little better. It must be

TABLE XV

CORRELATION OF SCHOOLING OF FOREIGN-BORN PARENTS AND SCHOOLING OF THEIR SONS

Years of Schooling of Sons	Average Years of Schooling of Parents					
	5	6	7	8	9	10
15	.....	1	.....	.....	.....	.....
14	.....	.....	.....	.....	.....	.....
13	.....	.....	.....	.....	.....	.....
12	.....	.....	.....	2	.....	4
11	.....	.....	1	2	.....	.....
10	.....	.....	1	3	.....	1
9	.....	.....	2	1	.....	.....
8	5	.....	4	5	.....	.....
7	.....	.....	.....	3	.....	.....
6	.....	.....	.....	1	.....	.....

remembered in reading Tables XV and XVI that parents are duplicated where more than one older child no longer in school was in the family. Hence, although five boys and six girls came from homes where the average schooling of the parents was ten years, they came from four

families, while two homes furnished the nine children who came from homes where the average schooling of the parents was five years.

TABLE XVI

CORRELATION OF SCHOOLING OF FOREIGN-BORN PARENTS AND SCHOOLING OF THEIR DAUGHTERS

Years of Schooling of Daughters	Average Years of Schooling of Parents					
	5	6	7	8	9	10
15	1					
14		1				
13						
12		2	1	3		2
11						
10						1
9			1	1	1	
8	3		3	5	2	3
7			2	4		
6						

c) Schooling of farm parents.[1]—Two hundred and ninety-nine of the children reported the occupations of their fathers (Table XVII). Of this total, 76, or about 25 per cent, were engaged in farming. This

TABLE XVII

RATIO OF RURAL TO OTHER OCCUPATIONS

	Farmers	Other Occupations
Centralia	4	33
Champaign	17	116
Gibson City	26	38
Rochelle	29	36
Total	76	223

number provided a group large enough to be fairly representative. In this group 84 sons and 61 daughters were reported as being no longer in school. The relationships between the schooling of these children and

[1] Some of these parents may reside in town, though they consider themselves farmers.

the average schooling of their parents are 0.35±0.06 for the boys (Table XVIII) and 0.47±0.07 for the girls (Table XIX).

TABLE XVIII

CORRELATION BETWEEN EDUCATION OF FARM PARENTS AND EDUCATION OF THEIR SONS

Years of Schooling of Sons	Average Years of Schooling of Parents									
	4	5	6	7	8	9	10	11	12	13
16					1	1				
15						2			1	
14									1	
13							1			
12				2	2	2	2	1	1	1
11					1	2			1	
10				1	7	4	4			
9			1	3	6	1	2			
8	1	5		2	15	2	1			
7				1	4	2				

$r = 0.35 \pm 0.06$

$n = 84$

Median education of sons, 9 years

TABLE XIX

CORRELATION BETWEEN EDUCATION OF FARM PARENTS AND EDUCATION OF THEIR DAUGHTERS

Years of Schooling of Daughters	Average Years of Schooling of Parents								
	4	5	6	7	8	9	10	11	12
15					1				1
14					1		1	1	
13					2	1	1	1	
12					7	2			
11					2	1			
10				3	2	1	1		
9				3	1	1			
8	1	2		3	12	3	1		
7				2	3				

$r = 0.47 \pm 0.07$

$n = 61$

Median education of daughters, 9 years

d) Schooling of town parents.—The fathers who were engaged in occupations other than farming had 232 sons and 229 daughters no longer in school (Tables XX, XXI). The correlations between the

TABLE XX

CORRELATION BETWEEN EDUCATION OF TOWN PARENTS AND EDUCATION OF THEIR SONS

Years of Schooling of Sons	Average Years of Schooling of Parents												
	4	5	6	7	8	9	10	11	12	13	14	15	16
20	....	....	....	....	....	....	....	....	....	....	1	....	....
19	....	....	....	....	....	....	....	....	....	....	....	....	....
18	....	....	....	1	2	1	....	....	....	....	....	1	....
17	....	....	....	....	....	....	....	1	....	....	....	....	....
16	....	....	....	....	1	2	2	2	1	3	....	1	....
15	....	....	1	1	4	1	....	....	....	1	....	....	1
14	....	....	....	....	4	1	1	3	3	....	....	....	....
13	....	....	....	....	1	1	....	1	2	....	....	....	1
12	....	1	1	3	16	5	8	1	6	4	5	1	1
11	....	2	2	4	9	2	3	2	3	1	....	....	....
10	....	....	2	3	12	3	4	4	....	....	....	1	....
9	1	....	....	4	7	....	2	3	....	....	1	....	....
8	....	2	2	8	23	....	....	5	2	2	....	....	....
7	....	3	2	2	4	....	....	1	....	1	....	....	....
6	....	....	....	....	1	....	....	....	....	....	....	....	....
5	....	....	....	....	....	....	....	....	....	....	....	....	....
4	....	....	....	....	1	....	....	....	....	....	....	....	....

$r = 0.30 \pm 0.04$

$n = 232$

Median education of sons, 11 years

schooling of these children and the average schooling of their parents are 0.30 ± 0.04 for the sons and 0.35 ± 0.04 for the daughters.

e) Sex relationships.—No important sex differences were found. The correlation between fathers and sons in the matter of years of schooling received is practically identical with that between the mothers and daughters. The former is 0.44 ± 0.03 (Table XXII); the latter, 0.43 ± 0.03 (Table XXIII).[1]

[1] Some of the children reported the schooling of but one parent. Hence the total figures given in Tables XXII and XXIII are slightly larger than those in Tables XII and XIII.

TABLE XXI

CORRELATION BETWEEN EDUCATION OF TOWN PARENTS AND EDUCATION OF THEIR DAUGHTERS

Years of Schooling of Daughters	Average Years of Schooling of Parents											
	5	6	7	8	9	10	11	12	13	14	15	16
19	....	....	....	....	....	....	....	....	....	....	1	....
18	....	....	....	....	....	....	....	....	....	....	....	....
17	....	....	....	....	....	1	1	....	1	....	....	....
16	....	....	1	1	1	2	2	2	4	2	2	1
15	1	....	....	1	1	....	2	....	....	1	....	....
14	....	2	....	....	3	3	1	5	1	....	....	2
13	....	2	....	1	4	1	4	4	1	1	....	....
12	1	3	4	17	8	7	5	4	2	6	3	....
11	....	1	1	8	1	1	2	1	2	....	....	....
10	....	4	2	9	2	1	3	1	1	1	....	4
9	....	....	2	8	2	1	....	....	....	....	....	....
8	1	....	8	23	2	4	1	1	1	....	....	....
7	1	1	1	2	1	....	....	....	....	....	....	....
6	....	....	....	....	....	....	....	....	....	....	....	....
5	....	....	....	....	....	....	....	....	....	....	....	....
4	1	....	....	....	....	....	....	....	....	....	....	....

$r = 0.35 \pm 0.04$
$n = 229$
Median education of daughters, 12 years

TABLE XXII

CORRELATION BETWEEN EDUCATION OF FATHERS AND EDUCATION OF THEIR SONS

Years of Schooling of Sons	Years of Schooling of Fathers																
	0	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	4	...	...	...	...	...	...	1	...	...	1
17	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
16	...	...	...	...	...	...	4	1	2	...	5	...	2	...	1	...	...
15	...	...	...	...	1	...	5	1	...	1	1	...	1	...	1	...	...
14	...	...	...	...	...	...	6	1	...	3	2	...	...	...	...	...	...
13	...	...	...	...	...	...	2	...	...	2	1	...	...	...	1	...	...
12	...	...	...	...	2	3	28	2	2	2	16	...	2	2	5	...	1
11	...	...	1	2	1	4	12	2	1	2	6	...	1	1	...	...	...
10	...	...	1	...	3	1	24	2	5	...	4	...	1	...	...	...	...
9	1	...	...	1	1	3	18	1	3	1	1	...	...	...	1	...	...
8	...	1	...	5	6	5	48	2	...	...	7	...	...	...	1	...	...
7	...	...	2	1	2	3	6	2	...	...	2	...	...	...	...	...	...
6	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...

$r = 0.44 \pm 0.03$
$n = 317$

f) Rent.—It may be rather unfair to combine the figures for the four towns, because rental values vary from town to town for approximately the same accommodations. Such variations tend to reduce the figures

TABLE XXIII

CORRELATION BETWEEN EDUCATION OF MOTHERS AND EDUCATION OF THEIR DAUGHTERS

Years of Schooling of Daughters	Years of Schooling of Mothers												
	4	5	6	7	8	9	10	11	12	13	14	15	16
19	....	....	....	....	....	....	....	....	....	1	....	....	....
18	....	....	....	....	....	....	....	....	....	....	....	....	....
17	....	....	....	....	1	....	....	1	1	....	....	....	....
16	....	....	....	....	3	....	....	6	6	....	1	....	3
15	....	....	....	....	3	1	....	....	1	....	2	....	....
14	....	....	2	1	4	1	2	....	8	2	1	....	2
13	....	....	1	....	6	1	2	2	9	2	....	1	....
12	1	....	2	3	27	3	12	4	12	3	1	1	3
11	....	....	....	1	13	1	1	2	3	....	1	....	....
10	....	1	1	3	16	2	2	2	5	....	1	....	1
9	....	....	2	1	13	....	3	....	....	....	....	....	....
8	....	4	2	5	44	....	4	2	2	....	1	....	....
7	....	....	3	1	6	....	1	....	....	....	....	....	....
6	....	....	....	....	....	....	....	....	....	....	....	....	....
5	....	....	....	....	....	....	....	....	....	....	....	....	....
4	1	....	....	....	....	....	....	....	....	....	....	....	....

$r = 0.43 \pm 0.03$
$n = 300$

of relationship obtained, though perhaps not as much as might be expected. There is probably a positive correlation between rental values and the opportunities for education offered by a community. If such be the case, it must counteract the effects of the variations.

TABLE XXIV

OWNERS AND RENTERS

	Owners	Renters
Centralia	25	3
Champaign	85	21
Gibson City	45	10
Rochelle	17	7
Total	172	41

Only 41 out of the 213 families which gave the information pay rent (Table XXIV). Since the pupils were requested to estimate the rental values of their homes when their parents owned them, most of the rental values are estimates. This fact introduces a certain amount of unreliability into the data which would tend to reduce the correlation figures below their probable values. Even if such be the case, the correlation coefficients are large enough to indicate a clear relationship

TABLE XXV

CORRELATION OF RENTAL VALUES* AND EDUCATION OF SONS

Years of Schooling of Sons	Rent of Home per Month, Dollars													
	10	15	20	25	30	35	40	45	50	55	60	65	70	75
20	....	....	....	....	....	1	....	....	....	....	....	....	....	....
19	....	....	....	....	....	....	....	....	....	....	....	....	....	....
18	....	....	....	....	2	....	....	2	....	....	....	....	....	1
17	....	....	....	....	1	....	....	....	....	....	....	....	....	....
16	1	1	....	2	3	2	3	....	1	....	....	....	....	....
15	1	1	....	....	....	....	1	2	....	....	1	....	....	....
14	1	1	....	4	1	....	....	....	....	2	....	....	2	....
13	1	....	....	....	....	1	....	....	....	1	....	....	....	....
12	2	5	8	9	6	7	9	2	4	....	4	1	....	....
11	....	3	7	5	....	4	1	1	1	....	1	....	....	....
10	3	6	3	4	2	3	....	1	3	....	....	....	3	....
9	7	7	4	3	2	1	1	....	....	....	....	....	....	....
8	8	13	13	11	4	2	2	....	....	....	....	....	....	....
7	2	4	4	1	....	....	....	....	....	....	....	....	....	....
6	....	....	....	....	....	1	....	....	....	....	....	....	....	....
5	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4	1	....	....	....	....	....	....	....	....	....	....	....	....	....

$r = 0.40 \pm 0.04$

$n = 241$

* The rental values were grouped as follows: The $10 group includes all living in homes worth $10 or less per month, the $15 group includes all values between $11 and $15, etc.

(Tables, XXV, XXVI). The correlation between rental values and schooling of sons is 0.40 ± 0.04 and between rental values and schooling of daughters it is 0.24 ± 0.04. These families were a select group from which those children who never reached high school had been eliminated. Where are those families located in rental distribution whose children never went beyond the elementary school? An answer will be suggested by Part IV.

g) Number of books in the home.—The pupils found it more difficult to estimate the number of books in the home than to estimate the rental

TABLE XXVI

CORRELATION OF RENTAL VALUES AND EDUCATION OF DAUGHTERS

Years of Schooling of Daughters	Rent of Home per Month, Dollars																	
	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
17	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	1	...	...	2	3	5	1	1	...	...	1	...	1	...	...	...	...	1
15	...	1	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
14	1	3	4	1	...	4	1	1	...	1	...	...	...	...	...	...	...	...	...
13	1	3	1	4	4	1	4	...	1	2	...	...	1	...	...	...	...	...	...
12	7	10	8	9	7	2	6	...	1	...	1	...	...	...	...	...	...	...	...
11	...	4	4	2	...	...	1	...	1	...	1	...	...	1	...	...	...	...	...
10	5	5	8	5	1	1	...	1	2	...	1	...	...	...	...	...	...	...	...
9	1	5	1	2	2	1	1	...	...	...	1	...	...	...	...	...	...	...	...
8	10	11	9	4	4	...	11	4	...	...	2	...	1	...	...	...	...	...	...
7	1	3	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.24 \pm 0.04$

$n = 219$

values of the home. The best showing was made by Champaign, where the data were furnished by the pupils while under the direct supervision of the writer (Table XXVII). Here the pupils were urged to estimate

TABLE XXVII

NUMBER WHO ESTIMATED THE BOOKS IN THE HOME

Centralia	18
Champaign	108
Gibson City	46
Rochelle	42

and were told that a rough estimate was better than none. As an aid in estimating it was suggested that a shelf three feet long held about twenty-five ordinary books. Chance remarks dropped by some of the pupils later disclosed the fact that some who had many books in their homes made rather wild estimates. In every case reported to the writer,

TABLE XXVIII

CORRELATION OF NUMBER OF BOOKS IN THE HOME AND THE SCHOOLING OF SONS

Years of Schooling of Sons	Number of Books in Home												
	10	25	50	75	100	150	200	250	300	400	500	600	700
20	....	....	....	....	....	....	....	....	1	....	....	....	....
19	....	....	....	....	....	....	....	....	....	....	....	....	....
18	....	....	....	....	....	....	3	1	....	....	....	....	1
17	....	....	....	....	....	....	....	1	....	....	....	....	....
16	1	....	1	....	2	....	5	....	1	....	2	....	....
15	....	....	1	1	2	2	....	1	....	1	....	....	1
14	....	....	....	....	....	....	....	2	2	1	....	....	1
13	....	....	....	1	1	....	....	....	3	....	....	....	....
12	2	....	5	2	10	7	6	4	6	4	5	....	1
11	2	1	3	....	3	2	2	4	1	1	1	....	....
10	5	....	13	....	6	1	3	2	2	....	1	....	....
9	5	2	6	....	3	2	2	2	1	....	....	....	....
8	7	5	8	2	13	....	3	1	2	2	3	....	1
7	2	1	3	....	3	....	2	....	....	....	....	....	....
6	....	....	....	....	1	....	....	....	....	....	....	....	....
5	....	....	....	....	....	....	....	....	....	....	....	....	....
4	....	....	....	....	....	1	....	....	....	....	....	....	....

$r = 0.39 \pm 0.04$
$n = 227$

TABLE XXIX

CORRELATION OF NUMBER OF BOOKS IN HOME AND THE SCHOOLING OF DAUGHTERS

Years of Schooling of Daughters	Number of Books in Home												
	10	25	50	75	100	150	200	250	300	400	500	600	700
17	....	....	1	....	....	....	....	....	....	....	....	....	....
16	....	....	1	....	4	1	3	3	3	....	2	....	2
15	....	....	....	....	....	1	1	1	1	1	....	....	....
14	1	....	2	1	2	1	4	2	....	2	1	....	2
13	....	....	1	....	4	1	1	4	2	1	2	....	....
12	3	3	8	....	9	5	5	2	1	4	5	....	4
11	....	2	1	....	4	1	....	5	....	1	....	....	....
10	1	1	7	1	3	1	5	2	1	....	1	....	....
9	2	2	4	1	2	....	2	....	3	....	....	....	1
8	10	3	6	1	9	1	2	....	4	....	1	....	....
7	1	....	5	....	2	....	....	1	....	....	....	....	....
6	....	....	....	....	....	....	....	....	....	....	....	....	....
5	....	....	....	....	....	....	....	....	....	....	....	....	....
4	1	....	....	....	....	....	....	....	....	....	....	....	....

$r = 0.18 \pm 0.04$
$n = 209$

however, the estimates were low, never high. Those who had few books in their homes made comparatively accurate estimates.

The four towns were represented by 214 homes containing 227 sons and 209 daughters. The coefficient of correlation between the number of books in the home and the schooling of the sons is 0.39±0.04 (Table XXVIII), while the like relationship for the daughters is 0.18±0.04 (Table XXIX).

SUMMARY AND CONCLUSIONS

The coefficients of correlation presented in this section are summed up in Table XXX.

TABLE XXX

Correlated With	Schooling of Sons	Schooling of Daughters
Average schooling of parents	0.43±0.03	0.42±0.03
Average schooling of farm parents	0.35±0.06	0.47±0.07
Average schooling of town parents	0.30±0.04	0.35±0.04
Schooling of father	0.49±0.03	.....
Schooling of mother	.....	0.43±0.03
Rental values	0.40±0.04	0.24±0.04
Number of books in the home	0.39±0.04	0.18±0.04

These statistics show in a general way the existence of definite relationships between the home conditions of parents of high-school pupils and the amounts of schooling which the children receive.

This part supports the general conclusions arrived at in the Decatur study.

PART IV

PERSISTENCE IN SCHOOL AND HOME CONDITIONS IN URBANA

The data presented in Part IV were secured through the personal canvass made by the writer. Only the facts collected from the homes of whites, 234 in number, are used. Some of these homes had no children who had completed their education. Such homes will not be considered where relationships between schooling and various home conditions are presented. Where the facts are such that it makes no difference whether the children have completed their education or not, the entire group of 234 homes will be used. Any special selection of homes made will be mentioned when the facts are discussed.

The method followed in securing the material presented in Part IV is open to the criticism that, since the canvasser knew what he was seeking, some of the items may have been more or less unconsciously weighted. Personally, the writer thinks that this criticism need not be taken seriously. Throughout the canvass the writer kept as scientific an attitude as possible and faithfully recorded all answers even though they failed to fit his preconceived ideas. As a means of observing this open-mindedness the facts given in Part IV were collected before those presented in Part III had been evaluated.

Urbana is composed of a rather homogeneous population. In the few homes which have foreign-born parents all speak the English language. Out of the total number of homes there were only five in which both parents were foreign born. These were people of German ancestry. Only 23 fathers and 8 mothers were born outside the United States (Table XXXI). A few of the parents born in this country came from homes in which only a foreign language was spoken (Table XXXII).

SECTION I. SCHOOLING OF PARENTS AND CHILDREN

The relationships existing between the education, as measured by years of schooling, of parents and children will be the theme of this section. In the main the data are approximations, estimates of all of the members of a family fourteen years of age or older given by some member of each family. The age fourteen was taken as the minimum because

the compulsory education law operates until this age is reached, and those under fourteen have not legally completed their education. The local public-school system was used as a standard for comparison and all estimates were made by comparisons with it. An appreciable number of these people were educated in other schools—some in schools of other states. This fact introduces a small degree of unreliability. The writer feels, however, that, if the true amounts of schooling of these individuals could be ascertained, they would not vary from the amounts given here by more than a year or two, except in possibly five or ten

TABLE XXXI

	Birthplace Of	
	Fathers	Mothers
United States	211	226
Germany	9	6
England	4	1
Canada	44	.....
Ireland	3	.....
Sweden	2	.....
Scotland	1	1
Total foreign-born	33	8

TABLE XXXII

	Language Commonly Spoken by Parents Of	
	Fathers	Mothers
English	219	223
German	12	10
Scotch	1	1
Swedish	1	.....
Norwegian	1	.....

cases where it was impossible to do more than estimate roughly the education of the individuals concerned. Such cases were those of dead parents and families where the father had deserted the home. In nearly all cases where there was any doubt, the amount listed is probably an overestimation instead of an underestimation. It was more difficult to estimate the education of those who had never gone beyond the elementary school.

The educational level of a home, however, is probably a rather constant factor, changing but little after the parents have started to rear their children.

