

THE RELATION BETWEEN SPEECH DEFECTS IN
CHILDREN AND THE KNOWLEDGE,
ATTITUDES, AND SOCIO-ECONOMIC
STATUS OF PARENTS

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the Faculty of the School of Education
Indiana State Teachers College

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In Partial Fulfillment
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Master of Arts in Education

by

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CHAPTER I

INTRODUCTION

The classroom teacher, the educator in general, and the speech correctionist in particular are aware of conditions and factors external to school environment which may or may not be conducive to the acquisition of speech. They recognize the home as a source of many educational practices and concepts with the cooperation of which or against the influence of which they must stimulate the development of adequate speech. The exact nature of the home environment--the attitude of the parents toward the children, the amount of educational knowledge possessed by the parents, the relationships existing between the children and other persons in the home, the preferred practices of the parents, and the socio-economic status of the home--may be reflected in the conduct and performance of children at school; but an accurate description of these variants remains a field for investigation.

Since this problem is attacked from the viewpoint of the speech correctionist, the home of the speech-defective child is the basis of investigation. In this study an attempt is made to evaluate the educational knowledge of the parents, to estimate their mental capacity, and to characterize the socio-economic background of the family.

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The object of the study is to attempt to show the relation between speech defects in children and the attitudes, socio-economic status, and educational knowledge and practices of the parents.

The children chosen for the study are all speech-defectives, some much more severe than others. To ascertain the relationship between the home of the speech-defective child and that of the more nearly normal-speaking child, the condition of speech among the lowest fifth, or most severely defective pupils, is compared with the mean score of parents for the group as a whole.

A description and analysis of facts ascertained from mothers and from fathers separately is believed as valuable as a treatment of facts concerning parents in general. Mothers and fathers are therefore compared on the basis of both the amount and the kind of knowledge possessed.

The solution of the problem is divided into six parts: (1) Differentiating between children with speech defects and children without speech defects in Bruce High and Elementary School, Dyersburg, Tennessee. (2) Finding a sufficient number of speech-defective children whose parents will subject themselves to a test. (3) Constructing a test of educational knowledge from that lingo and from those expressions with which the parents are familiar and which, study. To use mild & delicate...

at the same time, most nearly approach the exact meaning of technical language. (4) Including in a brief list of objective questions those educational factors--psychological, physical, emotional, and/or linguistic--which are important in the acquisition of speech. (5) Devising a technique for administering the test which will not prejudice suspicious or poorly informed parents against the examiner to the extent of defeating his purpose. (6) Rating the homes socially and economically in a manner that will not call attention to itself.

The enormously large proportion of speech-defective pupils found among the two hundred tested may be attributable either to strict criteria used in determining the condition of speech on the speech test or to conditions peculiar to the local situation. However, the examiner felt that every pupil used in the study manifested one or more sufficiently definite deviations from normal speech to be classified as speech-defective.

In this study, "speech defect" means the failure or inability on the part of an individual to produce a given sound intelligibly or an abnormally great difference between his oral execution and that of other individuals residing in the same locality and accepting the same standards of speech. Only severe and medium defects were used in this study. To use mildly defective cases would probably have

increased the number of cases. The materials used in the study can be found in the appendix.

... eleven, and ...
for interviews with parties ...
a considerable amount of time ...
taught by the ...
Pupils who rode the school bus were asked ...
more than one per day during the lunch hour ...

CHAPTER II

THE PLAN OF RESEARCH

Isolating speech-defective children from non-defective children. For the purpose of isolating speech defective children from non-speech-defective children, the test of the Indiana State Speech and Reading Clinic was used. This test was administered to all pupils in regular attendance from grades four through twelve.

All testing was done in the anteroom adjacent to the classroom of the Department of English. As a teacher of English from grades seven through twelve, the examiner encountered but slight difficulty in arranging interviews with pupils in grades under his instruction. Interviews with pupils in grades four, five, and six were made possible through the cooperation of the homeroom teachers of the lower grades. Interviews were scheduled a fraction of an hour before school, during the lunch hour, and after school, and during periods of supervised study.

A comparatively small enrollment in grades seven, eleven, and twelve simplified the problem of arranging for interviews with pupils in these grades and provided a considerable amount of time for interviewing students not taught by the examiner or enrolled in larger classes.

Pupils who rode the school bus were scheduled first--not more than one per day during the lunch hour and as many as

time permitted after the dismissal of school and before the arrival of the school bus.

Following the examination, pupils who exhibited no pronounced and consistent defects were dismissed after giving their name, age, and grade. Pupils who exhibited pronounced and consistent defects were dismissed after giving their name, grade, age, address, name of guardian, and relation of guardian to child. The form used to indicate the description of the speech disorder and the rating of voice, articulation, and speech is listed among the materials used and can be found in the appendix.

The following system was used to indicate errors. Letters and combinations of letters rather severely defective were encircled. Less severe defects were underscored. Omissions were enclosed in parentheses, and insertions were written wherever they occurred. A caret indicated the exact position of the insertion. Pupils were requested to read a second time all sentences in which errors were made. When upon the second reading the mistake was rectified, the mark was erased. When the mistake appeared to be due to difficulty in reading rather than in speaking, the subject was stimulated through conversation to produce the sound in question without the use of reading material.

Many pupils in the intermediate and primary grades exhibited a marked degree of difficulty in associating the

appearance of certain written stimuli with the proper sound in pronunciation. Printed words presenting this difficulty were "policemen," "tooth," "fishing," "garage," "ginger-bread," "waded," "fairy," "fur," "onion," "stove," "cup," and "rubber." To prevent the pronunciation of a word by the examiner--a technique which might have resulted in mere repetition with insufficient evidence of consistency--the examiner collected a number of magazine clippings in which the dominant impression prompted the pronunciation of the word in question.