RELATIONSHIPS BETWEEN PARENTS AS TO NUMBER OF YEARS OF SCHOOLING

Fathers and mothers are much alike with reference to the number of years of schooling they have received. Mothers as a group are slightly less variable in the matter of education than fathers (Fig. 1). The mode and the median fall at eight years for both mothers and fathers. The

last two years of the elementary school is where a large number of parents finished their schooling, probably because many of them were reared in the country, and rural schools did not extend beyond the eighth grade. Since the high school constitutes another division of the school, we again

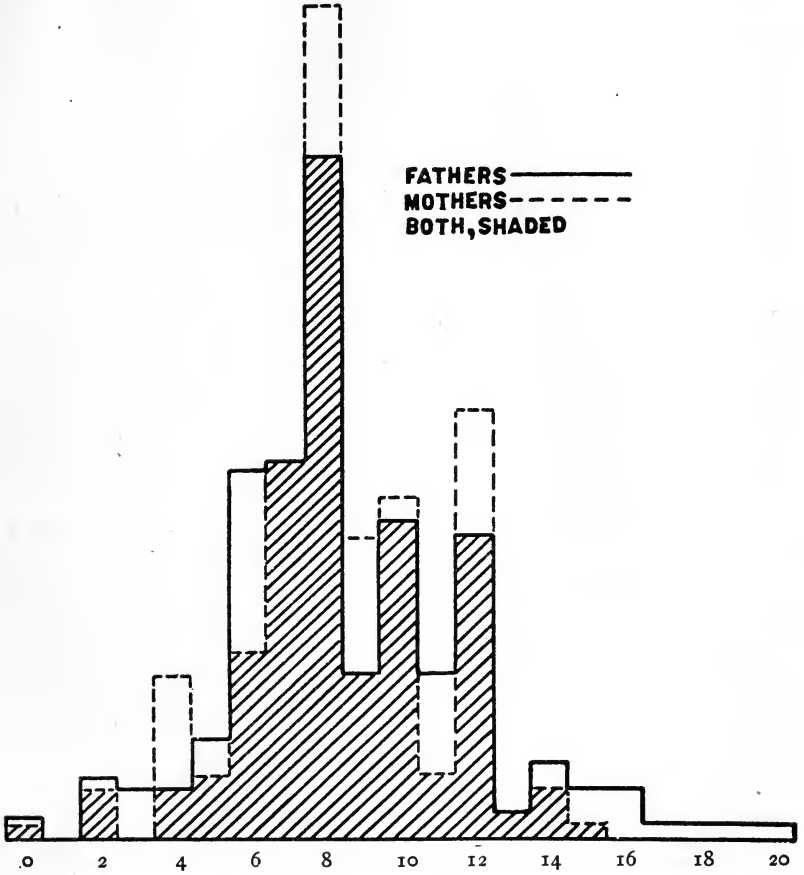

FIG. 1.—Education of Urbana Fathers and Mothers: Years of Schooling

find, what common-sense has already taught us, that the end of the high school was also a stopping-place for a large number. Only a small number of people went to a college or university. This is somewhat surprising, until an explanation is sought, for Urbana has been the seat of

the state university since its foundation in 1869. When it is remembered that university work until quite recently did little except prepare for the professions, this scarcity of college people seems more natural. Further,

TABLE XXXIII

CORRELATION BETWEEN EDUCATION OF FATHERS AND EDUCATION OF MOTHERS

Years of Schooling of Fathers	Years of Schooling of Mothers															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
20	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
17	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...
15	...	...	...	...	...	...	...	...	1	1	1	...	1	...	...	...
14	...	...	...	...	...	...	...	...	1	...	1	...	3	...	...	1
13	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...
12	...	...	...	...	1	...	...	1	1	5	...	1	12	...	3	...
11	...	...	...	...	...	...	...	...	6	3	2	...	1	1	...	...
10	...	...	...	...	...	...	...	1	7	...	10	2	5	...	...	...
9	...	...	...	...	1	...	...	1	3	4	1	...	3	...	...	...
8	...	...	1	...	...	...	1	1	32	5	9	2	3	...	...	...
7	...	...	...	...	2	...	3	15	8	...	1	...	1	...	...	...
6	...	...	...	...	4	3	9	7	2	2	2	...	...	...	...	...
5	...	...	...	...	1	2	2	2	1	...	...	...	...	...	...	...
4	...	...	...	...	2	...	...	...	2	...	...	...	...	...	...	...
3	1	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...
2	...	...	1	...	1	...	...	1	1	1	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
0	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...

$r = 0.65 \pm 0.03$
$n = 231$
Median education of fathers and mothers, both 8 years

many of these professional people have been eliminated through the rejection of data from the university residence district. The correlation[1] between the schooling of the father and the schooling of the mother is high, being 0.65 ± 0.03 (Table XXXIII).

[1] It might be well to explain, at this point, what is meant by a coefficient of correlation. Coefficients of correlation are measures of resemblance between quantities found coexisting under varying conditions. There may be complete correspondence, +1.00 (the + sign is omitted in this study), or the exact opposite, −1.00. Usually, however, the measures secured contain chance errors and a correlation of 1.00, positive (or negative), is almost never obtained. A coefficient of 0.60 or more, in this study, indicates a high degree of correspondence and becomes quite significant.

RELATIONSHIPS BETWEEN PARENTS AND CHILDREN

1. *Fathers and sons.*—The curve (Fig. 3) of this relationship looks as if some factor such as the compulsory education law had modified its general character. At any rate, the coefficient of correlation is low, being 0.47±0.03 (Table XXXIV).

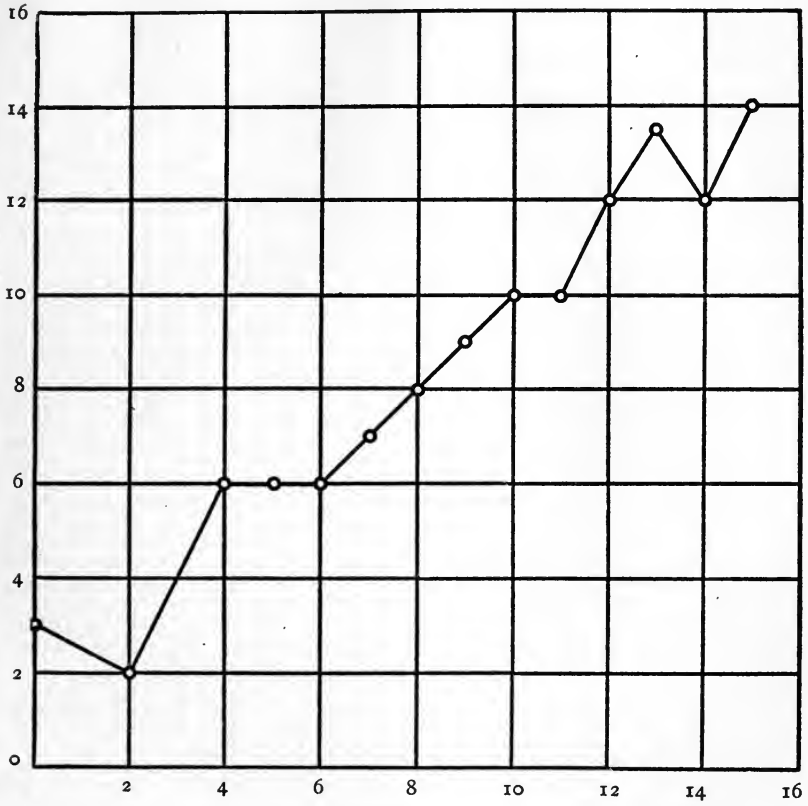

FIG. 2.—Correlation between Education of Fathers and Mothers

2. *Mothers and daughters.*—This relationship is much higher than that between fathers and sons and the curve (Fig. 4) lacks the flattened appearance at the lower end which characterizes the other. This may be due to the tendency of girls to stay in school longer than boys, or it may be a mere chance variation. The coefficient of correlation is 0.60±

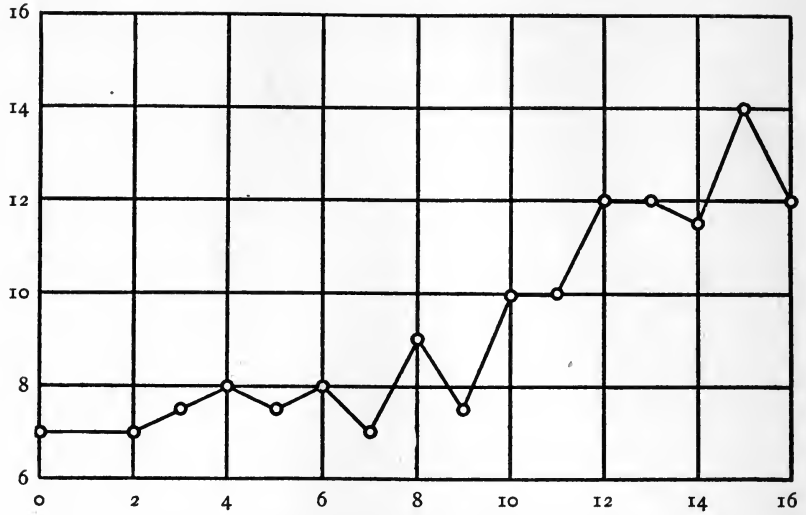

FIG. 3.—Correlation between Education of Fathers and Sons

TABLE XXXIV

CORRELATION BETWEEN EDUCATION OF FATHERS AND EDUCATION OF SONS

Years of Schooling of Sons	Years of Schooling of Fathers																				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
18	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...
17	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	1	...	2	...	...	...	1	1	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	2	...	...	...	1	1	...	1	...	...	...	...	...
13	...	...	...	...	...	...	...	...	2	...	1	2	1	...	2	...	...	...	...	...	...
12	...	...	1	...	...	...	...	4	5	...	3	1	5	...	...	1	1	...	...	...	...
11	...	...	...	1	1	...	1	...	5	...	1	2	2	...	...	...	1	...	...	...	...
10	...	...	...	...	...	2	...	3	4	...	...	1	3	1	1	...	...	...	...	...	...
9	...	...	1	...	...	2	4	5	4	1	1	...	...	...	1	...	...	...	...	...	1
8	...	...	2	2	2	2	14	4	10	3	5	2	1	...	1	...	...	...	...	...	...
7	5	...	2	1	...	2	6	14	7	1	1	1	3	...	...	...	...	...	...	...	...
6	...	...	2	...	...	...	6	3	2	1	1	1	1	...	...	...	...	...	...	...	...
5	2	...	...	2	...	1	4	...	1	1	...	1	...	...	...	...	...	...	...	...	...
4	...	...	1	...	1	3	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
3	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.47 \pm 0.03$

$n = 224$

Median education of sons, 8 years

0.03 (Table XXXV). The daughter who is indicated as illiterate was an epileptic, unable to attend school.

TABLE XXXV

CORRELATION BETWEEN EDUCATION OF MOTHERS AND EDUCATION OF DAUGHTERS

Years of Schooling of Daughters	Years of Schooling of Mothers											
	2	3	4	5	6	7	8	9	10	11	12	13
19	....	....	....	....	....	....	....	....	....	....	1	....
18	....	....	....	....	....	....	....	....	....	....	....	....
17	....	....	....	....	....	....	....	....	....	....	....	....
16	....	....	....	....	1	....	4	....	3	....	11	....
15	....	....	....	....	....	....	2	....	....	....	2	....
14	....	....	....	....	....	....	....	1	....	1	2	....
13	....	....	....	....	....	....	1	1	4	2	....	....
12	1	....	....	....	....	4	11	2	11	3	7	1
11	....	....	2	....	....	2	5	2	1	....	2	....
10	....	....	1	....	5	3	11	1	1	....	3	....
9	....	....	....	....	....	4	4	3	....	....	2	....
8	....	....	3	1	8	6	17	4	5	....	2	....
7	....	....	3	1	9	6	10	1	2	....	....	....
6	3	....	2	2	2	3	3	....	....	....	....	....
5	2	....	2	3	....	3	....	....	....	....	....	....
4	....	....	....	....	....	....	....	....	....	....	....	....
3	....	....	....	....	1	....	1	....	....	....	....	....
2	....	....	....	....	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....
0	....	....	....	....	1	....	....	....	....	....	....	....

$r = 0.60 \pm 0.03$

$n = 234$

Median education of daughters, 9 years

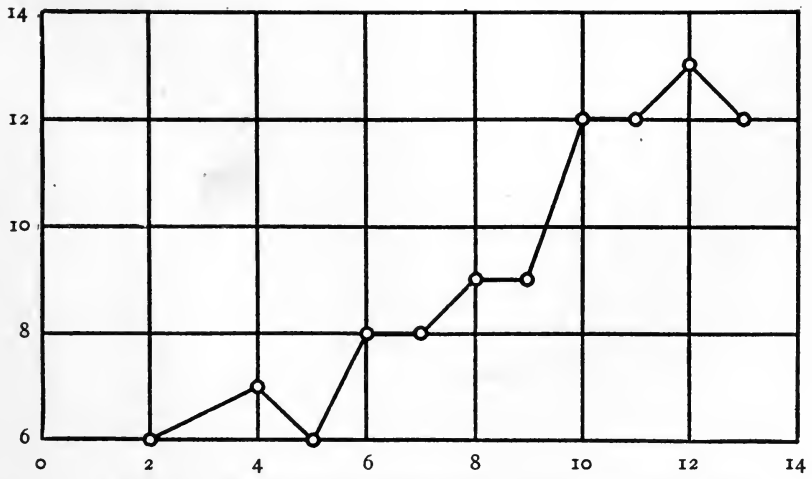

FIG. 4.—Correlation between Education of Mothers and Daughters

3. *Fathers and daughters.*—This relationship is higher than that between fathers and sons and lower than that between mothers and daughters. The difference is so little in either case that it cannot legitimately be made the basis of any conclusion. The coefficient of correlation is 0.56±0.03 (Table XXXVI).

TABLE XXXVI

CORRELATION BETWEEN EDUCATION OF DAUGHTERS AND EDUCATION OF FATHERS

Years of Schooling of Daughters	Years of Schooling of Fathers																				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
19	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	1	4	1	1	1	2	2	4	2	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	1	1	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	1	...	1	...	2	...	...	...	...	...	...
13	...	...	1	...	...	...	...	...	1	...	3	1	1	...	...	...	1	...	...	...	...
12	...	...	1	...	...	...	2	3	12	2	4	5	8	...	1	...	...	1	...	...	...
11	...	...	2	...	...	1	1	2	3	2	2	1	1	...	...	...	...	...	...	...	...
10	...	...	...	...	...	1	4	4	8	1	2	...	2	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	2	3	2	2	...	...	1	1	...	...	...	...	...	...	1
8	...	...	3	2	3	1	11	12	8	1	5	1	...	...	...	...	...	...	...	...	...
7	...	...	...	1	2	2	10	10	6	...	1	...	...	...	...	...	...	...	...	...	...
6	3	...	3	...	1	...	4	3	...	...	2	...	...	...	...	...	...	...	...	...	...
5	...	...	1	...	...	1	3	...	...	...	...	...	1	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
0	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.56 \pm 0.03$
$n = 231$

4. *Mothers and sons.*—This relationship is almost the same as the preceding, the coefficient of correlation being 0.55±0.03 (Table XXXVII).

5. *Parental average and children.*—When the average schooling of each family is correlated with the schooling of the children, a closer relationship is revealed. The coefficients of correlation are 0.65±0.03 for the sons (Table XXXVIII) and 0.62±0.03 for the daughters (Table XXXIX), a rather high degree of correspondence.

TABLE XXXVII

CORRELATION BETWEEN EDUCATION OF SONS AND EDUCATION OF MOTHERS

Years of Schooling of Sons	Years of Schooling of Mothers															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
18	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
17	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
16	...	...	...	...	...	...	1	...	3	...	...	...	2	...	...	...
15	...	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...
14	...	...	...	...	...	...	...	...	3	...	...	...	2	...	...	...
13	...	...	...	...	...	...	...	...	2	1	1	1	2	...	...	1
12	...	...	...	...	1	...	...	1	4	2	5	1	5	...	1	...
11	...	...	...	...	...	...	1	1	4	1	2	...	4	...	...	...
10	...	...	...	...	...	1	...	2	5	...	2	...	2	...	...	...
9	...	...	...	...	2	...	1	5	5	4	2	...	1	...	...	...
8	...	...	1	...	3	...	3	11	18	5	2	...	4	...	...	...
7	...	...	...	...	6	1	5	9	10	4	...	...	...	...	...	...
6	...	...	4	...	4	1	4	3	3	...	1	...	...	...	...	...
5	1	...	...	...	3	1	3	2	1	1	...	...	...	...	...	...
4	...	...	1	...	5	...	...	1	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...

$r = 0.55 \pm 0.03$
$n = 214$

TABLE XXXVIII

CORRELATION BETWEEN EDUCATION OF SONS AND AVERAGE EDUCATION OF PARENTS

Years of Schooling of Sons	Average Years of Schooling of Parents													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
18	....	....	....	....	....	....	....	....	....	....	....	....	1	1
17	....	....	....	....	....	....	....	....	1	....	....	....	1	....
16	....	....	....	....	....	1	....	1	2	....	....	....	2	....
15	....	....	....	....	....	....	....	....	....	2	....	....	1	....
14	....	....	....	....	....	....	....	2	....	....	1	2	1	....
13	....	....	....	....	....	....	....	2	1	2	....	1	1	1
12	....	....	....	....	2	....	2	2	4	5	1	3	1	1
11	....	....	....	....	1	1	....	3	3	2	....	2	....	1
10	....	....	....	....	1	2	3	3	2	1	....	3	....	....
9	....	....	1	....	2	2	7	3	2	1	....	1	....	1
8	....	....	1	1	4	13	8	13	1	2	2	2	1	....
7	....	....	1	4	4	6	13	6	1	2	....	....	....	....
6	4	1	....	1	2	4	3	2	1	1	....	....	....	....
5	1	2	....	1	1	5	1	....	1	....	....	....	....	....
4	....	1	....	4	....	1	....	....	....	....	....	....	....	....
3	....	....	....	2	....	....	....	....	....	....	....	....	....	....

$r = 0.65 \pm 0.03$
$n = 220$

6. *Sons and better-educated parent.*—When the relationship which existed between the better-educated parent of each family and the sons in the matter of schooling was evaluated, it furnished a correlation coefficient of 0.60±0.03 (Table XL).

TABLE XXXIX

CORRELATION BETWEEN EDUCATION OF DAUGHTERS AND AVERAGE EDUCATION OF PARENTS

Years of Schooling of Daughters	Average Years of Schooling of Parents													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
19	....	....	....	....	....	....	....	....	....	....	....	1	....	....
18	....	....	....	....	....	....	....	....	....	....	....	....	....	....
17	....	....	....	....	....	....	....	....	....	....	....	....	....	....
16	....	....	....	....	....	1	....	3	2	2	....	5	5	1
15	....	....	....	....	....	....	....	....	2	....	....	....	1	....
14	....	....	....	....	....	....	....	....	....	2	....	....	2	....
13	....	....	....	....	1	....	....	....	2	3	....	1	....	1
12	....	....	....	....	2	2	3	4	11	7	....	10	....	....
11	....	....	1	....	2	1	2	3	2	3	....	1	....	....
10	....	....	....	....	1	4	4	8	4	....	....	1	....	....
9	....	....	....	....	....	....	5	4	1	1	....	1	....	1
8	....	....	2	1	3	14	11	9	3	2	2	....	....	....
7	....	....	....	2	2	12	8	7	1	....	....	....	....	....
6	3	....	1	3	2	3	2	1	1	....	....	....	....	....
5	....	2	....	3	4	....	....	1	....	....	....	....	....	....
4	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3	....	....	....	....	1	1	....	....	....	....	....	....	....	....
2	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
0	....	....	....	....	....	1	....	....	....	....	....	....	....	....

$r = 0.62 \pm 0.03$
$n = 232$

7. *Sons and more poorly educated parent.* This relationship proved to be nearly the same as the preceding, being slightly lower, 0.57±0.03 (Table XLI).

Comparisons.—All the sons and daughters who have been given in the data thus far presented in this section were reported as having completed their education. A few, perhaps, may reconsider their decisions and continue their schooling later. On the other hand, the parents passed the customary ages for school attendance long ago. Hence, when the amounts of schooling which the children have received are compared

TABLE XL

CORRELATION BETWEEN EDUCATION OF SONS AND EDUCATION OF BETTER-EDUCATED PARENT

Years of Schooling of Sons	Years of Schooling of Better-Educated Parent																		
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
18	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...
17	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...
16	...	...	...	...	...	1	1	...	2	...	...	...	1	1	...	...	...	...	...
15	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...
14	...	...	...	...	...	...	2	...	...	...	1	1	...	1	...	...	...	...	...
13	...	...	...	...	...	...	1	1	...	3	1	...	1	1	...	...	...	...	...
12	...	...	...	...	...	2	3	...	4	3	5	...	1	1	1	...	...	...	...
11	...	...	...	...	1	1	2	1	2	2	3	...	...	...	1	...	...	...	...
10	...	...	...	1	...	2	4	...	1	1	2	1	1	...	...	...	...	...	...
9	...	...	1	...	2	4	6	3	1	...	1	...	1	...	...	...	...	...	1
8	...	...	2	...	5	10	14	8	3	1	3	1	1	...	...	...	...	...	...
7	...	...	...	2	6	10	10	3	1	...	3	...	...	...	...	...	...	...	...
6	4	...	2	...	5	3	3	...	1	1	1	...	...	...	...	...	...	...	...
5	...	1	2	1	3	1	1	2	...	1	...	...	...	...	...	...	...	...	...
4	1	...	1	3	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.60 \pm 0.03$
$n = 216$

TABLE XLI

CORRELATION BETWEEN EDUCATION OF SONS AND EDUCATION OF MORE POORLY EDUCATED PARENT

Years of Schooling of Sons	Years of Schooling of More Poorly Educated Parent														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
18	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...
17	...	...	...	...	...	...	...	...	1	...	...	...	11	...	...
16	...	...	...	...	...	...	...	...	3	...	...	...	2	...	...
15	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...
14	...	...	...	...	...	...	...	...	3	...	...	...	2	...	...
13	...	...	...	...	...	...	...	...	3	...	2	...	2	...	1
12	...	...	1	...	1	...	...	2	6	2	3	...	5	...	...
11	...	...	...	1	...	...	1	...	7	...	1	...	3	...	...
10	...	...	...	...	1	2	...	1	6	...	1	...	2	...	...
9	...	...	1	...	1	2	3	6	3	2	2	...	...	...	...
8	...	...	3	2	3	2	12	6	13	...	4	1	2	...	...
7	...	...	2	1	6	1	6	11	6	2	...	...	...	...	...
6	5	...	2	...	2	1	5	2	2	...	1	...	...	...	...
5	3	...	...	1	2	1	3	1	1	...	...	...	...	...	...
4	...	...	1	...	5	...	...	1	...	...	...	...	...	...	...
3	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.57 \pm 0.03$
$n = 216$

with the amounts received by their parents a generation earlier, an incomplete quantity is being compared with a complete one.

1. Amounts of education received by fathers and sons: The fathers have received almost as much schooling as their sons. The difference

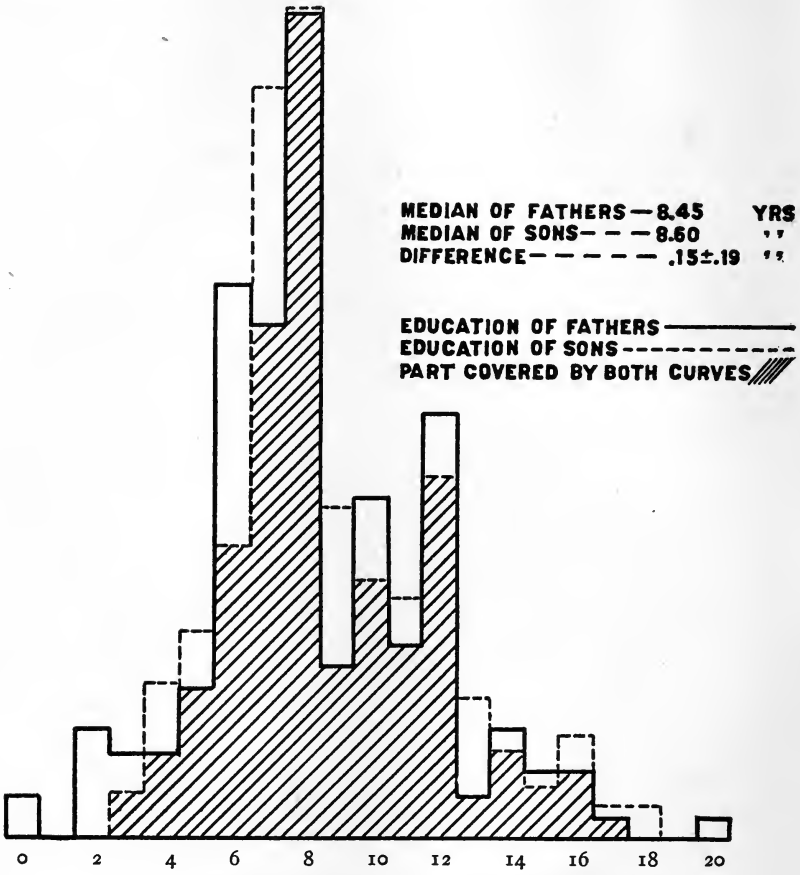

FIG. 5.—Education of Fathers and Sons: Years of Schooling

between the medians, 8.45 years for the fathers and 8.60 years for the sons, is only 0.15±0.19 year (Fig. 5). When these comparative surfaces of frequency are examined, it is seen that a few more fathers are at the lower end and a few more sons at the upper end. When the character of the school work completed by both groups is taken into consid-

eration, it must be admitted that the present generation, although apparently attending school for no more years than its predecessor, has enjoyed a longer school year and a much richer curriculum.

2. Amounts of education received by the mothers and daughters: The mothers have, on the average, received one year less schooling than

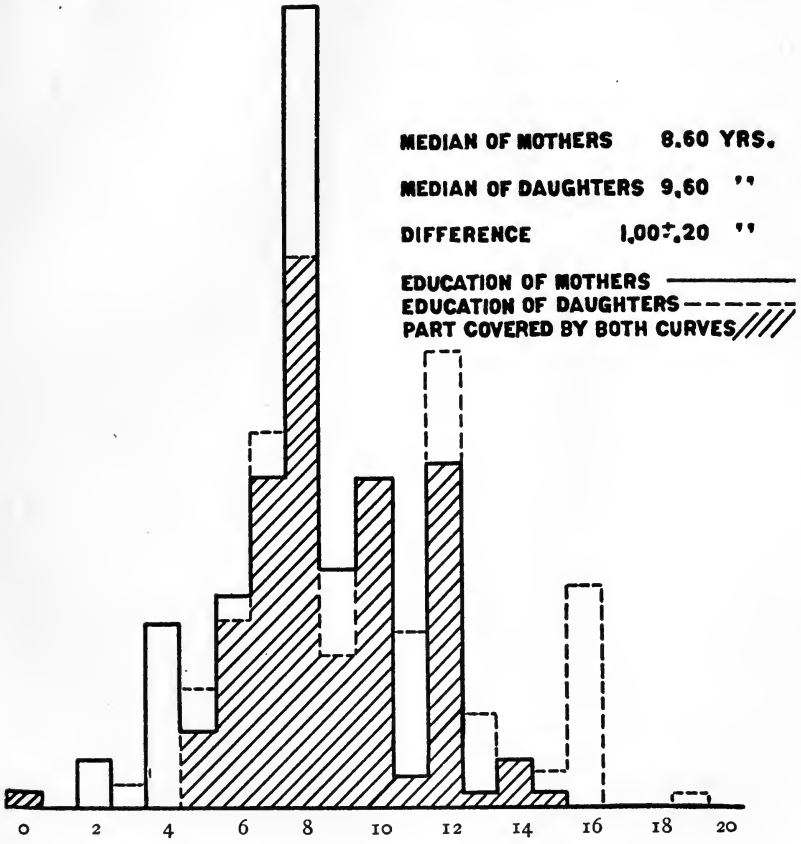

FIG. 6.—Education of Mothers and Daughters: Years of Schooling

their daughters. The median number of years of schooling received is 8.6 years for the mothers and 9.6 years for the daughters. A difference of 1.00±0.20 years (Fig. 6).

These slight differences may be explained partly by the increased educational opportunities offered to the present generation and partly by the desire on the part of parents, especially those poorly educated,

to give their children a little better education than they themselves received. The nature of this difference may, perhaps, be seen best in a comparison of the numbers who received more, the same, or less education than their parents (Tables XLII, XLIII, XLIV). In but few

TABLE XLII

COMPARISON OF EDUCATION OF CHILDREN WITH AVERAGE EDUCATION OF PARENTS

	Average Years of Schooling, Parents													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Sons														
Received more	5	4	3	7	16	25	20	16	13	11	2	3	6	1
Received same	...	...	...	4	1	4	13	13	2	1	...	3	1	...
Received less	...	...	...	2	...	6	4	8	4	6	2	8	2	4
Daughters														
Received more	3	2	4	9	13	34	25	22	23	17	...	7	8	1
Received same	...	...	...	...	4	3	8	9	1	...	...	10	...	...
Received less	...	...	...	...	1	2	2	9	5	3	2	3	...	2

TABLE XLIII

COMPARISON OF EDUCATION OF CHILDREN WITH EDUCATION OF FATHERS

	Years of Schooling of Fathers																			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sons																					
Received more	7	...	11	6	3	8	25	17	24	...	8	3	6	1	1	1	1	...	...	...	...
Received same	...	...	...	...	1	1	6	14	10	1	...	2	5	...	...	...	...	...	...	...	...
Received less	...	...	...	...	...	3	4	4	10	7	8	6	10	1	5	2	2	...	...	...	1
Daughters																					
Received more	3	...	15	3	6	5	30	25	30	6	13	7	5	2	4	2	...	...	...	...	...
Received same	...	...	...	...	...	1	4	10	8	2	2	1	8	...	2	1	1	...	...	...	...
Received less	...	...	...	...	1	1	4	3	6	1	8	1	5	1	1	...	1	1	...	...	1

TABLE XLIV

COMPARISON OF EDUCATION OF CHILDREN WITH EDUCATION OF MOTHERS

	Years of Schooling of Mothers															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sons																
Received more	1	...	6	...	19	3	11	20	27	4	10	2	7	...	3	...
Received same	...	...	...	...	5	1	4	9	18	4	2	...	5	...	...	...
Received less	...	...	...	...	...	...	3	8	14	10	5	...	11	...	1	1
Daughters																
Received more	...	...	6	...	13	4	23	19	38	7	19	4	18	...	...	...
Received same	...	...	...	...	...	3	2	6	17	3	1	...	7	...	...	...
Received less	...	...	...	...	...	...	2	6	14	5	7	...	9	1	...	...

cases did the children of poorly-educated parents receive less education than their parents. When the education of the children of those parents[1] who went to the eighth year or beyond is compared with that of their parents, there is no such marked increase. In comparison with the average education of these parents, 49 per cent of their sons and 64 per cent of their daughters received more education and 32 per cent of their sons and 20 per cent of their daughters received less. In comparison with these fathers 39 per cent of the sons and 59 per cent of the daughters received more, while 45 per cent of the sons and 21 per cent of the daughters received less, showing that these sons actually received less education on the average than their fathers. When the mothers are considered, both the sons and daughters received slightly better average educations, 43 per cent of the sons and 57 per cent of the daughters receiving more than their mothers, and 34 per cent of the sons and 24 per cent of the daughters, less.

Schooling of parents and progress of pupils now in school.—The children fourteen years of age and older who were reported to the writer as intending to continue their schooling were in various grades from the fifth to the last year of the university. An attempt to determine if retardation was greatest among the children of the less educated families was made by comparing each age group with a scale of "ideal progress." According to this scale a boy or girl

14	years	of	age	should	have been in the	8th grade
15	"	"	"	"	"	9th grade
16	"	"	"	"	"	10th grade
17	"	"	"	"	"	11th grade
18	"	"	"	"	"	12th grade
19	"	"	"	"	"	1st year of college
20	"	"	"	"	"	2d year of college
21–22	"	"	"	"	"	3d year of college
23–24	"	"	"	"	"	4th year of college

This scale is entirely arbitrary and is of value only to the extent that it serves as a measure of retardation and acceleration. It assumes, of course, that children enter school at six years of age, which is the general rule in Urbana. This, however, may not have been true of all the cases

[1] This comparison was limited to these parents because their education extended beyond the age affected by compulsory attendance laws. The children of parents who have less education may be kept in school by law more than through parental influence.

recorded in this study. Some may have entered at eight or nine and have progressed through the grades in the normal number of years.

When the resulting comparisons are examined, it is seen that there is a positive relationship between home conditions and the progress of the pupils. With the girls this is only 0.22±0.06 (Table XLVI), while

TABLE XLV

CORRELATION BETWEEN AVERAGE EDUCATION OF PARENTS AND PROGRESS OF SONS YET IN SCHOOL

RELATION TO PROGRESS, BOYS

Years	Average Years of Schooling of Parents									
	5	6	7	8	9	10	11	12	13	14
+2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
+1	.....	.....	.....	.....	2	2	.....	.....	.....	.....
0	2	.....	.....	4	4	7	4	2	2	.....
−1	.....	4	3	7	5	3	1	2	2	.....
−2	1	2	2	5	1	2	.....	.....	1	.....
−3	.....	2	1	3	.....	.....	.....	.....	.....	.....
−4	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
−5	.....	.....	.....	.....	.....	1	.....	.....	.....	.....

$r = 0.37 \pm 0.07$
$n = 79$
Average retardation, 0.96 year

TABLE XLVI

CORRELATION BETWEEN AVERAGE EDUCATION OF PARENTS AND PROGRESS OF DAUGHTERS YET IN SCHOOL

RELATION TO PROGRESS, GIRLS

Years	Average Years of Schooling of Parents											
	5	6	7	8	9	10	11	12	13	14	15	16
+1	1	.....	.....	2	3	4	1	2	.....	1	.....	.....
0	4	2	2	5	4	6	4	5	2	1	1	1
−1	2	2	7	5	1	7	2	.....	.....	.....	.....	.....
−2	.....	1	1	5	2	2	.....	.....	.....	.....	.....	.....
−3	1	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
−4	.....	.....	2	.....	.....	.....	.....	1	.....	.....	.....	.....

$r = 0.22 \pm 0.06$
$n = 97$
Average retardation, 0.63 year

it is 0.37±0.07 with the boys. The boys, with an average of 0.96 year retardation, were retarded more than the girls, who averaged 0.63 year.

SUMMARY AND CONCLUSIONS

The relationships presented in this section may be summed up as in Table XLVII.

TABLE XLVII

Education of fathers correlated with education of mothers	0.65±0.03
" " fathers " " " " sons	0.47±0.03
" " mothers " " " " daughters	0.60±0.03
" " fathers " " " " daughters	0.56±0.03
" " mothers " " " " sons	0.55±0.03
" " parents " " " " sons	0.65±0.03
" " parents " " " " daughters	0.62±0.03
" " better-educated parent correlated with education of sons	0.60±0.03
" " more poorly educated parent correlated with education of sons	0.57±0.03
" " parents correlated with progress of sons	0.37±0.07
" " parents " " " " daughters	0.22±0.06

Fathers are slightly more variable with respect to number of years of schooling received than are the mothers.

The median amounts of schooling of parents and children are as follows:

Fathers, 8.45 years	Mothers, 8.60 years
Sons, 8.60 years	Daughters, 9.60 years
Difference, 0.15±0.19 years	Difference, 1.00±0.20 years

The boys now in school are retarded more than the girls, as indicated by an age-grade distribution.

There is a close relationship between the educational level of a home and the length of time children remain in school.

SECTION II. ECONOMIC HOME CONDITIONS

This section deals with the economic status of the families under consideration. The economic status of a family is not always apparent to a visitor. Nor can one receive a wholly reliable estimate of it from an examination of the assessor's sheets. Since this study includes families all of whose children are grown, other families with infants

taxing their resources, and all sorts of intermediate types, it is quite apparent that an index which adequately represents the economic status of each family is not easily obtainable. Three indices—rental value of home, personal property assessment, and real estate assessment—were selected as criteria, and the results bearing upon them are presented for what they are worth.

RENTAL VALUES AND SCHOOLING OF CHILDREN

Every home was assigned a rental value at the time the data were collected. This was a comparatively easy matter, for in most cases where the home was owned by the family the member who furnished the information to the writer was fairly well acquainted with rental values in the neighborhood. A little difficulty was experienced in determining rental indices for a few of the better homes which were built by their present occupants for their own use and which far surpassed all rented homes in the neighborhood in beauty and conveniences. In such cases the writer usually offered a conservative figure to some responsible member of the family for approval. Hence, nearly all the homes with rental indices of $40 a month or more are probably underestimated. Since rental values are subject to fluctuation, the approximations given here cannot be considered as valid or representative for any considerable period of time. A further complication was due to the presence of roomers in a few homes. This tended to reduce the real rents below the values assigned to these homes. Such families were included in the group given here, although such a procedure may be open to criticism. In spite of all the disturbing influences mentioned, it is felt by the writer that the rental index is a fairly good measure of the economic status of families.

When the rental values were correlated with the amounts of schooling which the children have received, the coefficients of correlation, $0.63+0.03$ for the sons (Table XLVIII) and $0.64+0.03$ for the daughters (Table XLIX), were obtained. If the large number of disturbing factors which have affected the indices are taken into consideration, these correlations seem high.

PERSONAL PROPERTY ASSESSMENTS AND SCHOOLING OF CHILDREN

The personal property indices were taken from the 1915 tax books at the courthouse in Urbana. These assessments were made during the

TABLE XLVIII

CORRELATION BETWEEN RENTAL VALUES AND EDUCATION OF SONS

Years of Schooling of Sons	Rental Values of Home, Dollars per Month														
	10	12.50	15	17.50	20	22.50	25	27.50	30	35	40	45	50	55	60
18	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....
17	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....
16	....	....	....	....	....	....	....	....	1	5	....	....	....	....	....
15	....	....	2	....	1	....	....	....	....	....	....	....	....	....	....
14	....	....	....	....	1	....	1	....	2	1	....	....	....	....	....
13	....	....	....	....	....	....	....	....	1	1	1	1	3	....	1
12	....	1	6	1	2	....	....	....	4	....	3	2	2	....	....
11	....	2	3	....	1	....	1	....	2	1	2	....	1	....	....
10	....	....	3	3	3	....	2	1	2	1	....	....	....	....	....
9	1	3	9	....	2	....	....	1	3	1	2	....	....	....	....
8	7	7	16	1	7	3	....	....	2	1	1	....	2	....	....
7	7	9	14	2	3	....	2	....	1	....	....	....	....	....	....
6	1	6	11	....	2	....	1	....	....	....	....	....	....	....	....
5	4	7	1	....	....	....	....	....	....	....	....	....	....	....	....
4	6	....	1	....	....	....	....	....	....	....	....	....	....	....	....
3	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....

$r = 0.63 \pm 0.03$

$n = 224$

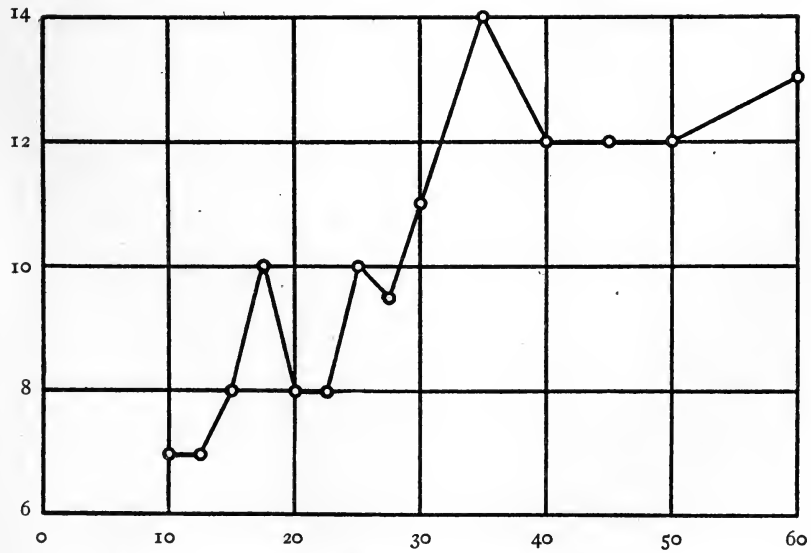

FIG. 7.—Correlation between Education of Sons and Rental Values

summer of 1914 and the figures are supposed to represent one-third of the actual valuation that the properties would have at a forced sale. A few families that were overlooked by the assessor were given the values of the 1913 assessment. A few families that have more personal property than the average were missed by the assessor both times. Owing to the almost universal practice of "tax-dodging," the values given here contain a large element of unreliability. How large this is, cannot be

TABLE XLIX

CORRELATION BETWEEN RENTAL VALUES AND EDUCATION OF DAUGHTERS

Years of Schooling of Daughters	Rental Values of Home, Dollars per Month														
	10	12.50	15	17.50	20	22.50	25	27.50	30	35	40	45	50	55	60
19	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
18	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
17	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
16	....	....	....	....	3	....	2	....	1	6	2	3	....	....	2
15	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....
14	....	....	....	....	....	....	....	....	1	2	....	....	....	....	1
13	1	1	....	....	2	....	1	....	....	....	2	....	1	....	....
12	1	2	10	1	6	....	2	1	9	1	1	4	....	....	1
11	....	....	2	....	3	1	2	....	2	3	1	....	....	....	....
10	2	5	7	1	1	1	1	....	3	1	....	....	....	....	....
9	1	....	3	2	1	1	....	....	4	1	1	....	1	....	....
8	6	6	14	4	5	....	2	....	5	....	2	....	....	....	....
7	9	6	12	2	1	....	....	....	1	....	....	....	....	....	....
6	3	5	7	2	....	....	....	....	....	....	....	....	....	....	....
5	3	3	3	....	1	....	....	....	....	....	....	....	....	....	....
4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3	....	1	....	....	1	....	....	....	....	....	....	....	....	....	....
2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
0	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....

$r = 0.64 \pm 0.03$
$n = 226$

determined. If it is a constant factor affecting all classes alike, it reduces the indices but does not shift them from their true order. Taking these errors into consideration, it is surprising that the correlations between the schooling of the children and the personal property assessment indices are as large as they are. They are 0.47 ± 0.04 for the sons (Table L) and 0.52 ± 0.04 for the daughters (Table LI). These figures were calculated for the group who were assessed.

TABLE L

CORRELATION BETWEEN PERSONAL PROPERTY VALUES AND EDUCATION OF SONS

Years of Schooling of Sons	Personal Property Assessment of Home, Dollars																		
	0	10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	400	500	600
18	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...
17	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	1	...	...	...
15	...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...
14	...	...	...	...	...	2	1	2	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	1	2	...	...	2
12	4	...	1	...	...	...	3	2	1	2	1	...	2	1	...	1	...	1	...	1
11	...	...	2	2	1	...	...	2	...	2	1	...	...	1	1	...	1	...	...	...
10	...	...	...	2	1	1	1	4	...	2	...	...	...	...	...	...	2	...	...	...
9	2	...	1	2	1	3	4	1	1	...	1	...	...	...	...	2	...	2	...	...
8	7	...	5	8	7	4	2	8	3	...	...	...	...	...	...	1	1	...	...	1
7	4	...	10	10	1	4	4	1	...	...	1	...	...	...	1	...	...	...	...	...
6	...	...	12	4	2	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...
5	1	...	6	1	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	2	4	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
3	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.47 \pm 0.04$
$n = 198$

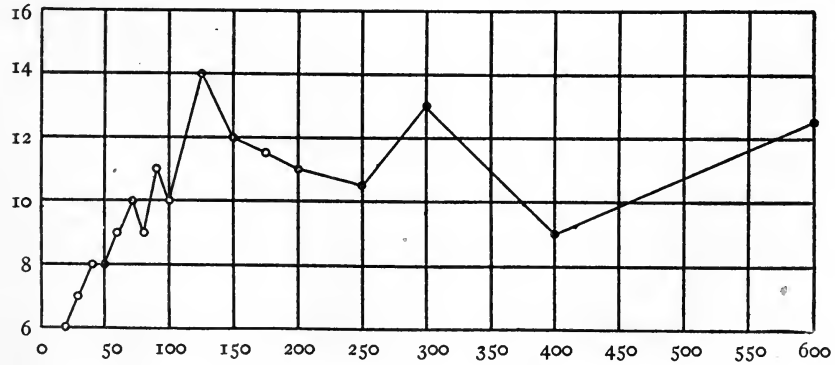

FIG. 8.—Correlation between Education of Sons and Personal Property Values

TABLE LI

CORRELATION BETWEEN PERSONAL PROPERTY VALUES AND EDUCATION OF DAUGHTERS

Years of Schooling of Daughters	Personal Property Assessment of Home, Dollars																			
	0	10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	400	500	600
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	1	...	...	...	...	2	1	2	2	2	...	...	1	...	1	...	3	...	...	4
15	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...
14	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1
13	2	...	1	...	...	2	1	...	...	1	...	...	...	...	...	...	...	...	...	1
12	2	...	2	2	2	2	7	4	2	6	1	3	...	...	...	1	5	1	...	1
11	...	...	...	1	1	4	2	2	...	5	1	1	...	...	...	...	1	1	...	...
10	1	...	2	4	1	3	3	2	2	2	...	3	...	...	...	...	...	1	...	...
9	...	...	2	...	...	2	3	1	...	...	...	1	...	...	...	3	...	...	...	...
8	7	...	3	10	4	6	4	7	3	...	...	1	...	...	...	1	...	...	...	...
7	5	...	3	11	7	4	1	...	...	...	1	...	...	...	...	...	...	...	...	...
6	1	...	10	1	3	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
0	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.52 \pm 0.04$

$n = 212$

VALUES OF HOME AND SCHOOLING OF CHILDREN

The real estate assessment indices were taken from the 1915 tax books just as the personal property indices were. Owing to the unalphabetical arrangement of the books, it would have been an extremely laborious and probably unprofitable task to ascertain the total values of the real property owned by the different individuals represented in our investigation. Because of this fact it was decided to take the value of the home in which the family lived, if owned by one of its members, as the real estate index. The assessed valuation was one-third of the actual valuation. The correlation of the real estate assessment indices with the schooling of the sons is 0.63 ± 0.04 (Table LII), and with the schooling of the daughters it is 0.58 ± 0.04 (Table LIII). These figures are calculated from the group of those who owned their homes.

TABLE LII

CORRELATION BETWEEN REAL ESTATE VALUES AND SCHOOLING OF SONS

Years of Schooling of Sons	Real Estate Assessment of Home, Hundreds of Dollars																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
18	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
17	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...
16	1	...	...	...	...	...	1	...	...	1	...	...	...	...	2	1	...
15	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
14	2	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...
13	1	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	4
12	4	...	...	...	2	1	1	3	...	1	2	1	1	1	...	1	2
11	2	...	...	1	1	1	1	1	1	...	...	...	1	3	...	1	...
10	2	...	...	2	1	3	2	2	...	...	...	1	...	...	...	...	...
9	6	...	1	2	4	...	1	3	2	...	...	...	...	1	...	...	...
8	23	...	5	5	5	3	...	...	1	1	1	1	...	1	...	...	1
7	20	...	...	4	5	2	4	1	...	...	...	...	...	...	...	...	...
6	13	...	...	5	2	...	...	...	...	1	...	...	...	...	...	...	...
5	6	...	1	3	1	1	...	...	...	...	...	...	...	...	...	...	...
4	5	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...
3	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.63 \pm 0.04$

$n = 129$

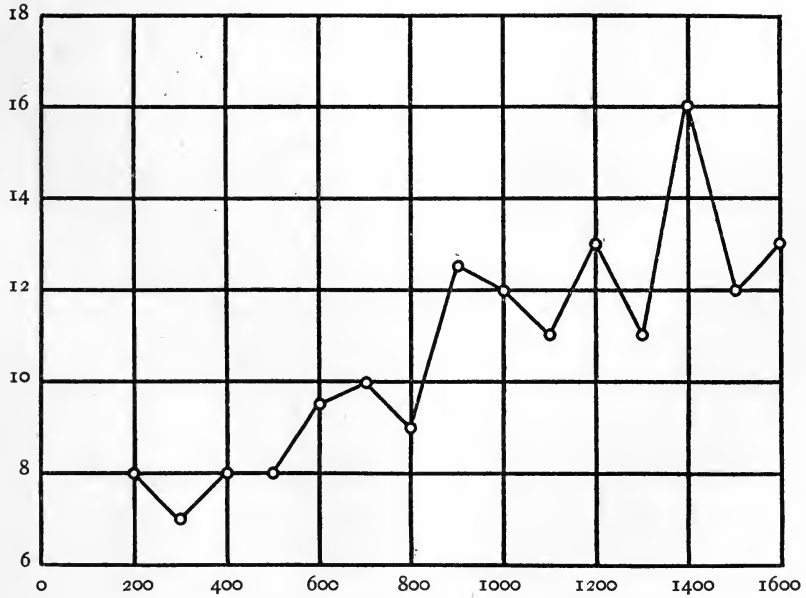

FIG. 9.—Correlation between Education of Sons and Real Estate Values

TABLE LIII

CORRELATION BETWEEN REAL ESTATE VALUES AND SCHOOLING OF DAUGHTERS

Years of Schooling of Daughters	Real Estate Assessment of Home, Hundreds of Dollars																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	4	...	...	...	...	...	1	1	1	4	...	2	1	...	...	1	4
15	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2	...	...
14	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	1
13	2	...	...	1	...	...	4	...	...	...	...	...	...	...	1	...	...
12	8	...	1	1	5	1	2	5	4	...	2	2	1	1	...	...	5
11	3	...	...	...	4	2	2	1	1	...	...	...	1	1	...	...	...
10	10	...	...	2	5	...	...	2	2	...	...	1	...	...	...	...	...
9	8	...	...	...	...	1	1	...	...	...	1	...	1	...	...	...	...
8	16	...	2	2	12	4	1	1	1	2	...	4	...	2	...	...	...
7	16	...	...	3	7	2	2	1	...	...	...	...	...	...	...	...	...
6	11	...	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...
5	7	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
0	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.58 \pm 0.04$

$n = 144$

SUMMARY AND CONCLUSIONS

The relationships presented in this section may be summed up as follows:

TABLE LIV

Rental value of home correlated with schooling of sons	0.63 ± 0.03
Rental value of home correlated with schooling of daughters	0.64 ± 0.03
Personal property assessment correlated with schooling of sons	0.47 ± 0.04
Personal property assessment correlated with schooling of daughters	0.52 ± 0.04
Real estate assessment correlated with schooling of sons	0.63 ± 0.04
Real estate assessment correlated with schooling of daughters	0.58 ± 0.04

Allowing for the approximate character of the indices, it may be said that economic home conditions in Urbana are closely correlated with the amounts of schooling which the children receive.

SECTION III. SOCIAL AND QUASI-SOCIAL RELATIONSHIPS

NUMBER OF BOOKS IN THE HOME AND SCHOOLING OF THE CHILDREN

The number of books in a home is a rough index of the culture of the home. It does not take into consideration the possibility of using the free public library, an opportunity which has been open to all Urbana homes during recent years.[1] It disregards the differences in the quality

TABLE LV

CORRELATION BETWEEN NUMBER OF BOOKS IN HOME AND EDUCATION OF SONS

Years of Schooling of Sons	Number of Books in Home											
	10	25	50	75	100	150	200	250	300	350	400	500
18	....	....	....	....	....	....	....	....	2	....	....	....
17	....	....	....	....	....	....	....	1	1	....	....	....
16	....	....	2	....	1	....	....	1	....	....	....	2
15	....	....	....	....	....	....	2	....	1	....	....	....
14	....	....	....	....	1	....	2	....	1	....	....	1
13	....	....	....	1	1	2	1	2	....	....	1	....
12	....	3	6	2	3	1	1	2	2	1	....	....
11	....	2	2	1	4	1	1	1	....	1	....	....
10	....	....	7	2	5	1	....	....	....	....	....	....
9	....	3	11	1	1	3	....	1	....	....	....	....
8	4	7	19	5	6	3	1	2	....	....	....	....
7	8	17	8	2	....	2	....	....	....	....	....	....
6	9	5	6	1	1	....	1	....	....	....	....	....
5	4	3	3	....	....	....	1	....	....	....	....	....
4	5	1	1	....	....	....	....	....	....	....	....	....
3	....	2	....	....	....	....	....	....	....	....	....	....

$r = 0.67 \pm 0.03$

$n = 222$

and character of the books, which were probably marked in some cases. Yet, in spite of these limitations, it bears a closer relationship to the number of years of schooling children receive than any other measure used in this study. For the sons the coefficient of correlation between the books in the home and the number of years of schooling is 0.67 ± 0.03 (Table LV); for the daughters it is 0.68 ± 0.02 (Table LVI).

[1] The public library in Urbana has been in a position where it could be of service to the community for more than thirty years.

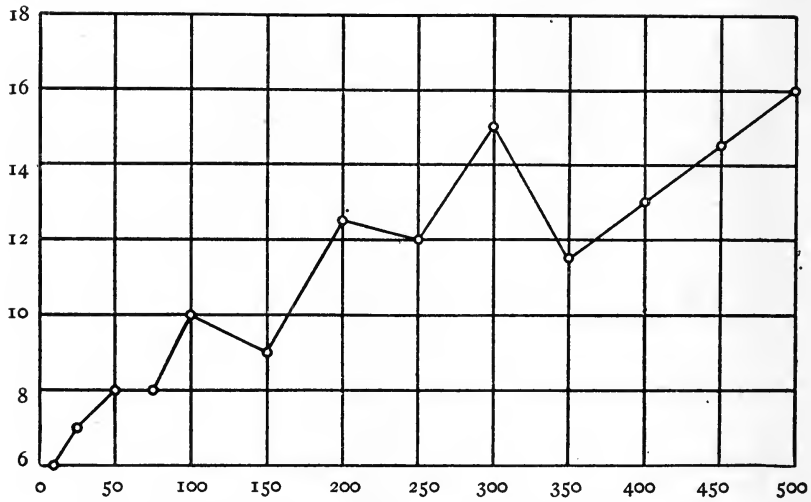

FIG. 10.—Correlation between Education of Sons and Size of Home Libraries

TABLE LVI

CORRELATION BETWEEN NUMBER OF BOOKS IN HOME AND EDUCATION OF DAUGHTERS

Years of Schooling of Daughters	Number of Books in Home												
	10	25	50	75	100	150	200	250	300	350	400	500	600
19	....	....	....	....	....	....	....	1	....	....	....	....	....
18	....	....	....	....	....	....	....	....	....	....	....	....	....
17	....	....	....	....	....	....	....	....	....	....	....	....	....
16	....	....	....	1	2	1	3	1	1	2	1	7	1
15	....	....	2	....	....	....	....	....	....	....	....	1	....
14	....	....	....	....	....	....	1	1	....	....	....	2	....
13	....	....	....	....	1	2	2	....	1	....	1	....	....
12	1	4	3	3	13	....	9	1	....	3	....	....	....
11	....	....	5	....	3	2	4	1	....	....	....	....	....
10	1	4	2	4	8	2	1	....	....	....	....	....	....
9	....	4	5	1	1	....	2	....	....	....	....	....	....
8	2	13	16	6	5	1	1	2	....	....	....	....	....
7	3	17	6	1	1	5	....	....	....	....	....	....	....
6	7	6	3	....	....	1	....	....	....	....	....	....	....
5	4	5	....	....	1	....	....	....	....	....	....	....	....
4	....	....	....	....	....	....	....	....	....	....	....	....	....
3	....	1	....	....	1	....	....	....	....	....	....	....	....
2	....	....	....	....	....	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....
0	....	1	....	....	....	....	....	....	....	....	....	....	....

$r = 0.68 \pm 0.02$

$n = 231$

HOUSING AND SCHOOLING OF THE CHILDREN

Out of a total of 234 families 34 reported one or more grown individuals not members of the family but living in the home. Housing conditions are measured by number of rooms per individual. In finding this index no distinction was made between children and adults. In general, the housing conditions found in this investigation were quite good. Very little overcrowding existed and, in an appreciable number of cases, it seemed as though the people had more room than they could use conveniently. Housing conditions are probably a reflection of economic status. Measured merely by the number of rooms per individual the relationships which exist between housing conditions and education of sons and daughters are 0.50 ± 0.03 and 0.48 ± 0.03, respectively (Tables LVII, LVIII). If the size of the rooms and the presence or absence of modern conveniences, such as bath and toilet, had been taken into consideration, the correlation would probably have been higher.

TABLE LVII

CORRELATION BETWEEN HOUSING CONDITIONS AND EDUCATION OF SONS

Years of Schooling of Sons	Rooms per Individual in Home					
	¾	1	1½	2	3	4
18	.....	.....	.....	.....	2	.....
17	.....	.....	.....	1	1	.....
16	.....	1	1	2	.....	2
15	1	1	.....	.....	1	.....
14	.....	1	4	.....	1	.....
13	.....	2	1	3	3	.....
12	.....	1	12	7	1	.....
11	.....	.....	3	8	2	.....
10	.....	.....	7	5	1	.....
9	1	4	12	4	.....	.....
8	1	16	16	14	2	.....
7	3	9	22	2	.....	.....
6	2	10	8	2	.....	.....
5	4	3	4	.....	.....	.....
4	1	1	4	1	.....	.....
3	.....	.....	2	.....	.....	.....

$r = 0.50 \pm 0.03$

$n = 223$

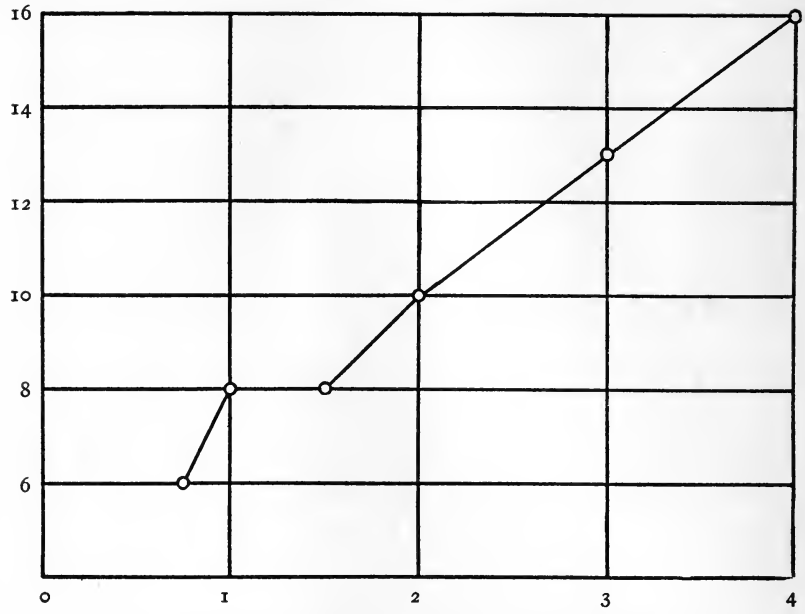

FIG. 11.—Correlation between Education of Sons and Housing Conditions

TABLE LVIII

CORRELATION BETWEEN HOUSING CONDITIONS AND EDUCATION OF DAUGHTERS

Years of Schooling of Daughters	Rooms per Individual in Home					
	¾	1	1½	2	3	4
19	.....	.....	.....	.....	1	.....
18	.....	.....	.....	.....	.....	.....
17	.....	.....	.....	.....	.....	.....
16	.....	1	4	8	6	.....
15	.....	.....	.....	1	.....	2
14	.....	.....	1	2	1	.....
13	.....	1	3	2	2	.....
12	2	5	11	18	3	.....
11	.....	1	7	6	1	.....
10	.....	4	11	6	1	.....
9	.....	4	5	2	1	.....
8	2	15	18	9	3	.....
7	3	12	12	4	.....	.....
6	1	7	7	2	.....	.....
5	.....	2	6	2	.....	.....
4	.....	.....	.....	.....	.....	.....
3	.....	.....	2	.....	.....	.....
2	.....	.....	.....	.....	.....	.....
1	.....	.....	.....	.....	.....	.....
0	.....	.....	1	.....	.....	.....

$r = 0.48 \pm 0.03$

$n = 231$

INTERRELATIONSHIPS

Thus far in Part IV the various factors have been considered separately. In reality, they are all interrelated. A few of these interrelationships will be given to show the fallacy which results when conclusions overlook the complex character of social phenomena.

a) Schooling of parents and number of books in the home.—As might be forecasted, there is a close relationship between the schooling of the parents and the number of books found in the home. This correlation, 0.60 ± 0.03 for the fathers (Table LIX) and 0.61 ± 0.03 for the mothers

TABLE LIX

CORRELATION BETWEEN NUMBER OF BOOKS IN HOME AND EDUCATION OF FATHERS

Years of Schooling of Fathers	Number of Books in Home												
	10	25	50	75	100	150	200	250	300	350	400	500	600
20	....	....	1	....	....	....	....	....	....	....	....	....	....
19	....	....	....	....	....	....	1	....	....	....	....	....	....
18	....	....	....	....	....	....	....	1	....	....	....	....	....
17	....	....	....	....	....	....	1	....	....	....	....	....	....
16	....	....	....	....	....	....	....	....	1	1	1	....	1
15	....	....	....	....	1	....	....	....	1	....	1	1	....
14	....	....	....	....	1	....	....	2	....	....	1	2	....
13	....	....	....	....	1	....	....	....	....	....	....	1	....
12	....	4	3	1	2	1	5	3	3	1	1	....	....
11	....	....	1	1	5	1	4	....	1	....	....	....	....
10	....	1	4	1	7	3	7	1	....	....	....	1	....
9	1	2	4	....	3	....	2	....	1	....	....	....	....
8	4	13	5	6	12	4	4	3	2	....	....	1	....
7	4	9	9	1	3	2	1	....	....	....	....	....	....
6	6	8	11	2	2	....	....	....	....	....	....	....	....
5	1	3	3	....	....	1	....	....	....	....	....	....	....
4	2	....	1	....	....	1	....	....	....	....	....	....	....
3	1	....	1	1	....	1	....	....	....	....	....	....	....
2	1	2	1	....	1	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....
0	1	....	1	....	....	....	....	....	....	....	....	....	....

$r = 0.60 \pm 0.03$
$n = 230$

(Table LX), is not so high, however, as that previously noticed between the number of books in the home and the schooling of the children. The difference is not enough to be very significant, however.

b) Number of books in the home and size of family.—The relationship which exists between the number of books in the home and the number of children in that home is slightly negative, -0.10 ± 0.04 (Table LXI).

This shows that the number of books owned by a family is not at all dependent upon the number of people there are to read them.

TABLE LX

CORRELATION BETWEEN NUMBER OF BOOKS IN HOME AND EDUCATION OF MOTHERS

Years of Schooling of Mothers	Number of Books in Home												
	10	25	50	75	100	150	200	250	300	350	400	500	600
15	....	....	....	....	....	....	....	....	....	....	1	....	....
14	....	1	....	....	....	....	....	1	2	....	....	....	....
13	....	....	....	....	1	....	....	....	....	....	1	....	....
12	....	....	4	1	5	1	9	2	4	2	1	4	1
11	....	....	1	....	3	....	1	....	....	....	....	....	....
10	....	....	5	1	7	2	6	3	1	....	1	1	....
9	2	5	6	4	3	1	....	2	1	....	....	....	....
8	6	13	9	5	15	6	9	2	1	....	....	1	....
7	3	10	12	1	1	2	....	....	....	....	....	....	....
6	1	7	4	1	1	1	....	....	....	....	....	....	....
5	1	3	....	....	....	1	....	....	....	....	....	....	....
4	5	3	4	....	1	....	....	....	....	....	....	....	....
3	....	....	....	....	....	....	....	....	....	....	....	....	....
2	2	....	....	....	1	....	....	....	....	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....
0	1	....	....	....	....	....	....	....	....	....	....	....	....

$r = 0.61 \pm 0.03$

$n = 230$

TABLE XLI

CORRELATION BETWEEN SIZE OF FAMILY AND NUMBER OF BOOKS IN HOME

No. of Children in Family	Number of Books in Home												
	10	25	50	75	100	150	200	250	300	350	400	500	600
10	....	2	1	....	....	....	....	....	....	....	....	....	....
9	1	1	1	....	....	....	....	....	....	....	....	....	....
8	1	1	2	2	....	1	....	....	....	....	....	....	....
7	4	....	4	....	....	2	1	1	....	....	....	1	....
6	1	7	6	1	2	2	1	....	....	1	....	1	....
5	3	3	3	....	4	....	2	1	1	....	....	1	....
4	2	7	9	3	8	....	6	2	1	1	....	1	....
3	4	10	9	3	7	3	5	1	3	....	1	....	....
2	2	7	6	2	12	4	6	4	4	....	3	2	1
1	3	4	5	2	7	2	4	1	....	....	....	....	....

$r = -0.10 \pm 0.04$

$n = 233$

c) Rent and size of family.—To a slight extent the better homes are occupied by the smaller families. The coefficient of correlation between size of family and rental values is also slightly negative, being -0.10 ± 0.04 (Table LXII).

TABLE LXII

CORRELATION BETWEEN SIZE OF FAMILY AND RENTAL VALUES

No. of Children	Rental Values of Home per Month, Dollars										
	10	15	20	25	30	35	40	45	50	55	60
10	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
9	.....	2	.....	1	.....	.....	.....	.....	.....	.....	.....
8	1	2	3	1	.....	.....	.....	.....	.....	.....	.....
7	2	7	.....	.....	.....	1	1	.....	.....	.....	.....
6	2	9	4	4	1	1	.....	2	.....	.....	.....
5	3	5	.....	2	4	2	.....	.....	1	.....	1
4	4	16	5	3	4	3	3	.....	.....	.....	.....
3	4	14	11	3	5	2	3	1	3	.....	.....
2	7	13	5	4	7	7	4	2	5	.....	1
1	4	6	8	2	6	.....	1	.....	3	.....	.....

$r = -0.10 \pm 0.04$

$n = 234$

d) Schooling of parents and size of family.—That educated parents have smaller families has been observed so often that it has become a matter of common knowledge. When expressed by a coefficient of correlation, this relationship is -0.20 ± 0.04 (Table LXIII). Of

TABLE LXIII

CORRELATION BETWEEN SIZE OF FAMILY AND EDUCATION OF PARENTS

No. of Children	Average Schooling of Parents															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
10	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...
9	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...
8	...	...	...	1	...	...	...	4	1	1	...	...	...	...	...	...
7	1	1	...	1	...	3	2	1	...	2	...	...	1	...	...	...
6	...	...	...	...	2	5	2	7	1	4	...	1	...	...	...	...
5	...	...	...	...	1	1	1	4	3	3	...	2	1	...	...	...
4	...	...	...	...	4	7	7	6	5	3	1	2	1	2	...	...
3	...	1	...	...	7	3	8	9	5	4	2	6	1	...	...	...
2	1	...	...	1	1	5	2	8	8	8	4	5	3	4	1	...
1	...	...	...	...	1	2	3	7	7	5	2	2	...	...	...	...

$r = -0.20 \pm 0.04$

$n = 227$

course, it must be kept in mind that only families that had children were included in this group. It may be that there are more families without children among the better educated. If so, a selection of homes which included such homes in addition to those studied here would reveal a larger negative correlation.

e) Education of children and size of family.[1]—When the entire group is examined, it is seen that the children who came from large families did not go to school so long as those who came from small families. This fact is expressed by the coefficient of correlation, -0.20 ± 0.05 (Table LXIV). This is the same as the relationship which exists

TABLE LXIV

CORRELATION BETWEEN SIZE OF FAMILY AND AVERAGE EDUCATION OF CHILDREN

No. of Children	Average Education of Children No Longer in School														
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
10	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...
9	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...
8	...	1	...	1	2	...	...	...	1	...	...	...	...	...	...
7	...	2	1	4	...	2	...	...	...	1	...	...	1	...	...
6	...	1	...	5	5	1	3	...	2	...	...	...	1	...	...
5	...	...	2	2	2	3	3	...	1	1	...	1	...	...	...
4	1	...	2	8	4	1	8	2	3	1	...	3	...	...	...
3	...	4	2	5	2	7	2	6	4	1	...	...	...	1	...
2	...	1	2	2	5	3	4	2	5	3	2	1	5	1	1
1	...	...	1	2	4	1	1	2	2	2	1	...	1	...	...

$r = -0.20 \pm 0.05$

$n = 180$

between the schooling of the parents and the size of the family. It has already been shown[2] that there is a decided relationship between the schooling of the parents and the schooling of the children. The foregoing coefficient of correlation, then, may be merely another way of expressing the relationship which exists between the schooling of the parents and the size of the family.

[1] In these tables the education of the children was averaged for each family. This gives each family a single index and does not over-weight the large families.

[2] Pp. 43–48.

If the influence of the education of the parents could be eliminated, it might be possible to ascertain the presence or absence of a true relationship between the size of family and the schooling of the children. An attempt to do this was made as follows: The median schooling of parents is eight years for the entire group. The average schooling of the children of each family was increased or decreased by the same number of years that the average schooling of the parents varied from this median. Thus, if the parents averaged seven years and the children averaged six years, the parents would be one year below the median and the index of the children would be increased by one year. Similarly, if the parents averaged twelve years and the children fifteen years, the parents would be four years above the median and the index of the children would be decreased four years. These revised educational averages of the schooling of the children were then correlated with the number of children in each home.

This procedure eliminates the influence of the schooling of the parents. It does not counteract other factors which may act somewhat independently of the education of the parents, such as economic status or number of books in the home. Further, compulsory education influences affect the level of some of the homes of the poorly educated which have large families and tend to counterbalance any negative relationship which may exist. The results do not show any decided correlation. The slight negative relationship, -0.06 ± 0.05 (Table LXV), which was found, is virtually a zero correlation.

A FAMILY INDEX

The fact that the factors thus far considered probably acted conjointly instead of independently in determining the amounts of schooling which the children received suggested that it might be possible to weight the various items in such a way as to give each family an index and then find the relationship which existed between this index and the schooling of the children. This was done as follows: The 25 percentile deviation from the median was found for each of the three items, average education of the parents, number of books in the home, and monthly rental. These figures, which were approximately 2 years, $62\frac{1}{2}$ volumes, and \$7.50, respectively, were then divided by five to give more convenient divisions. Each of these divisors, 0.4 year, $12\frac{1}{2}$ volumes, and \$1.50, was given a value of one unit. The number of times the respective divisors were

contained in the quantities which represented the average education of the parents, the number of books in the home, and the monthly rental of a family gave the number of units credited to each of these items. The figure representing the units given a family for an item was squared and the sum of the squares for the three items gave the family index. This can be made clear best by a concrete example. A family whose parents have an average education of 8 years, which has one hundred books in the home, and pays $15 a month rent will serve as an illustration of the

TABLE LXV

CORRELATION BETWEEN SIZE OF FAMILY AND SCHOOLING OF CHILDREN, EFFECT OF SCHOOLING OF PARENTS HAVING BEEN ELIMINATED

Average Years of Schooling of Children	Number of Children in Family									
	1	2	3	4	5	6	7	8	9	10
16	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
15	.....	1	1	1	.....	.....	.....	.....	.....	.....
14	2	1	2	2	.....	1	.....	.....	.....	.....
13	.....	1	1	2	.....	.....	1	.....	1	.....
12	.....	7	5	1	.....	1	.....	.....	.....	.....
11	6	2	5	5	2	2	2	1	.....	.....
10	2	8	8	5	4	3	1	.....	.....	.....
9	1	7	6	5	1	3	4	2	.....	1
8	3	1	8	1	3	4	2	2	1	2
7	2	5	1	6	1	4	1	1	.....	.....
6	.....	1	1	2	4	.....	.....	.....	.....	.....
5	.....	1	1	2	.....	.....	.....	.....	.....	.....
4	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
3	.....	.....	.....	1	.....	.....	.....	.....	.....	.....

$r = -0.06 \pm 0.05$
$n = 178$

method. Dividing 8 years by the educational divisor, 0.4 year, gives 20 units, which is 400 when squared. Similarly, one hundred books when divided by the library divisor, $12\frac{1}{2}$ volumes, gives 8 units, which equals 64 when squared. The rental index, $15, divided by the rental divisor, $1.50, gives 10 units, which, when squared, furnishes 100 more. The sum of 400, 64, and 100, or 564, is the index of this family.

This procedure is purely arbitrary, but the writer thinks that the resulting indices are quantitatively representative of the differences in

the opportunities presented to the children by their respective homes. This method gave the best home an index of 4,289, while the poorest received but 32. The possibilities of the best in contrast with the poorest are, according to the opinion of several people acquainted with both homes, as different as these indices imply. There is a gulf between them.

The coefficients of correlation between this family index and the education of the children are higher than those expressing any single relationship. They are the same, 0.73 ± 0.02 (Tables LXVI, LXVII) for both sons and daughters.

TABLE LXVI

CORRELATION BETWEEN FAMILY INDEX AND SCHOOLING OF SONS

Years of Schooling	Family Index in Hundreds																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	1	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..
15	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	1	..	..	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	1	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..	..	1
12	..	..	2	..	..	..	3	..	2	..	5	..	..	..	1	1	..	1	2	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
11	..	..	1	..	..	2	2	..	..	1	2	..	2	..	1	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
10	..	..	..	..	2	4	1	1	..	..	1	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	..	1	3	..	6	1	2	..	2	..	1	1	..	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	..	2	6	4	14	5	7	..	..	3	1	..	..	1	..	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	2	5	6	13	2	5	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	1	5	4	2	4	2	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	3	1	4	1	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	1	4	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

$r = 0.73 \pm 0.02$

$n = 215$

TABLE LXVII

CORRELATION BETWEEN FAMILY INDEX AND SCHOOLING OF DAUGHTERS

Years of Schooling	Family Index in Hundreds																																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
19																								1																			
18																																											
17																																											
16							1	1		1		2			1		1				2		1			1		3				1	2										2
15											2																						1										
14															1											1							2										
13						1			2	2									1												1					1							
12			2	1	2	3	6	1	1	3	8	1		3	1	1			1							5																	
11		1		1	1	1	1		2	2	1	1	3	1																													
10			2	4	2	6		2	2	2	2																																
9					3	2	1						2			2	1																										
8		3	4	4	10	6	6	4	2	3									2																								
7		2	7		12	3	1	2		2																																	
6		5	6		2	2	1																																				
5	2		6	1	1																																						
4																																											
3			1			1																																					
2																																											
1																																											
0			1																																								

$r = 0.73 \pm 0.02$
$n = 224$

SUMMARY AND CONCLUSIONS

The relationships presented in this chapter are shown in Table LXVIII.

TABLE LXVIII

Number of books in home correlated with schooling of sons	0.67±0.03
Number of books in home correlated with schooling of daughters	0.68±0.02
Number of rooms per individual correlated with schooling of sons	0.50±0.03
Number of rooms per individual correlated with schooling of daughters	0.48±0.03
Number of books in home correlated with schooling of father	0.60±0.03
Number of books in home correlated with schooling of mother	0.61±0.03
Number of books in home correlated with size of family	−0.10±0.04
Rental values correlated with size of family	−0.10±0.04
Schooling of parents correlated with size of family	−0.20±0.04
Schooling of children, uncorrected, correlated with size of family	−0.20±0.04
Schooling of children, corrected, correlated with size of family	−0.06±0.05
Schooling of sons correlated with family index	0.73±0.02
Schooling of daughters correlated with family index	0.73±0.02

The number of books in a home is the best single index of the probable educational level which the children may expect to reach.

The number of books in a home is closely correlated with the schooling of the parents.

The various indices used in this part of the study are more or less interrelated.

As measured by the method used here, size of family has only a slight negative correlation with the schooling of the children.

SECTION IV. OCCUPATIONAL AND OTHER GROUP RELATIONSHIPS

OCCUPATIONS OF THE FATHER

The occupations of the fathers (Table LXIX) show that this group contains representatives from almost every stratum of the economic life of the community. Most of the occupations are represented by too small a number, however, to furnish comparisons. The first thirteen occupations will be compared with respect to the schooling of the fathers, the rent of the homes, the number of books in the homes, and the schooling of the children.[1]

[1] The group "Farmers" is not on a par with the others. Six of the 13 fathers are dead, having been deceased in some cases for fifteen years. All of these families are living in town. Most of these farmers have retired as far as any active farm life is concerned.

TABLE LXIX

Occupations of Fathers

Occupation	No. Reported
Laborer	24
Carpenter	15
Retired farmer	15
Farmer	13
Painter and paper-hanger	8
Real estate and insurance	8
Machinist	6
Stationary engineer	6
Blacksmith	5
Grocer	5
Janitor	5
Evangelist and minister	5
Merchant	5
Druggist	4
Railroad conductor	3
Salesman	3
Physician	3
Driver of ice wagon	3
Grain-buyer	2
Car-repairer	2
Contractor	2
Tinner	2
Railroad engineer	2
City fireman	2
Printer	2
Banker	2
Policeman	2
Laundryman	2
Jeweler	2
Agent and solicitor	2
Carpenter contractor	2
Teamster	2
Teacher	2
Cement contractor	2
Roundhouse foreman	1
Bank cashier	1
Mine-owner	1
Foundry-owner	1
Barber	1
Ticket agent	1
Butcher	1
Section foreman	1
County superintendent of schools	1
Musician	1
Furnace contractor	1
Lumber dealer	1
Pump-dealer	1
Tool-polisher	1
Plumber	1
Roadster	1
Shop foreman	1
Coal-dealer	1
Railroad official	1
Grocery clerk	1
Postmaster	1
Foreman for brick company	1
Clothier and dry goods merchant	1
Manufacturer	1
Optician	1
Undertaker	1
Road boss on Big Four	1
Horseshoer	1
Jailor	1
Superintendent of signals and water service, Big Four	1
Roofing business	1
Carpenter superintendent	1
Tailor	1
Ditcher	1
Overseer of water-main laying	1
Implement dealer	1
Contracting excavator	1
Dentist	1
Sheriff	1
Veterinary surgeon	1
Foreman of water service on Big Four	1
Feed-store clerk	1
Manager of cold storage plant	1
Engine inspector	1
Drayman	1
Retired minister	1
Bookkeeper	1
Night watchman	1
Railroad fireman	1
Hostler	1
Brickmason	1
Mail-carrier	1

TABLE LXIX—*Continued*

Occupation	No. Reported	Occupation	No. Reported
Mail clerk	1	Runs ice-cream wagon	1
Restaurant keeper	1	Itinerant photographer	1
House-moving contractor	1	Justice of peace	1
Deliveryman	1	Foreman for contractor	1
Postal clerk	1	Cigar-factory foreman	1
Horse business	1	Bricksetter	1

a) *Occupations and education of fathers.*—The number of individuals (Table LXX) in several of the groups is too small to furnish any very

TABLE LXX

Years of Schooling	Education of												
	Laborers	Carpenters	Retired Farmers	Farmers	Painters and Paper-Hangers	Real Estate and Insurance Men	Machinists	Stationary Engineers	Blacksmiths	Grocers	Janitors	Ministers	Merchants
16	....	....	....	....	....	....	....	....	....	....	....	2	....
15	....	....	....	....	....	1	....	....	....	....	....	2	....
14	....	....	....	....	....	1	....	....	....	....	....	....	....
13	....	....	....	....	....	1	....	....	....	....	....	....	....
12	1	....	4	1	....	1	....	1	....	....	....	....	1
11	....	....	1	1	1	2	1	....	....	....	....	....	1
10	....	1	3	1	....	1	....	....	1	1	....	....	2
9	1	2	....	....	....	1	....	....	....	....	1	....	....
8	2	5	3	3	4	....	1	1	....	4	1	1	1
7	5	4	1	2	2	....	2	2	1	....	3	....	....
6	8	1	1	2	....	....	1	2	1	....	....	....	....
5	3	1	....	....	1	....	....	....	....	....	....	....	....
4	2	....	....	1	....	....	....	....	....	....	....	....	....
3	1	1	1	....	....	....	1	....	....	....	....	....	....
2	1	....	1	1	....	....	....	....	2	....	....	....	....
1	....	....	....	....	....	....	....	....	....	....	....	....	....
0	....	....	....	1	....	....	....	....	....	....	....	....	....
Median years of schooling	6	8	10	7	8	10½	7	7	6	8	7	15	10

reliable conclusions. The material, however, is very suggestive. It appears that an eighth-grade education is the minimum for the occupations of real estate and insurance men, grocers, and merchants. For

most of the others a seventh-grade education is near the minimum. Laborers are still lower, with an average education of but six years. Ministers are the best-schooled group. One of their number, however, belongs to one of the smaller denominations which cares little for an educated clergy. He is really a laborer by vocation and a preacher by avocation.

b) *Occupations and rent.*—In this comparison (Table LXXI) the retired farmers, the real estate and insurance men, the grocers, the ministers, and the merchants make the best showing. Laborers make the poorest. The median rentals of the other occupational classes fall in the $15 and $20 groups.

TABLE LXXI

	Monthly Rental Values (in Dollars) of Homes of											Median Rental
	10	12.50	15	17.50	20	25	30	35	40	45	50	
Laborers	15	5	....	1	2	....	1	....	....	....	....	$10
Carpenters	2	2	5	....	4	1	....	1	....	....	....	15
Retired farmers	....	1	1	....	....	1	5	1	1	1	4	30
Farmers	1	2	5	....	2	1	2	....	....	....	....	15
Painters and paperhangers	1	1	1	1	2	....	1	1	....	....	....	18.75
Real estate and insurance men	....	....	....	....	1	....	2	1	1	....	3	37.50
Machinists	....	1	3	1	....	....	1	....	....	....	....	15
Stationary engineers	....	....	1	2	1	1	1	....	....	....	....	18.75
Blacksmiths	....	1	3	....	....	1	....	....	....	....	....	15
Grocers	....	....	1	....	1	....	2	1	....	....	....	30
Janitors	....	1	2	....	....	....	....	1	1	....	....	15
Ministers	....	....	1	....	....	2	....	....	2	....	....	25
Merchants	....	....	....	....	1	....	1	1	2	....	....	35

c) *Occupations and number of books in home.*—The influence of a scholastic occupation appears here (Table LXXII). The ministers have libraries which correspond to their education and occupation. On the other hand, laborers are almost without libraries, for the average number of books in a laborer's home is less than twenty-five. This means that these homes have almost no books other than the Bible, a couple of hymn-books, and the children's schoolbooks. The remainder of the occupational groups fall between these extremes in a close correlation with economic position.

d) *Occupations of fathers and schooling of their children.*—In this comparison (Tables LXXIII, LXXIV) the small number of cases in some of

the groups is further complicated by the fact that some of the families had more children than others. Some families had but one child, while some had eight or ten. Hence it is probable that the medians obtained by combining boys and girls are more reliable than the medians for either sex alone. This procedure shows the children of real estate and

TABLE LXXII

No. of Books in Homes of	Volumes													Median No. of Volumes
	10	25	50	75	100	150	200	250	300	350	400	500	600	
Laborers	6	10	2	1	3	...	...	...	...	...	...	...	...	25
Carpenters	3	2	5	...	3	...	1	1	...	...	...	...	...	50
Retired farmers	...	3	2	...	2	3	1	1	2	1	...	...	...	150
Farmers	1	3	6	...	2	...	...	1	...	...	...	...	...	50
Painters and paper-hangers	...	3	...	1	2	1	1	...	...	...	...	...	...	87½
Real estate and insurance men	...	...	...	...	2	...	2	...	2	...	1	1	...	250
Machinists	...	2	...	2	1	...	1	...	...	...	...	...	...	75
Stationary engineers	...	1	2	2	...	...	...	1	...	...	...	...	...	62½
Blacksmiths	...	...	3	...	1	...	1	...	...	...	...	...	...	50
Grocers	...	1	...	3	1	...	...	...	...	...	...	...	...	75
Janitors	...	1	2	1	...	1	...	...	...	...	...	...	...	50
Ministers	...	...	...	...	1	1	...	...	1	...	...	...	1	350
Merchants	...	...	1	1	1	...	1	1	...	...	...	...	...	100

TABLE LXXIII

Education of Sons of	Years of Schooling															Median
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Laborers	3	3	2	7	9	1	1	...	...	...	1	...	...	...	...	7
Carpenters	...	...	...	3	2	...	1	1	...	...	...	...	1	...	...	8
Retired Farmers	...	...	1	2	2	2	2	2	2	1	1	...	2	1	1	10
Farmers	...	2	5	...	4	1	1	1	4	...	...	...	1	1	...	8
Painters and paper-hangers	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	10
Real estate and insurance men	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	13
Machinists	...	1	...	4	2	...	...	1	1	...	...	...	...	...	...	7
Stationary engineers	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	7½
Blacksmiths	...	...	1	...	1	2	...	...	...	...	...	1	...	...	...	9
Grocers	...	...	...	1	2	...	2	...	...	...	...	...	...	...	...	8
Janitors	...	...	...	2	...	2	...	...	1	...	...	...	...	...	...	9
Ministers	...	...	...	1	2	...	...	1	1	...	...	...	...	...	...	8
Merchants	...	...	...	...	1	1	...	1	2	...	...	...	...	...	...	11

TABLE LXXIV

Education of Daughters of	Years of Schooling																	Median	Median of Sons and Daughters
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Laborers	1	...	4	1	6	7	1	4	...	2	...	...	...	...	...	...	...	8	7
Carpenters	...	...	...	2	3	6	...	1	3	1	...	...	...	...	...	...	...	8	8
Retired farmers	...	...	3	2	...	1	...	2	2	6	...	...	2	3	...	...	1	12	11
Farmers	...	...	...	6	3	9	...	...	...	1	...	...	...	1	...	...	...	8	8
Painters and paper-hangers	...	...	1	...	2	...	...	2	1	1	...	...	...	...	...	...	...	10	10
Real estate and insurance men	...	...	...	...	...	...	...	...	1	...	...	...	...	4	...	...	...	16	15
Machinists	...	...	...	...	4	5	...	2	1	...	...	...	...	...	...	...	...	8	8
Stationary engineers	...	...	...	...	...	2	...	1	...	1	...	...	...	...	...	...	...	9	8
Blacksmiths	...	...	...	1	...	3	...	...	2	2	1	...	...	...	...	...	...	11	9
Grocers	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	10	10
Janitors	...	...	...	...	2	1	...	1	1	1	...	...	...	...	...	...	...	9	9
Ministers	...	...	...	...	1	...	...	...	...	...	1	...	...	2	...	...	...	14½	11
Merchants	...	...	...	...	...	2	...	...	...	3	...	...	...	...	...	...	...	12	11½

insurance men to be the best educated. Next come the children of merchants, retired farmers, ministers, grocers, and painters and paper-hangers. The most poorly educated are the children of laborers.

THE TRUANT OFFICER'S REPORT

It was thought that it might prove interesting and perhaps instructive to examine those families which have had to be visited by the truant officer. The woman who occupies this position in Urbana has been in charge of the work for twelve years. Through the performance of the duties of her office she has become acquainted with those families whose children were of legal school age but did not attend school as the statutes require. The writer took a list of the names and addresses of the families that furnished the data which have been presented in Part IV to this woman and requested her to mark all the families which she had visited in her official capacity. This she very kindly did. These families were then studied, with respect to the schooling of the parents, the number of books in the home, the rental value of the home, and the schooling of the children, and compared with the positions of the remainder of the families as to these items. It is probable that there are other families included in this study who moved to Urbana after their children were fourteen years of age or older who would have been included in the group that furnished work for the truant officer if they had always lived in Urbana.

For convenience in discussing the data the families were divided as follows: Group A, those families who have been visited in an official

way by the Urbana truant officer—30 families; Group B, those who have not received any official visits from the truant officer since they have lived in Urbana—204 families.

a) *Education of parents.*—The parents of Group A are less extensively schooled than the parents of Group B (Table LXXV). The

TABLE LXXV

EDUCATION OF FATHERS AND MOTHERS

YEARS OF SCHOOLING	GROUP A		GROUP B	
	Fathers	Mothers	Fathers	Mothers
20			1	
19			1	
18			1	
17			1	
16			4	
15			4	1
14		1	6	3
13			2	2
12	3	1	21	33
11			13	5
10	2	2	23	25
9		2	13	22
8	6	4	48	63
7	6	9	24	21
6	7	1	22	14
5	1	2	7	3
4	1	7	3	6
3	2		2	
2	1		4	3
1				
0	1	1	1	
Median schooling	7.33 years	7.44 years	8.78 years	8.85 years

Difference between medians for fathers, 1.45±0.25 years
Difference between medians for mothers, 1.41±0.35 years

fathers in the homes which received the official visits of the truant officer went to school 1.45 years less on the average than the fathers in those homes which did not receive an official visit from the truant officer. They received a median schooling of 7.33 years as compared with 8.78 years for the second group. The median of Group A mothers is 7.44 years; of Group B mothers it is 8.85 years.

b) Number of books in home.—The median library of Group A, 50 volumes, is one-half the size of the median library of Group B (Table LXXVI).

c) Rental values of home.—Group B families live in a much better class of homes than Group A families (Table LXXVII). The median home in Group A has a rental value of $12.50 per month, while the median home in the other group would rent for $20.

TABLE LXXVI

NUMBER OF BOOKS IN HOMES

No. of Volumes	Group A	Group B
0–10	8	13
25	6	37
50	8	38
75	1	12
100	2	38
150	1	14
200	2	23
250	.....	10
300	1	8
350	.....	2
400	.....	4
500	1	4
600	.....	1
Median	50	100

Difference between medians, 50±10 vols.

TABLE LXXVII

MONTHLY RENTAL VALUES OF HOMES

	Group A	Group B
$10	8	18
12.50	9	15
15	8	45
17.50	.....	7
20	2	28
22.50	.....	3
25	1	15
27.50	.....	1
30	1	26
35	.....	16
40	.....	12
45	1	4
50	.....	12
60	.....	2
Median	$12.50	$20

Difference between medians, $7.50±$0.70

d) Education of the children.—The differences between the schooling of the children of Group A and Group B (Table LXXVIII) are somewhat greater than the parental difference in education already noted. The sons of Group A received an average of 7.35 years of schooling, while those of Group B received an average of 8.94 years. The daughters of the first group averaged 8.15 years, while those of the second group averaged 10.16 years.

e) Causes of truancy.—The truant officer gave a rough classification of the causes of truancy. In five homes the main cause seemed to be indifference on the part of the parents. In eleven others poverty was the thing which was most evident. The children from such homes did not have the clothes necessary to enable them to attend school, or the parents kept them out to work. With the remainder the causes were

more complex and, in some cases, outside of the home. In one case a boys' club was an important factor. In another an unsympathetic teacher, combined with rigid application of school rules and regulations, proved to be almost more than home and truant officer could counteract. In other cases the cause was the slackening of home supervision until the parents did not know what the boy or girl was doing. Truancy,

TABLE LXXVIII

EDUCATION OF SONS AND DAUGHTERS

YEARS OF SCHOOLING	GROUP A		GROUP B	
	Sons	Daughters	Sons	Daughters
19	.....	.....	.....	1
18	.....	.....	2	.....
17	.....	.....	2	.....
16	.....	1	6	18
15	1	.....	2	3
14	.....	.....	5	4
13	.....	1	8	7
12	1	3	19	36
11	.....	1	13	14
10	1	3	12	19
9	2	.....	18	12
8	8	10	40	38
7	10	8	26	24
6	7	4	14	13
5	8	4	4	6
4	1	.....	6	.....
3	.....	.....	2	2
2	.....	.....	.....	.....
1	.....	.....	.....	.....
0	.....	.....	.....	1
Median education	7.35 years	8.15 years	8.94 years	10.16 years

Difference between median education of sons, 1.49 ± 0.22 years
Difference between median education of daughters, 2.01 ± 0.30 years

however, did not lead to early elimination in those cases where the better homes were concerned. Almost without exception the children from the better homes—they can be told by their superior status in schooling, library, or rent—continued into the high school and, in some cases, into college.

POVERTY AND HOME CONDITIONS

An attempt was made to measure the amount of poverty and destitution present in the 234 families through the records of the United

Charities' office. A conference with the superintendent disclosed the fact that only three of these families had received organized aid during the existence of the local United Charities organization, a period of two years. These families were the families of two laborers and a carpenter. The parents were poorly educated, as were the children. They were not, however, the most poorly or the least educated of those studied. Several other families were worse off educationally and economically, but were self-supporting. The writer estimated, judging from the view obtained through the front door when gathering the data, that about 10 per cent of the homes feel the pinch of poverty at times. This condition was always accompanied by the absence of the father from the home or by poorly educated parents.

CAUSES OF ELIMINATION

After a part of the data had been gathered, it occurred to the writer that it might be of value to ask the causes of the failure of the children to secure as good an education as it seemed that they might have done. Accordingly questions were asked to secure this information. The results of such a crude method cannot be accurate, but they are suggestive. The causes of elimination are given in Table LXXIX. It is

TABLE LXXIX

Had to work	4
School too far away	1
Moved about	2
Failed in studies	2
Disliked school	2
Sickness	5
Did not want to go to school; could have gone	16
Country schools	12

recognized that some of these replies may have been given merely to please the person asking the questions. The frankness and readiness with which the replies were given, however, leads the writer to think that these replies were the usual ones that these people made to similar questions on other occasions. The major rôles which opportunity and mere whims on the part of the children played in determining the lengths of their schooling leaves but a minor part for economic pressure. Probably but few of these poorly educated children could not have gone to school for a year or two more if those in the home had felt the value of such a course and if there had been the opportunity.

EVIDENCES OF ENVIRONMENTAL MOLDING

It has been a common observation of teachers and others that the children of large families are not all alike in their characteristics. Physically there is much variability. This is likewise true when intellectual traits are considered. In this group of 234 families, however, it was

TABLE LXXX*

ENVIRONMENTAL MOLDING

DISTRIBUTION OF CHILDREN BY FAMILIES AND EDUCATION

Family No.	Years of Schooling																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	1	5	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	4	2	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	4	...	1	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	1
8	...	...	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2
10	...	...	...	...	...	...	...	...	...	...	...	1	6	...	...	...	1
11	...	...	...	...	...	...	...	...	2	...	...	...	2	...	...	...	...
12	...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2
15	...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	...	...
16	...	...	...	...	3	2	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	2	...	...	2	...	...	...	...	...
18	...	...	...	...	...	...	...	...	2	...	4	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...
20	...	...	...	...	...	1	4	2	...	...	...	...	...	...	...	...	...
21	...	...	...	...	1	...	2	3	...	...	...	...	...	...	...	...	...
22	...	...	...	3	1	...	3	1	...	...	...	...	...	...	...	...	...
23	...	...	...	1	...	1	...	2	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	2	...	3	1	...	1	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	1	1	2	...	...	...	...	...
26	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2
27	...	...	...	...	...	...	...	...	2	1	1	1	...	...	...	...	...
28	...	...	...	...	...	...	...	...	1	1	1	1	...	...	...	...	...
29	1	...	...	...	2	3	3	...	...	...	1	...	...	...	...	...	...
30	...	...	2	...	3	3	2	...	...	...	...	...	...	...	...	...	...
31	...	...	...	...	1	1	1	...	...	1	...	...	...	...	...	...	...
32	...	...	...	...	...	...	...	1	...	2	...	1	...	...	...	...	...
33	...	...	...	...	...	...	...	1	...	1	1	1	...	...	...	...	...
34	...	...	...	...	...	...	2	1	...	...	1	...	...	...	...	...	...

* This table should be read thus: Family No. 1 had seven children, all of whom received 6 years of schooling; family No. 10 had eight children, one received 11 years of schooling, six, 12 years, and one, 16 years.

observed that there was frequently a marked uniformity in the amounts of schooling which the children of a family received. In an attempt to learn how frequently these phenomena appeared, all families which contained four or more children who had completed their schooling were examined. There were thirty-four such families (Table LXXX). In more than one-half of them, all the children of a family received nearly the same amounts of schooling. In many cases where there was variability it could often be explained by a change in the environment, such as resulted from moving from one town to another. In family No. 1 the children attended a country school which offered only limited opportunities. The children of family No. 2 attended a German parochial school which offered but seven years of schooling.

It is probable that the children of these thirty-four families are as variable in native characteristics as other children. Hence the uniformity present must be explained by crediting it to the coercive effect of the home and community environment.

SUMMARY AND CONCLUSIONS

Ninety-eight different occupations were represented among the 234 families.

One-tenth of the fathers were common laborers.

Occupations of fathers and home conditions, such as schooling, size of library, and rental values of homes, were closely related.

Truancy, when due to specific home causes, was found mainly in the homes of the poorer and less educated.

Poverty and indifference on the part of the parents were the most frequent causes of truancy.

Only three of the families received organized charitable assistance during the past two years. About 10 per cent of the homes probably felt the pinch of poverty at times. All these were homes of poorly educated parents or had experienced a break in the home life due to death or domestic troubles.

It is probable that lack of an opportunity or the lack of an appreciation of the value of education by those in the home was responsible, in the main, for most early eliminations.

The home and community environment "molded" some of the large families to a marked uniformity with respect to the number of years of schooling which the children received.

PART V

THE IMPORTANCE OF ENVIRONMENTAL INFLUENCES

The data presented in this part of the report were secured through personal visits to 32 homes in which adopted children had been reared. In one of these homes the adopted child had been reared in the country; the data about this individual were rejected on further consideration as not being comparable with the others. The remaining 31 homes were represented by 39 adopted children. While the writer was gathering the information it was discovered that 7 of these children were the offspring of relatives of the foster-parents. To eliminate entirely the factor of heredity these 7 were discarded. This left 28 homes containing 32 foster-children, none of whom was related to his or her foster-parents.

The main original data, exclusive of facts regarding occupations of the parents,[1] are presented here (Table LXXXI).

Date of Birth of Children.—These adopted children were born at various periods during a relatively long stretch of time. Thirty-four years elapsed between the birth of the first and the birth of the last. It follows that educational opportunities have changed much during the different decades in which they have been educated. It is also true that the foster-parents, reared a generation ago, had a more restricted educational opportunity than those of the present generation. This wide range of time must be kept in mind when the relationship between the education of the parents and the education of the children is considered. The educational opportunities of the children have been more nearly constant than those of the parents, for the state university has been in full operation during the entire period that any of these children might have attended.

Age when adopted.—In 28 of the 29 cases in which the facts were available the children were adopted at or before the age of twelve (Table LXXXII). Nine were adopted before they were two years of age. The date of adoption, however, was not always the date when the foster-home assumed control of the child.

[1] This information was collected with the explicit understanding that it would be treated confidentially. By presenting the occupations separately it is thought that no confidences are violated.

TABLE LXXXI*

No. of Child	Nativity of		Years of Schooling		No. of Books in Home	Financial Status*	Rental Values of Home	Adopted Children			Family Index
	Father	Mother	Father	Mother				Date of Birth	Sex	Years of Schooling	
1	U.S.	U.S.	8	8	250	A	$45	1868	F	12	1,700
2	U.S.	U.S.	8	8	100	A-B	20	1872	F	11	633
3	U.S.	U.S.	10	10	200	A	40	1861	F	16	1,610
4	Eng.	U.S.	6	6	50	B	12	1866	F	8	305
5	U.S.	U.S.	10	10	200	A	40	1866	M	16	1,610
6	U.S.	U.S	.....	9	250	A	35	1872	F	12	1,458
7	U.S.	U.S.	9	14	100	A	50	1882	F	15	1,994
8	U.S.	U.S.	15	8	300	A-B	20	1884	M	12	1,266
9	Eng.	U.S.	9	7	100	B	25	1879	F	9	753
10	.....	.....	.....	8	.....	A	.....	1887	F	13	.....
11	U.S.	U.S.	20	12	500	A	50	1886	F	16	4,289
12	Ger.	U.S.	2	8	100	B	40	1890	F	9	962
13	.....	U.S.	.....	11	100	A-B	30	1888	F	15	1,248
14	U.S.	U.S.	8	9	100	B	15	1890	M	9	605
15	U.S.	U.S.	8	8	250	A	35	1877	M	18	1,329
16	U.S.	U.S.	8	9	100	B	15	1882	F	6	605
17	U.S.	U.S.	8	8	150	A	35	1897	M	10 (in school)	1,073
18	U.S.	U.S.	10	11	200	A	50	1894	M	9	2,021
19	Ger.	Ger.	19	7	200	A-B	40	1895	F	10	2 074
20	U.S.	U.S.	8	10	100	B	25	1890	F	12	882
21	U.S.	U.S.	8	8	20	B	20	1901	F	8 (in school)	573
22	U.S.	U.S.	7	7	10	B	10	1886	M	9	371
23	U.S.	U.S.	10	12	75	B	15	1880	M	8	920
24	U.S.	U.S.	12	14	100	A	30	1880	F	13	1,553
25	U.S.	U.S.	10	12	75	B	15	1898	M	6	920
26	U.S.	U.S.	14	14	150	A-B	30	1884	M	11	1,769
27	U.S.	U.S.	12	12	200	A	30	1878	F	13	1,556
28	Ger.	Irish	10	10	200	A	25	1890	M	11	1,137
29	Ger.	U.S.	8	8	250	A	35	1876	F	14	1,329
30	Ger.	Irish	10	10	200	A	25	1891	F	11	1,137
31	Ger.	U.S.	8	8	250	A	35	1891	F	16	1,329
32	Ger.	Ger.	7	6	250	B	16	1890	F	7	777

* The families were grouped as follows: A, well-to-do; B, average; A-B, between average and well-to-do.

In a number of cases the court records showed that the child had been living with the foster-parents for years before legal adoption was effected. It is probable that this was true in other cases, although no statement of the fact appeared in the adoption records.

TABLE LXXXII

AGE WHEN ADOPTED

Age, Years	No.	Age, Years	No.
1	8	8	2
2	1	9	0
3	1	10	0
4	5	11	2
5	3	12	1
6	3	24	1
7	2		

Reasons for adoption.—These children were adopted because they were public charges or were about to become so. Enough was told by the court records to make it plain that the history of each case was the

TABLE LXXXIII

CAUSES OF DEPENDENCY*

	No. of Cases
Parents dead	7
Mother dead	7
Father dead	2
Father dead, mother abandoned child	2
Mother dead, father abandoned child	3
Father dead, mother remarried	1
Parents unable to support	1
Father dead, mother unable to support	1
Mother dead, father unable to support	1
Abandoned by parents	1
Foundling	2
Illegitimate	2

*These are condensed from the remarks found on the court records under the section devoted to this subject.

history of a tragedy (Table LXXXIII). The records were brief and meager, but they were all of the same general tone, such as tales of the death of father or mother, inefficiency on the part of father or mother,

and desertion of an unwelcome child. In other words, these children, almost without exception, were born under the most unpromising conditions, conditions which would suggest weakness of hereditary stock. There is nothing in their origins to indicate a single superior child. Not a single home left property for the support of the child. All of the parents were poor. They were adopted into homes which were childless or into the homes of relatively wealthy parents who, after their own children had grown up, still desired to have a child in the household. Three children, including those adopted, represented the largest number found in any of these homes.

Nativity of foster-parents.—Most of the parents were native born. Those who were not were German, English, or Irish.

Occupations of foster parents.—A rather wide array of occupations was represented by the foster-parents (Table LXXXIV). Only one father

TABLE LXXXIV

OCCUPATION OF FOSTER-PARENTS

Occupation	No.	Occupation	No
Retired farmer	3	Merchant	1
Minister	3	Painting contractor	1
Car-inspector	1	Pharmacist and grocer	1
Carpenter	1	Railroad engineer	1
Carpenter and contractor	1	Rural mail-carrier	1
Cigar-maker	1	Section foreman	1
Farmer and school-teacher	1	Shop foreman	1
Fruit farmer and carpenter	1	Shop helper	1
Garage-owner	1	Tailor	1
Grocer	1	Teacher and telegraph operator	1
Insurance man	1	Traveling salesman	1
Laborer	1	University professor	1

was a common laborer. The remainder were distributed among the various business, industrial, and professional activities of this community.

Education of foster-parents and of children.—The relationship which exists between the education of the children and the education of the foster-parents is not very close, being only 0.32 ± 0.11 (Table LXXXV). The lack of opportunity under which some of the older parents were reared may be responsible for this in a large measure.

When the amounts of schooling which the foster-children received are examined, it is seen that they fared very well. One-half of these

children received a high-school education or better, and only 4 of them failed to go to the high school for at least a few months. In comparison with the average number of years of schooling which their foster-parents received, 22 of these children received more education, 1 the same, and 6 less. When their origins are taken into consideration it seems that a large amount of credit must be given to the new environment into which adoption transplanted them.

TABLE LXXXV

CORRELATION BETWEEN EDUCATION OF FOSTER-PARENTS* AND EDUCATION OF ADOPTED CHILDREN

Years of Schooling	Average Years of Schooling of Parents											
	5	6	7	8	9	10	11	12	13	14	15	16
18				1								
17												
16				1		2						1
15							2					
14				1								
13				1				1	1			
12				1	2		1					
11				1		2				1		
10									1			
9	1		1	2		1						
8		1					1					
7		1										
6				1			1					

$r = 0.32 \pm 0.11$

$n = 30$

* The education of the mother is used where the average could not be found because the education of the other parent was unknown.

Number of books in home and education of adopted children.—There is a slightly closer relationship between the education of the adopted children and the number of books in the home than the previous correlation (Table LXXXVI). The coefficient is 0.42 ± 0.10. In one case at least this is lowered by the fact that a library had been inherited.

Rental value of home and education of adopted children.—The main reason for the adoption of these children was an economic one. They were dependent. If these homes were much alike in their social attitudes, the education of the adopted children was determined largely by the economic opportunities of the foster-homes. This seems to have been the case for the relationship between rental value of home and

education of children is higher than the preceding one. It is 0.60±0.08 (Table LXXXVII).

TABLE LXXXVI

CORRELATION BETWEEN NUMBER OF BOOKS IN HOME AND EDUCATION OF ADOPTED CHILDREN

Years of Schooling	Number of Books in Home												
	10	25	50	75	100	150	200	250	300	350	400	450	500
18								1					
17													
16							2	1					1
15					2								
14								1					
13					1		1						
12					1		1	2					
11					1	1	2						
10							1						
9	1				3		1						
8			1	1									
7								1					
6				1	1								

$r = 0.42 \pm 0.10$
$n = 29$

TABLE LXXXVII

CORRELATION BETWEEN RENTAL VALUE OF HOME AND EDUCATION OF ADOPTED CHILDREN

Years of Schooling	Rental Value of Home per Month, Dollars							
	15	20	25	30	35	40	45	50
18					1			
17								
16					1	2		1
15				1				1
14					1			
13				2				
12		1	1		1		1	
11		1	2	1				
10						1		
9	2		1			1		1
8	2							
7		1						
6	2							

$r = 0.60 \pm 0.08$
$n = 29$

Family index and education of adopted children.—The family index was calculated by the same method that was used in Part IV. The resulting relationship is a combination of the three preceding ones. This device gave a coefficient of correlation of 0.54±0.09 (Table LXXXVIII) between family index and education of adopted children.

TABLE LXXXVIII

CORRELATION BETWEEN FAMILY INDEX AND EDUCATION OF ADOPTED CHILDREN

Years of Schooling	Family Index in Hundreds																		
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	43
18.....	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
17.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16.....	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	1
15.....	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...
14.....	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
13.....	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
12.....	...	...	...	...	...	1	...	...	...	1	...	1	...	1	...	...	...	...	...
11.....	...	...	...	1	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...
10.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
9.....	1	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	1	...
8.....	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
7.....	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6.....	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...

$r = 0.54 \pm 0.09$

$n = 29$

Financial status of home and education of adopted children.—These families were divided into three groups according to the estimates of financial status given by those who gave the other information. The three groups were average, between average and well-to-do, and well-to-do. These groupings are only approximations, but the resulting relationship proved to be unusually high, being 0.76±0.05 (Table LXXXIX).

Social viewpoint of foster-homes.—In one respect all these homes were alike. The parents had a yearning for children which was not satisfied by offspring of their own and which led them to feel a responsibility when they adopted a child. They desired to do the best they could for this child, and, since education is recognized as the clearest expression of opportunity, they gave the child, in most cases, as much as they could. In a few cases, however, the children took matters into their own hands

and terminated their schooling before their parents wished it to end. It is possible, also, that the poor native ability of the child was the cause of one early elimination. The writer is quite certain that one child—one of the seven who were not considered because they were children of

TABLE LXXXIX

CORRELATION BETWEEN FINANCIAL STATUS OF HOME AND EDUCATION OF ADOPTED CHILDREN

Years of Schooling	Rank of Financial Status		
	B	A–B	A
18			1
17			
16			4
15		1	1
14			1
13			3
12	1	1	2
11		2	2
10		1	
9	4		1
8	2		
7	1		
6	2		

$r = 0.76 \pm 0.05$
$n = 30$

relatives—reached its upper educable limit with the first year of high school. But all things considered, it is probable that a common social standard made these homes strive to educate the children under their care to as great a degree as the nature of the child and their own resources permitted.

SUMMARY AND CONCLUSIONS

These adopted children were born in homes where the parents were very poor, as a class, and the children were dependent, or about to become so, at the time they were taken into the foster-homes.

Most of them were taken into the foster-homes at an early age. None was older than twelve when taken into the foster-home.

They were adopted into homes which in most cases gave them superior opportunities.

They received a superior education as a class. One-half received a high-school education or better, and 22 of the 29 received more education than the average education of their foster-parents.

The coefficients of correlation presented are summed up in Table XC.

TABLE XC

Schooling of foster-parents correlated with schooling of adopted children	0.32±0.11
Number of books in home correlated with schooling of adopted children	0.42±0.10
Rental value of home correlated with schooling of adopted children	0.60±0.08
Family index correlated with schooling of adopted children	0.54±0.09
Financial status correlated with schooling of adopted children	0.76±0.05

It is probable that environment determined the amounts of schooling which 29 out of the 30 children received. It is possible that the environment, and not poor native ability, was responsible for the early elimination of the thirtieth.

The schooling of adopted children was closely correlated with the conditions, especially financial, of the homes into which they were adopted. This certainly suggests that environment exerts a pronounced, if not a determining, influence on the number of years of schooling which children receive.

Adopted children received as good an education, on the average, as the children of town-dwelling parents studied in Part III. Their foster-homes were very similar, in economic, social, and educational characteristics, to the city homes of this high-school group. In comparison with the children of Part IV—children from average Urbana homes—adopted children received over three years more schooling.

PART VI

GENERAL SUMMARY AND CONCLUSIONS

Numerous coefficients of correlation of varying degrees of reliability have been presented in the various sections of the study. These may be summarized, grouped according to the sources of the data, as shown in Table XCI.

These facts, and others which cannot be so readily summarized, when taken as a whole, point to a number of general conclusions. Other generalizations of a more specific nature are supported by facts presented here and there throughout the study. In addition, there are a number of inferences and suggestions which seem to the writer to follow logically from a consideration of the data, although it cannot be said that they are proved conclusively. The interpretations will therefore be divided into three groups, general conclusions, specific conclusions, and inferences and suggestions.

GENERAL CONCLUSIONS

1. The most important conclusion, supported by the study as a whole, is that there is a close relationship between the advantages of a home, its educational, economic, and social stations, and the number of years of schooling which its children receive. This conclusion is supported by the pioneer study made in Decatur; by the facts gathered from the high-school pupils of Centralia, Champaign, Gibson City, and Rochelle; by the information secured through the personal canvass made in Urbana; and by the results of the study of adopted children.

It might be worth while to discuss here the differences between these various parts of the study. The coefficients of correlation for the high-school group, Part III, are lower than those for the group which contains representatives of all classes, Part IV; while the group of adopted children, Part V, gives indications of a combination of the characteristics of both the other groups. This is not surprising when the groups are examined more closely. The high-school homes, Part III, contain the upper economic, educational, and social levels of the communities studied. This has resulted in the selection of those families which have favored a high-school education for their children. The less exact nature of the data furnished by the high-school pupils also tends to reduce the

TABLE XCI

Correlations from High-School Data	Schooling of Sons	Schooling of Daughters
Schooling of parents	0.45±0.03	0.42±0.03
Schooling of farm parents	0.35±0.03	0.47±0.07
Schooling of town parents	0.30±0.04	0.35±0.04
Schooling of father	0.44±0.03	.....
Schooling of mother	.....	0.43±0.03
Rental values	0.40±0.04	0.24±0.04
Number of books in homes	0.39±0.04	0.18±0.04

Correlations from Urbana Data	Schooling of Sons	Schooling of Daughters
Schooling of father	0.47±0.03	0.56±0.03
Schooling of mother	0.55±0.03	0.60±0.03
Schooling of parents	0.65±0.03	0.62±0.03
Schooling of better-educated parent	0.60±0.03	.....
Schooling of more poorly educated parent	0.57±0.03	.....
Rental values of home	0.63±0.03	0.64±0.03
Personal property assessment	0.47±0.04	0.52±0.04
Real estate assessment	0.63±0.04	0.58±0.04
Number of books in home	0.67±0.03	0.68±0.03
Number of rooms per individual	0.50±0.03	0.48±0.03

Schooling of father correlated with schooling of mother	0.65±0.03
Schooling of parents correlated with progress of sons	0.37±0.07
Schooling of parents correlated with progress of daughters	0.22±0.06
Number of books in home correlated with schooling of father	0.60±0.03
Number of books in home correlated with schooling of mother	0.61±0.03

Correlations with Size of Family	
Number of books in home	−0.10±0.04
Rental values	−0.10±0.04
Schooling of parents	−0.20±0.04
Schooling of children—	
Uncorrected	−0.20±0.04
Corrected for schooling of parent	−0.06±0.05
Schooling of sons correlated with family index	0.73±0.02
Schooling of daughters correlated with family index	0.73±0.02

Correlations with Schooling of Adopted Children	
Schooling of foster-parents	0.32±0.11
Number of books in home	0.42±0.10
Rental values	0.60±0.08
Family index	0.54±0.09
Financial status	0.76±0.05

correlation coefficients for Part III. The correlations of Part IV, which contains the general sampling from Urbana, are less influenced by the variations in families, because more varied economic, educational, and social levels of the community were studied. The data are also more nearly accurate. The education of the foster-parents of the adopted children resembles in amount that of the parents of the high-school group. The especial importance of the economic factor, however, as a cause for the adoption of children is revealed in the high coefficient of correlation found in Part V between rent, or financial status, and education. This phase resembles the general selection of Part IV. As a whole there is a substantial agreement between the various classes of data. All point in the same direction.

2. Another conclusion, supported by various sections in particular and by the combined data in general, is that environmental influences more often caused a child to stop attending school than did lack of ability to do the work. This conclusion is supported especially by the study of adopted children. Some of the environmental influences were within the school, such as, perhaps, certain subject requirements, unsympathetic teachers, and arbitrary regulations. Others were outside the school and characteristic of the community or the family. These influences operated frequently in producing a dislike for school. They caused the pupil to get into that state of mind which is usually described by saying that he "has lost interest in school work." This condition is not necessarily an indication that the pupil lacks the ability to do the work he dislikes. It may mean that he is unfitted by native endowment to attain more than average success in this particular kind of work, but it does not necessarily mean that he could not do even better than the average in something else. Or, it may mean that respect for education is not among the family traditions under which he has been nurtured.

It has been suggested, by some who give large stress to the factor of heredity, that the environmental factors measured here are merely an objective expression—a resultant—of the heredity of these homes; and that an even higher correlation would be found between the general intellectual ability of the parents and the amount of schooling their children receive. It seems to the writer that the facts brought out in the part devoted to adopted children suggest the improbability of such an outcome.

However, the writer will suggest how such an investigation might be attempted. In Urbana the social facts have already been secured and

the investigation might well be continued there. One could visit the families that furnished the information for Part IV of this study. These parents could be tested. The tests, to answer the purpose in a practical way, must be simple in application, as training on the part of the subject should not be presupposed. The results of the tests, when correlated with the amounts of schooling which the children received, would show how important the factors of heredity are, or, at least, whether heredity is as important as environment in determining the amounts of schooling the children receive. That there is a positive correlation between native ability and amounts of schooling received is doubtless true, but it is probably lower than is usually supposed. Such an investigation could be conducted just as well in another town as in Urbana, but it would then be necessary to secure the social data as well as the facts of heredity. A reliable comparison could not be made if one set of facts were taken from one town and another set from a different one, for there might be differences in the social composition which would vitiate the results.

3. Another conclusion which is almost a corollary of the two preceding is that early elimination is correlated with, and largely due to, factors outside the school. The school is only an institution of society. Society has created it and uses it as needs arise. Those who unreservedly blame the public school for elimination forget that the school imparts instruction to the children alone. Their parents were educated a generation earlier and can seldom be reached by the present-day school.

4. Since the amounts of schooling which children receive are closely correlated with the advantages of the homes from which they come, it follows that our high schools are largely attended and probably dominated during the last two or three years by pupils from homes of culture and of a reasonable measure of economic advantage. The well-to-do business and land-owning classes send their children, but the children of the laborer and artisan seldom graduate. This means, then, that the majority of our high-school graduates is furnished by a minority of the population. It also suggests something of the home type of those who attend our colleges and universities.[1]

[1] The large proportionate increase in high-school enrolment revealed by statistics from the reports of the United States Commissioner of Education shows that these homes have been availing themselves of the opportunity for education to a greater degree each decade. Not only have more children enrolled in the public high school, but Mr. W. S. Miller has shown that they stay longer than they did twenty-five years ago. (Mr. W. S. Miller's statistics are given in the *Illinois Teacher*, April, 1915, p. 7, and in *School and Home Education*, April, 1915, p. 282.)

5. If a person wished to forecast, from a single objective measure, the probable educational opportunities which the children of a home have, the best measure would be the number of books in the home. The highest single correlation was shown by this index. Further, it is an index which is easy to apply. It is probable, however, that a detailed analysis of the kinds of books found, the number bought each year, and the number and kind read by each member of the family would be a better criterion, though it would be more difficult to secure such facts. On the other hand, the increased patronage of public libraries, characteristic of some cities, may alter conditions somewhat.

SPECIFIC CONCLUSIONS

1. There are a number of minor points which may be made the basis for specific conclusions. The correlation between the schooling of the father and that of the mother is one of these. This fact, which seems to indicate that men and women of approximately the same educational level tend to intermarry more often than mere chance or even propinquity would suggest, might be called "educational selection." This is a very important point when it is considered that it results in the concentrated transmission from one generation to the next of certain social characteristics which vary with the types of homes represented. It means that there is a continuity, and perhaps at times an intensification through generations, of the tastes, prejudices, traditions, ideals, and standards which make up the social life of a home. Family traditions and ideals are thus continuous although the different members of a home come and go; the individuals separate and form new homes, but these are much like the old home in social characteristics, and especially in educational and cultural standards.

2. The relationship which holds true between the schooling of parents and the schooling of their children who are no longer in school is paralleled by a similar relationship for those children who are yet in school. Retardation was most frequent among those children who came from poorly educated parents. This implies that retardation is due to causes outside the school similar to those which were responsible for elimination, and over which the school has little or no control. Hence it is possible that retardation is only indirectly responsible for elimination.

3. Truancy on the part of children is correlated, as a rule, with ignorance on the part of parents. In those cases where truancy occurred in the better homes, it was not followed by early elimination. This emphasizes the importance of the rigid enforcement of compulsory attendance laws. The people who most frequently violate them are usually those who have had a limited education or none at all and hence cannot appreciate its values. Their children must be protected from this parental ignorance, and the cumulative growth of a tradition of schooling must thus be insured.

4. The conclusion that size of family alone seems to have no marked effect on the education of the children may be due to the fact that these homes (the homes studied in Part IV) are nearly all far above the poverty line. The addition of one or two children would probably not affect the standard of living much, although most of the families are small and such an addition would make a relatively great difference in each one's proportion of the home's resources. Another possible explanation is that this factor is counterbalanced by the operation of compulsory attendance laws which force the children of poorly educated parents—most of the large families were found in such homes—to go to school much longer than their parents did.

5. The table giving the relationship between size of family and education of the parents reveals the fact that the population of Urbana is not quantitatively reproducing itself.[1] Those parents who have attended only the elementary school have families which are barely large enough, on the average, to maintain the population. The better-educated families have only half enough children to do so. As a whole the population is slightly declining in numbers, except as it is increased through immigration. Further, it is being reproduced largely from the lower levels. As each level tends to reproduce its own kind socially, these facts have sociological importance. They indicate a condition which would be especially disconcerting if low social position were entirely due to inferior heredity and if there were no people of superior native ability in the untrained masses. Fortunately, there seems to be much ability in the masses which needs merely the opportunity to be trained to enable

[1] It has been shown by investigation that, in any community, all families which have children must average four each to maintain an undiminished population. In Urbana the average family contains 3.62 children; see W. E. Kellicott, *The Social Direction of Human Evolution* (New York: D. Appleton & Co., 1913), p. 114.

its possessors to take the place of our present leaders.[1] This is happening, for the masses are being elevated educationally, as is shown by the fact that children in general receive more education than their parents. This condition is especially true of the poorly educated, for with them compulsory education brings this about in a marked way. It is conceivable, however, that, as centuries elapse, this constant reproduction of society from the bottom will result in a greater tendency to mediocrity in general. If society's best are continually selected by conditions which do not allow them to reproduce their share of offspring, a time may come when the best will have nearly all disappeared. This condition is to be found in some of the backward towns of New England where emigration has removed the best and left the dregs. Spain gave her best to the New World for centuries and her present inferior position is often said to be the result of this. Such a degeneration will not necessarily result in a cessation of progress by society in general, but it will result in lessening the proportion of those of superior talent. Even if exceptional ability is the result of a happy combination of parental characteristics which may occur among the masses, the low birth-rate among the well-to-do results in a distinct loss through the gradual lapse of the family traditions, ideals, and standards.

6. The education of fathers and mothers is closely correlated with the number of books in the home. In other words, the size of the home library is a measure of the dynamic effect of education. It is probable that the same relationships can be detected in the number and kind of magazines taken, the number and character of plays and entertainments attended, and other intellectual or social avocations, diversions, and recreations.

[1] It must be remembered that the facts which support this conclusion have reference merely to the amount of schooling which children receive. They can be applied to other points only in so far as the situations are analogous. The following quotation from the writings of one of the most prominent sociological writers of recent years bears upon this point: "The proposition that the lower classes of society are the intellectual equals of the upper classes will probably shock most minds. . . . . Yet I do not hesitate to maintain and defend it as an abstract proposition. But, of course, we must understand what is meant by intellectual equality. I have taken pains to show that the difference in the intelligence of the two classes is immense. What I insist upon is that this difference in intelligence is not due to any difference in intellect. It is due entirely to difference in mental equipment."—Lester F. Ward, *Applied Sociology* (Boston: Ginn & Co., 1906) p. 91.

INFERENCES AND SUGGESTIONS

There are many points which were suggested by the data and by general impressions which were of such a nature that they could not be readily reduced to statistical facts. Others can be inferred from the study, although the figures do not prove them conclusively. A few of these inferences and suggestions follow:

1. One point which is suggested by the close correlation between the education of parents and home conditions, but which does not lend itself to statistical demonstration, is that the amount of education of the parents is the most important and persistent factor influencing the schooling of the children. Within certain limits it determines the occupation of the family breadwinner and restricts the earning power in any particular occupation. In a broad way, it forecasts the reading tastes of the parents, though the number of books in a home may be dependent more upon ability to buy than upon ability to enjoy.

2. Closely related to the preceding point is a more subtle and intangible outcome which may be called appreciation of the values of an education. This term describes the attitude of mind in which a person decides whether further schooling is worth the cost of obtaining it—cost being considered to mean the postponement of the satisfaction of social and other wants as well as economic loss. This appreciation of values serves as an impelling guide to both children and parents. For the child the values must be rather immediate to induce him to stay in school, while parents, with a longer life behind them, can appreciate remoter advantages. With the better-educated parents their own experiences with an education make them see that it was worth while to undergo the restraints and discomforts necessary to secure it because it made much pleasure possible. But the mere factor of custom or tradition is probably stronger than this reasoned conclusion.

It is probable that children frequently do not appreciate the values of an education, but their parents do. The children then attend school because of parental pressure. This was clearly illustrated by some of the truancy cases.[1] On the other hand, the child may think an education is worth while even though his parents do not, but this does not seem to be usual. In this case he may continue his education even in the face of discouragements. When both parents and child do not appreciate

[1] The three boys who played truant but came from the better homes were all in school or college when the data were gathered.

the values of an education, school attendance will probably be continued only so long as society's appreciation, as expressed in compulsory attendance laws, is operative. Similarly, neighborhood and community appreciation of the values of school attendance may coerce the family and shorten or lengthen the schooling of children. This is especially true when this appreciation reaches the stage where it becomes the "fashion" to do a thing.

These "values" may be purely economic. Education may stand for nothing more than increased earning power. It is probable that children who have given little thought to the future are less influenced by a possible economic advantage than are their parents. A dollar looks powerful to the child who never has had the privilege of spending any, and the allurements of the poorly paid "blind-alley" job are strong. Often the child does not realize that his future earning power would be greatly increased by a few more years in school. Parents themselves do not always realize it. Further, there are individual cases where more than a limited amount of schooling is almost a waste of time because of the lack of ability of those receiving it. Since the average parent reasons from the exception more often than from the rule, these exceptions stand out and have resulted in the popular notion, prevalent on certain social levels, that it does not "pay" to go to school. The better-educated parents are more likely to see the economic value of a good education and to compel the child to attend school.

In other cases attendance at school is favored because of the social prestige which is often the lot of those who attend high school and college. This "value" is probably more often the guiding motive with girls than with boys. It is especially in evidence in the choice of certain girls' schools by parents. This is a remoter end which probably influences the parents more than the children. A similar factor is at work with the children where the school life, especially in the high school, is connected with so many social pleasures—parties, athletic contests, clubs, and fraternities—so that as a result it is far more enjoyable than the life outside the school. This "value" is immediate and influences the children more than it influences the parents.

Another "value" is the purely intellectual pleasure which some pupils derive from their school work, the satisfaction of the "thirst for knowledge." There is no doubt that this is a very strong motive with certain pupils natively endowed with minds well fitted for intellectual work.

These various "values," economic, social, and intellectual, are not independent in their operation. They are nearly always combined, though one may predominate with one individual and a different one with another. They are, however, largely beyond the control of the public school as it has been operated in the past, and will probably remain so in the future. When values are not recognized by the children, their schooling will stop unless pressure from others—parents, friends, or community—prevents.

The foregoing discussion may be summarized by saying that parents seldom feel the need, and frequently do not recognize the advantage, of much more schooling than they themselves received. When the children have reached a realm of knowledge of which the parents are ignorant, they (the parents) often remark in substance: "Johnny has a better education than we ever received. We have made a good living. He ought to be able to do the same. Let him go to work now." This is especially true of homes where the parents have had little schooling and where "a good living" means little more than the bare necessities of life. This attitude is frequent where the parents are poor and can be assisted somewhat if the children contribute a few dollars to the family income.

3. Growing out of this appreciation of values when handed down through several generations is what may be called a *family tradition of schooling*. Appreciation reaches a stage where it is no longer rational but is a "prejudice." In such a home a child is almost as certain to attend school, if he keeps his health, as day is certain to follow night. The tradition often centers around some particular school or even a particular curriculum. Every child must follow the same path. Older brothers and sisters help the movement along and send the younger ones. On the other hand, it is probable that there are families in which the opposite is true. To them education is the mark of a despised upper class and they and theirs will have none of it.[1]

4. The fact that the economic station of a home is somewhat closely correlated with the schooling of the children might lead one to think that

[1] The tradition of schooling may be cumulative in its effect. The children of one generation may be kept in school by compulsory attendance legislation. When they rear families, however, they may desire their children to have a better education than they themselves received. This will lead to a gradual cumulative increase of family traditions of schooling. Compulsory attendance laws have been adequately enforced for such a brief period of time in most communities that we must wait for the growth of the next generation before accurate information can be obtained on this point.

low economic status was primarily responsible for much early elimination. The close interrelations of the various factors, as well as other data presented, show that this is probably not true. Indirectly, however, it is probable that lack of economic resources plays an important rôle, especially in bringing about elimination from the high school, where social stratification begins to manifest itself. A sensitive adolescent, from a home which could not furnish him with a clean linen collar every day, the newest cut in coat and trousers, and other marks of a well-to-do class, might prefer to leave school and go to work, in spite of all the wishes of his parents to the contrary, rather than face the jibes and slights of his schoolmates. Similarly, in poor homes, if the child is large enough to earn a little money, this is sufficient reason for him to leave school and contribute to the family income, although it might not be a great hardship for the parents to keep him in school a year or two longer. The fact that the girls averaged a year more schooling than the boys may be a reflection of the low earning power of an adolescent girl, which is much less than that of an adolescent boy.

5. Beginning with Ayres'[1] influential study of retardation and elimination there has been a disposition on the part of investigators to place the blame for the failure and elimination of pupils upon the organization and administration of the school, and especially upon the school program of studies. Such references can be found in a number of the important surveys.[2] It has become the fashion to ascribe the failure of the school

[1] Leonard P. Ayres, *Laggards in Our Schools* (published by the Russell Sage Foundation, New York, 1909). Dr. Ayres says: "Our courses of study as at present constituted are fitted not to the slow or to the average child but to the unusually bright one."

[2] Leonard P. Ayres, *A Survey of the Public Schools of Springfield, Illinois* (published by the Russell Sage Foundation, New York City, 1914). While discussing the "significance of progress records" the report says (p. 55): "Quite unconsciously the schools of this city, like those of many other cities, have developed a course of study, a system of examinations and promotions, and methods of teaching—in short an entire school system—better fitted for the needs and requirements of the girls than for those of the boys. Those conditions can be remedied and their alteration is one of the most important tasks which confronts the schools."

In the *Report of the Survey of the Public School System of School District No. 1, Multnomah County, Oregon, City of Portland, 1913,* in the section devoted to "needed reorganizations," Superintendent J. H. Francis says (p. 192): "The marked school death-rate in the seventh and eighth grades, to which Portland forms no exception (see Fig. 8, p. 150), can be accounted for by subject-matter in the course of study, methods of presentation, and general school conditions not congenial to early adolescence."

to these agencies. But in Urbana retardation and elimination were closely correlated with home conditions, factors over which the school has almost no control. How then can the public school be entirely to blame? Many of these children are social and industrial "misfits" as well as "misfits" in the public school. Some of them, undoubtedly, are mentally subnormal. These require individual or special treatment and profit little, as far as society is concerned, from their training. Many "misfits" are handicapped by home environments, will always be retarded, and will furnish the most of those eliminated early in the competition of life. Though the public school may be responsible for a few of these "misfits," many of them are due to social and other conditions outside of it. Unless the activities of the public school can be so extended as to control and direct the home and neighborhood life—something entirely beyond its proper sphere—slow progress and early elimination on the part of some are to be expected.

6. Because of the social factors involved, the differences between cities with respect to retardation and elimination may not be a measure of the relative efficiency of their school systems at all, but may be merely an indication of corresponding differences in the composition of the population of these cities.[1] A better measure of school and system efficiency might be furnished by the comparative improvement which has been made during a definite period. But such a comparison would have to include any changes in social conditions which may have taken place during that time.

7. For similar reasons curriculum changes, such as the "six-six plan" and the introduction of vocational work, cannot be expected to be unfailing panaceas for retardation and elimination.[2] Vocational work, appealing strongly, as it probably will, to the economic motives of parents and children, may lessen these evils somewhat, but it has its

[1] This point was made by E. L. Thorndike in his study, "The Elimination of Pupils from School" (Department of the Interior; Bureau of Education, *Bulletin No. 4*, 1907). Thorndike says (pp. 14–15): "In the opinion of the author, however, the character of the cities' population is more important than the character of their educational administrations as a cause of the variability of elimination."

[2] This point has been recognized by some of those who have investigated the problems of vocational education. Thus David S. Hill says: "We cannot find in industrial training a panacea for all of our social evils." (*Facts about the Public Schools of New Orleans in Relation to Vocation*, published by the Commission Council, New Orleans, June, 1914.)

limitations. The kinds of skills which can be imparted through the vocational work of any school or the schools of any one city are necessarily limited. Schools must confine their attention to the most general types of vocational training,[1] and many of these demand a preparation in the educational fundamentals as a foundation. Retardation and elimination frequently manifest themselves before these fundamentals are attained. Hence vocational education is greatly restricted in its possible sphere. The only way to insure the more adequate training of these children is to keep them in school longer through compulsory legislation. It may be expedient to offer vocational training to some of them, but vocational training should not be introduced into the public schools with the expectation that it will "interest" all such children and thus keep them all in school longer. Social forces doom it to failure if it is introduced with such an expectation.

8. The yearly influx of vast numbers of illiterate immigrants from southeastern Europe and western Asia is a phenomenon which may well be viewed with apprehension when considered in the light of the facts presented in this study. If these people were otherwise similar to the earlier immigrants in their social behavior, the absence of a tradition of schooling would be a serious thing. The probability of imparting such a prejudice to them under the conditions among which they live and work in this country is rather remote. From this standpoint a literacy test in our immigration laws might be of untold value. Studies of various foreign-born communities in the United States, conducted as this study has been, might furnish us with some very important facts which would aid in understanding the problems of assimilation.

9. All the arguments and facts thus far advanced which suggest that retardation and elimination are largely due to forces outside the public school do not justify teachers and school officials in neglecting any steps which will lessen retardation and elimination. These people should work just as faithfully as ever to adjust the schools to the needs of the state and of the local community. They have done much in the past

[1] The impossibility of providing vocational training where specific skills must be taught is obvious when it is recalled that 40 of the 98 parental occupations represented in this study might be classed as professions and skilled or semiskilled trades. None of the 40 is followed by as many as 7 per cent of the fathers, and most of the occupations have only one or two representatives. Only those skills which are common to a number of occupations can be taught, such as, perhaps, mechanical drawing and the reading of blueprints or commercial work.

and are wide awake to possibilities. These arguments and facts, however, may be a comfort to schoolmen who have been severely criticized by investigators because of the amount of retardation and elimination present in their communities after they have done their best to remedy defects.

10. Another point worthy of mention is the possible effect of the blind action of social pressure which keeps children in school who are so poorly endowed with native ability as to be unable to profit from the instruction. This has happened in the past and is still happening in many cases with the feeble-minded. They were given the same work as other children though unable to profit by it. In a similar way children probably are forced to attend the high school and even the college when not at all fitted for the work. They leave school unable to apply the education that they have had. Their failures furnish the stock arguments of the man in the street with respect to the uselessness of an education. However, no one has clearly demonstrated the existence of any considerable number of these failures. Although they make comparatively little use of the education they have received, they may be much better off with it than without it.

11. This study is, in all probability, qualitatively representative of conditions in the small cities and towns of Illinois and perhaps throughout the Middle West. It is probable that the problem may be complicated by other factors when the foreign-born part of the population of large cities is considered. In rural districts opportunity may play a much more significant rôle than in the cities studied. But it is probable that the better-educated and well-to-do classes will strive to educate their children although they may not always use the public school to attain their ends. Quantitatively, conditions are likely to vary from place to place and the quantitative facts given here must be restricted, when quoted, to the places from which they were secured.

FINAL SUMMARY

The results of the entire study may be summed up in the following points:

GENERAL CONCLUSIONS

1. There is a high correlation between the economic, educational, and social advantages of a home and the number of years of schooling which its children receive.

2. Environmental influences more often cause a child to stop attending school than lack of ability to do the work.

3. Early elimination is correlated with, and largely due to, social and hereditary factors outside the school over which the school has little or no control.

4. High schools are largely attended by the children from homes of culture and wealth, representatives of the "better class."

5. The number of books in a home is the best single objective index of the educational advantages open to the children.

SPECIFIC CONCLUSIONS

1. Men and women marry those who are of approximately the same educational level as themselves—"educational selection."

2. Retardation is greatest, as a rule, among the children of those parents who are most poorly educated.

3. Truancy is found most frequently among the children of poor and uneducated parents.

4. Size of family has no appreciable effect on persistence in school.

5. The population of Urbana, as far as birth-rate is concerned, is slightly declining in numbers, and most of the renewal comes from the less-educated half.

6. The number of books in a home is closely correlated with the schooling of the parents.

INFERENCES AND SUGGESTIONS

1. The education of the parents, as a rule, ultimately determines the educational advantages opened to the children.

2. Appreciation of the values of an education is probably lacking in the homes where the children are eliminated early from school.

3. A family tradition of schooling is probably very effective in inducing unusual persistence in school in some cases.

4. Low economic status is probably an important indirect factor in early elimination.

5. The popular notion, which places the responsibility upon the public school for the marked elimination which is commonly found, does not allow for the operation of powerful social factors outside the school, in comparison with which the influence of the public school is almost insignificant.

6. The amounts of retardation and elimination present in a school system are not necessarily measures of the efficiency of that system, for these phenomena may be due to the operation of factors outside the public school.

7. Curriculum changes cannot be expected to counteract some of the social forces which produce elimination.

8. The influx of large numbers of immigrants who have no family traditions of schooling is a phenomenon which may presage undesirable consequences.

9. Educators who have been blamed for inefficiency because of the retardation and elimination found in their schools can find facts presented here which show that investigators of school conditions have sometimes overlooked important social factors.

10. Social pressure sometimes keeps children in school who cannot profit by the work given.

BIBLIOGRAPHY[1]

RETARDATION AND ELIMINATION

AYRES, LEONARD P. *A Survey of the Public Schools of Springfield, Illinois.* New York: Russell Sage Foundation, 1914.

———. "A Simple System for Discovering Some Factors Influencing Non-Promotion," *Psychological Clinic*, IV (1910–11), 189–92.

Gives a few data on home conditions correlated with non-promotion.

———. *Laggards in Our Schools, A Study of Retardation and Elimination in City Systems.* New York: Russell Sage Foundation, 1909.

———. "Some Factors Affecting Grade Distribution," *Psychological Clinic*, II (1908–9), 121–33.

Ayres discusses the factors of death, increase of population, retardation, and elimination as they affect the enrolment of the higher grades. The following significant quotation is found in this article: "Dr. Thorndike reaches the conclusion that the amount of elimination is comparatively unrelated to the efficiency of the school system and deprecates any inferences as to the latter from the rate of elimination which results from his studies. Our studies have led us to similar results in comparing the grade inequalities of different cities."

———. "The Effect of Physical Defects on School Progress," *Psychological Clinic*, III (May 15, 1909), 71–77.

"In general, children suffering from physical defects are found to make 8.8 per cent less progress than do children having no physical defects."

———. "Irregular Attendance—A Cause of Retardation," *Psychological Clinic*, III (March 15, 1909), 1–8.

"Such figures as are available indicate that in our cities less than three-fourths of the children continue in attendance as much as three-fourths of the year. Retardation results in elimination."

———. "The Relation between Physical Defects and School Progress," *American Physical Education Review*, XV (June, 1910), 289–95.

[1] This bibliography attempts to give a complete list of the better-known literature which deals with the qualitative side of retardation and elimination. References which are confined to the quantitative side of the subject alone are not included. Much excellent material can be found in city-school or board of education reports, but these reports have only a limited circulation. Hence they are not included. All articles or books that have been referred to in the study are included. The author hopes to prepare a comprehensive review of this literature for publication in some educational journal in the near future.

BACHE, JOSEPH A. "Delinquency and the Responsibility of the School toward It," *N.E.A. Proceedings*, 1909, pp. 1001–5.

A theoretical discussion; gives the three primary causes of delinquency as heredity, environment, and association.

BALLIET, THOMAS M. Discussion, *N.E.A. Proceedings*, 1903, pp. 800–801.

BEVARD, KATHERINE H. "Progress of the Repeaters of the Class of 1912 of the Public Schools of Washington, D.C.," *Psychological Clinic*, VII (1913–14), 68–83.

This study gives some of the reputed causes of repeating, but does not tell how the data were secured. Hence it is obscure.

BLISS, D. C. "Retardation," *Journal of Education*, LXXV (Boston, 1912), 556.

Says "one of the best indices of the degree of efficiency attained is the percentage of retardation, or the percentage of over-age children."

BOOK, W. F. "Why Pupils Drop Out of the High School," *Pedagogical Seminary*, XI (1904), 204–32.

A careful and extensive study of motives for leaving school.

BROOKS, STRATTON D. "Causes of Withdrawal from School," *Educational Review*, XXVI (1903), 362–93.

A study of 1,200 boys and girls who left school. The causes were roughly divided into twelve classes. Most of them were social. Poverty was found to be but a slight factor.

———. "Relation of Temperament to Withdrawal from School," *School Review*, X (1902), 446–55.

This article gives a number of non-curriculum causes of withdrawal from school.

BRYAN, JAMES E. "A Method of Determining the Extent and Causes of Retardation in a School System," *Psychological Clinic*, I (April 15, 1907), 42–52.

BURK, CAROLINE F. "Promotion of Bright and Slow Children," *Educational Review*, XIX (1900), 296–302.

This article reports data which show that health has little bearing on retardation; irregular attendance and low mentality much.

CAMERON, NORMAN C. "Relation of Retardation to Attendance," *Pennsylvania School Journal*, LIX (September, 1910), 127–31.

———. "A New Method for Determining Rate of Progress in a Small School System," *Psychological Clinic*, V (1911–12), 251–64.

This is a study of school histories and presents a very comprehensive view of retardation and elimination. Mr. Cameron says in his conclusion: "An accumulation of gathering forces, as the pupil wends his way along the school course, is the real cause of leaving. The home and school and society in general are all more or less responsible for the final outcome, leaving school."

CAMPBELL, EVERETT EVELETH. "A Study of Retardation and Class Standing on the Basis of Home Language Used by Pupils," *Elementary School Teacher*, XIV (1913–14), 262–82, 331–47.

This study shows that the use of a foreign language is not of sufficient importance to be considered as one of the causes of retardation.

CARR, J. W. Discussion, *N.E.A. Proceedings*, 1903, pp. 798–800.

CORNMAN, OLIVER P. "The Retardation of the Pupils of Five City School Systems," *Psychological Clinic*, I (1907–8), 245–57.

This is a comparative study of five eastern cities which gives a number of the causes of retardation. The data do not warrant all of the conclusions, however.

DEARBORN, W. F. "Qualitative Elimination from School," *Elementary School Teacher*, X (September, 1910), 1–13.

"If this is so, we may be justified in concluding that, with the exception of the elimination of the first few years of school, the pupils who drop out are as a group very nearly as well qualified for further study as those who remain throughout the course of study in the high school and university."

ELLIS, A. CASWELL. "The Percentage of Boys Who Leave the High School and the Reasons Therefor," *N.E.A. Proceedings*, 1903, pp. 793–98.

ELWOOD, DEWITT, TAYLOR, E.H., AND WILEY, J. F. "A Study of Retardation and Elimination in Certain Schools of Eastern Illinois, with a Consideration of the Causes," *School and Home Education*, XXXII (1912–13), 147–53.

The main causes for retardation given were late entrance, irregular attendance, lack of ability, poor physical conditions, and indifference. These include about 85 per cent of the causes of retardation. The main causes of elimination were to go to work, ill health, removal, failure in studies, and indifference.

EWING, E. F. "Retardation and Elimination in the Public Schools," *Educational Review*, XLVI (1913), 252–72.

This study suggests that differences between the two cities studied may be due to differences in composition of population. Social causes, such as negligent parents and moving, are given as responsible for much retardation and elimination.

FALKNER, ROLAND P. "Retardation: Its Significance and Its Measurement," *Educational Review* XXXVIII (1909), 122–31.

The writer states that the causes of retardation were then unknown.

———. "Some Further Considerations upon the Retardation of the Pupils of Five City School Systems," *Psychological Clinic*, II (1908–9), 57–74.

This article criticizes Cornman's paper, which was presented in the first volume of the *Psychological Clinic*.

———. "Elimination of Pupils from School: A Review of Recent Investigations," *Psychological Clinic*, II (1908–9), 255–75.

This article is devoted mainly to Thorndike's elimination study.

GAY, GEORGE E. "Why Pupils Leave the High School without Graduating," *Education*, XXII (1901–2), 300–307.

GAYLOR, G. W. "A Further Study of Retardation," *School and Home Education*, XXIX (1909–10), 310–13.

"The majority of the retarded are average pupils without physical defects and of ordinary intelligence."

———. "Elimination and Vocational Training," *Psychological Clinic*, VI (1912–13), 69–73.

A theoretical discussion of the question of elimination.

———. "Elimination from a Different Angle," *Psychological Clinic*, VII (1913–14), 11–16.

This article shows how a change in the spirit of a school made for much greater persistence in school. A careful consideration of failures led to a decreased elimination.

GOSSETT, J. O. "Retardation in the Schools of Stockton, California," *Psychological Clinic*, V (1911–12), 149–57.

Illiterate parents furnished more than their share of the children found in the first three grades. Those wards of the city which had a low social level produced an abnormal amount of retardation. The children of very rich and very poor were more often retarded than were those from homes of average wealth.

GREENWOOD, JAMES M. "Report on High-School Statistics," *N.E.A. Proceedings*, 1900, pp. 340–51.

Gives specific reasons which pupils gave for leaving school.

———. "Retardation of Pupils in Their Studies and How to Minimize It," *N.E.A. Proceedings*, 1909, pp. 182–86.

In addition to a theoretical discussion there is the report of the investigation of the progress of 1,957 pupils through school. Out of a total of 716 pupils who took more than the scheduled time to complete the work, at least 518 were retarded on account of conditions for which the school was not responsible. Sickness was the most potent retardation factor.

———. "Some Thoughts on the Retardation of Pupils in Their Studies and How to Minimize It," *School and Home Education*, XXVIII (1908–9), 247–51.

———. "Retardation of Pupils in Their Studies and How to Minimize It," *Journal of Education*, LXIX (Boston, 1909), 260–62.

———. "Retardation of Pupils in Their Studies and How to Minimize It," *Educational Review*, XXXVII (April, 1909), 342–48.

GULICK, L. H. "Why 250,000 Children Quit School," *World's Work*, XX (August, 1910), 13,385–13,289.

Places the blame on the public school.

GULICK, L. H., AND AYRES, L. P. *Medical Inspection of Schools*. New York: Russell Sage Foundation, 1908.

HENMON, V. A. C. "Retardation, Acceleration, and Class Standing," *Elementary School Teacher*, XIV (1913–14), 283–94.

This is a study of 2,023 pupils. It shows but little relation between progress in school and class standing.

HILL, DAVID S. *Facts about the Public School of New Orleans in Relation to Vocation.* New Orleans: Published by Commission Council, June, 1914.

HINES, L. N. "A Study in Retardation," *Journal of Education*, LXXV (Boston, 1912), 400–401.

Gives a detailed discussion of the causes of retardation.

HOLLEY, C. E. "The Influence of Family Income and Other Factors on High School Attendance," *School and Home Education*, XXXIII (February, 1914), 222–24.

JOHNSON, GEORGE R. "Qualitative Elimination from High Schools," *School Review*, XVIII (1910), 680–94.

Those who were eliminated did poorer work, on the average, than those who remained in school. Many "bright" pupils were eliminated, however.

JOHNSON, RALPH L. "Irregular Attendance in the Primary Grades," *Psychological Clinic*, III (July 15, 1909), 89–95.

"A very important cause for retardation in the primary grades is inadequate and irregular attendance."

JOHNSTON, T. EDWARD. "Elimination in the High School," *American Schoolmaster*, VIII (March, 1915), 121–26.

The causes of the elimination of 200 high-school pupils are given. As classified, more than two-thirds are factors outside the school.

KEYES, CHARLES HENRY. *Progress through the Grades of City Schools.* New York: Teachers College, 1911.

LAW, FREDERICK H. "The Age at Which Children Leave School," *Educational Review*, XV (1898), 40–49.

A discussion of the extent and causes of withdrawals from some of the New York City schools.

LUCKEY, G. W. A. "Can We Eliminate the School Laggard?" *N.E.A. Proceedings*, 1911, pp. 1046–51.

This writer suggests a list of causes which make it very hard to control the situation.

MILLER, CHARLES A. A. J. "Progress and Retardation of a Baltimore Class," *Psychological Clinic*, XXXI (October 15, 1909), 136–40.

Dr. Miller protests against "the comparative statistics of retardation, which do not take into consideration the character of the population, the attitude of the people toward the public schools, and the enforcement of compulsory attendance laws."

MILLER, W. S. Mr. Miller's comparative statistics on high-school enrolment in Illinois are given in an editorial in *School and Home Education*, XXXIV (April, 1915), 382.

MISSIMER, H. G. "Are the Schools Responsible for Retardation?" *Psychological Clinic*, IV (1910), 28–32.

This article gives a number of social and economic causes of retardation.

MORTON, W. H. S. "Retardation in Nebraska," *Psychological Clinic*, VI (1912–13), 181–97, 222–28.

This study reports the replies of 107 school superintendents, answers to questions on the causes of elimination from the elementary school. A long list of causes is given.

NEIGHBOURS, OWEN J. "Retardation in the Schools and Some of the Causes," *Elementary School Teacher*, XI (1910–11), 119–35.

Shows that homes which have the advantage of superior financial, educational, and moral conditions furnish the fewest retarded children.

PAYNE, I. D. "Retardation in the Schools of Palo Alto," *Psychological Clinic*, V (1911–12), 139–48.

This study gives a few data on the home conditions of the retarded. A large percentage of the retarded have abnormal homes.

PHILLIPS, BYRON A. "Retardation in the Elementary Schools of Philadelphia," *Psychological Clinic*, VI (1912–13), 79–90.

This study considered the city by wards and related the conditions in the the school to the social conditions outside of it. The conclusions place considerable stress upon the influence of home conditions.

Report of Board of Public Schools, St. Louis. 1894–95, 1895–96, 1911.

Report of the Commissioner of Education, "Retardation and Acceleration in City Schools," II (1909), 1343.

This article suggests that population differences may be partly responsible for differences in these phenomena.

Report of the Survey of the Public School System of School District No. 1, Multnomah Co., Oregon, City of Portland, 1913.

SCHMIDT, CLARA. "Retardation Statistics of Three Chicago Schools," *Elementary School Teacher*, X (1909–10), 478–92.

This writer blames the course of study for the retardation, though there are no facts which support the conclusion.

SHELDON, WINTHROP DUDLEY. "A Neglected Cause of Retardation," *Educational Review*, XL (1910), 121–31.

A theoretical discussion of the importance of large primary classes in causing retardation.

SOLDAN, F. LOUIS. "Age of Withdrawal from School," Annual Report of Superintendent of Public Schools, *Forty-first Annual Report of St. Louis Public Schools*, 1895, pp. 37–49.

This study compares elimination in St. Louis, Chicago, and Boston and attempts to give some of the causes.

SQUIRE, CARRIE A. "Our Responsibility for Retardation," *Psychological Clinic*, IV (April 15, 1910), 46–53.

"Late entrance seems to be the largest factor in causing retardation among our pupils."

STRAYER, GEORGE D. "Age and Grade Census of Schools and Colleges," Department of the Interior, Bureau of Education, 1911, *Bulletin No. 5*.

Synopsis of the Finding of the Vocational Education Survey of the City of Richmond by the General Survey Committee. New York: Published by the National Society for the Promotion of Industrial Education, 1914.

THORNDIKE, E. L. "The Elimination of Pupils from School," Department of the Interior, Bureau of Education, 1907, *Bulletin No. 4*.

———. "Repeaters in the Upper Grammar Grades," *Elementary School Teacher*, X (1909–10), 409–14.

Shows that poor scholarship does not necessarily result in elimination.

TWITMYER, G. W. "Clinical Studies of Retarded Children," *Psychological Clinic*, I (1907–8), 97–103.

Studying 1,487 retarded children, Twitmyer found that 83 per cent showed physical or mental defects. Many were improved by operations for physical defects.

VAN DENBURG, J. K. *Causes of the Elimination of Pupils in Public Secondary Schools.* New York: Published by Teachers College, 1912.

WAGNER, ALVIN E. "Retardation and Elimination in the Schools of Mauch Chunk Township," *Psychological Clinic*, III (1909), 164–73.

WITMER, LIGHTNER, "Retardation through Neglect in Children of the Rich," *Psychological Clinic*, I (1907), 157–74.

An interesting case laid to lack of proper early training.

WOODWARD, CALVIN M. "When and Why Pupils Leave School," United States Bureau of Education, *Report of the Commissioner of Education for the Year 1899–1900*, II, 1364–74.

This writer gives poverty as one of the main causes of elimination. He rejects the explanation which puts the major responsibility on the teaching corps.

———. "At What Age Do Pupils Withdraw from the Public Schools?" *Report of Commissioner of Education, 1894–95*, II, 1161–70.

TRUANCY AND DELINQUENCY[1]

HALL, BERT. "Truancy: A Few Causes and a Few Cures," *N.E.A. Proceedings*, 1909, pp. 217–22.

This study emphasizes the importance of home and community environment as causes of truancy. "More than 80 per cent of truancy is the result of indifferent or negligent parents."

HOBBS, W. W., PARSONS, E. DUDLEY, HOLBROOK, D. H., SHEPHERD, W. H. "Report of the Survey Committee of the Schoolmasters' Club of Minneapolis. An Inquiry into the Causes of Student Delinquency," *School Review*, XX (1912), 593–612.

The committee found a variety of bad home and community conditions prevalent. The children who were delinquent were away from home much of the time and frequently attended questionable amusements.

HUNTINGTON, EDWARD A. "A Juvenile Delinquent," *Psychological Clinic*, I (1907), 21–24.

A case of delinquency plainly due to bad home environment.

RICHMAN, JULIA. "What Share of the Blame for the Increase in the Numbers of Truants and Incorrigibles Belongs to the School?" *N.E.A. Proceedings*, 1909, pp. 222–32.

The writer says: "Most investigators and educators lay the heaviest share of the blame to unfavorable home conditions." She shows how the school may help in some cases by looking after the neglected sides of the child's life.

Report of Board of Education, city of Chicago, 1909.

OTHER REFERENCES

KELLICOTT, WILLIAM E. *The Social Direction of Human Evolution* (New York: D. Appleton & Co.), p. 115, Table II, "Fertility in Pathological and Normal Stocks."

PEARSON, KARL. *The Groundwork of Eugenics*. University of London: Galton Laboratory for National Eugenics, 1909.

"Fifty per cent of population produce 75 per cent of offspring. Twenty-five per cent of population produce 50 per cent of offspring."

THORNDIKE, E. L. *Mental and Social Measurements*. New York: Published by Teachers College, 1913.

WARD, LESTER F. *Applied Sociology*. Boston: Ginn & Co., 1906.

WHIPPLE, G. M. *Manual of Mental and Physical Tests*. 2d Ed., Part I, "Simpler Processes." Baltimore: Warwick & York, 1914.

[1] A few pertinent references only are given.

VITA

The writer was born at Malden, Illinois, June 4, 1887. His public-school education was obtained in the Graham School of Chicago, Illinois, and in the Franklin Grove (Illinois) public school, he having graduated from the high school of the latter place in 1904. His college and graduate work have been completed at the Northern Illinois State Normal School, DeKalb (a graduate of the class of 1908), and at the University of Illinois (A.B. 1912; A.M. 1913).

The writer was a Scholar in Education at the University of Illinois during 1912–13 and a Fellow in Education during 1913–14 and 1914–15. He is a member of Kappa Delta Pi, Phi Delta Kappa, and Sigma Xi.

The teaching experience of the writer consists of one year as a rural teacher, one term as a sixth-grade teacher in the Normal Training School at DeKalb, one term as assistant critic in the same school; two years as superintendent and principal of the Newark (Illinois) public school, and eight weeks as Assistant in Education, summer session, University of Illinois, 1914.

The following articles have been published by the writer: "The Influence of Family Incomes and Other Factors on High School Attendance," *School and Home Education*, February, 1914; "Parental Opinions as the Basis for Vocational Readjustment," *Illinois Teacher*, February, 1915; and "Curriculum Differentiation and Administration in Typical High Schools," *Journal of Educational Administration and Supervision*, May, 1915.