In classifying a pupil as speech-defective or non-speech-defective, the examiner acquainted himself with inaccuracies attributable to localisms. A pupil was not classified as speech-defective because of mispronouncing certain words, providing his pronunciation conformed to local standards. This list of words included the following: "Arthur," "lunch," "fudge," "Tommy," "barn," "wore," "fur," "onion," and "rubber." Thus, the examiner employed exceeding care in an effort to be reasonable in the classification of pupils.

A detailed report of the results of the speech test was given upon request to the elementary teachers of the speech-defective pupils under their instruction. Upon the basis of these reports speech improvement will be planned for the ensuing year.

The speech test was administered to a limited number of pupils who attend school irregularly but who nevertheless are enrolled. Such pupils were summoned from the various playgrounds of the city into the privacy of the examiner's car.

Testing the educational knowledge of parents. In approaching the parents to administer to them the educational test, their attitude toward the examiner, toward his purpose, toward their children, and toward people in general was taken into consideration. In most instances, the same approach was made; but, in several instances, it was necessary to modify introductory remarks and tactics to fit the attitude of the parents concerned. The following is typical of the approach used in most instances:

How do you do, Mrs. Greene. I am Mr. Offett, one of the teachers in Bruce High School. Now don't put yourself to the slightest inconvenience because of me. I can sit right here or anywhere.

This spring I am attempting to visit as many of the homes of school children as I can. Really, I am quite embarrassed not to have come here sooner. Our superintendent has impressed us as teachers with the necessity for visiting homes, and I have a personal desire to know the parents of the community.

I believe as a teacher I can do a better job with your child when I know you, the parent. It is one thing merely to be introduced to a parent and be able to recognize him, but quite another thing really to become acquainted with a parent. So, I thought that while visiting the home, I should make an attempt to find out from you just what you think about caring for the children and just what you think you should do in dealing with them.

It is true that we have the children at school about six hours a day and that during that time we have an opportunity to learn a great deal about the child, but many things aside from what we try to do at school are important in the life of the child and in his learning. Children begin learning at a very early age. In fact, they learn a great deal even before they begin to go to school. Some of these things that they do and what the parent thinks he should do about them are very important, and it is these things that I like to inquire about.

To find out some of these things I have prepared a list of questions which I like to ask each parent individually. This usually takes about fifteen minutes. I thought if you weren't too busy that I might talk to you about your child this evening. Then at another time, if not this evening, I might see your husband. Often mothers and fathers think and act alike with regard to their children; but often they think or act differently. Since both you and your husband rear the child, I can understand your child and both of his parents better if I can see the parents separately.

I should like to make some statements to you. Now, if in your way of thinking, or as you see it, the statement is true, will you say, 'Yes'? But, if in your way of thinking, or as you see it, the statement is not true, then will you say, 'No'? I believe there is nothing personal and no meddling. I am not trying to find out how smart you are.

Rating the homes socially and economically. An attempt was made to characterize the homes of speech-defective children socially and economically. For this purpose a list of twenty-five items was checked. This list of items can be found in the appendix. At least eight of these items could be checked from observation at the time of the visit to the home. In some instances in which the examiner was well acquainted with the family all items could be checked without questioning.

The items on the socio-economic check list were somewhat personal, since the answers to them were suggestive of financial success or failure. Mentioning those items, the answers to which were determined by ownership alone, tended to remind parents of their economic condition and thus to create a degree of emotion if not embarrassment or resentment. For this reason the socio-economic list was checked after the test had been administered. Furthermore, this part of the program could easily be interpreted as inquisitive, a criticism to be avoided. Thus, a means was sought whereby the self-respect of parents could be saved and misrepresentation avoided. The children were asked regarding the less obvious items on the check list. In all instances the children were sufficiently well informed concerning family possessions and practices to give accurate information.

Estimating the intelligence of parents. A potent factor in the educational background of the speech-defective child and in his inheritance is that of the intelligence of his parents. Thus, it is indicative at least to estimate the intelligence of the parents. Inasmuch as the choice of materials in intelligence test questions presupposes a higher degree of academic achievement and of educational experience than it was felt that the mean parent of this

community possessed, questions designed to test the intelligence of parents were thought impractical; and the results, unreliable. Furthermore, the already lengthy testing program together with the socio-economic check list--both of which were of necessity administered orally--eliminated the possibility of administering an intelligence test. There lurked also the fear that parents might resent more keenly questions designed to measure intellectual capacity than questions designed to test knowledge and to investigate home practices.

An analysis of the test questions and a close observation of many factors in parental responses revealed several criteria upon the basis of which the intelligence of parents could be categorized. These factors included comprehension, auditory memory span, length of attention, ability to follow directions, vocabulary used in conversation, ability of offspring, consistency in responding, and apparent economic condition as compared with that of other persons in similar circumstances and with similar opportunity. Thus, each parent was classified as being of high, medium, or low intelligence.

The examiner admits a high degree of subjectivity in estimating the intelligence of parents, but he also expresses confidence in the likelihood of justly classifying each parent in one of the aforementioned broad categories.

sensed. The prevalence in this community of low

Ascertaining relationships between child and others.

Although the educational knowledge and practices of parents are considered highly important in the child's acquisition of speech, parents do not comprize all situations which may or may not be desirable and conducive to the acquisition of speech. For this reason an attempt was made to ascertain the comparative relationship between the child and other persons--sisters and/or brothers, other children, and other adults.

Numerous factors made it difficult to ascertain these relationships through observation within the home. Economic conditions together with the seemingly greater opportunity for female employment than male in this community necessitated the absence of many mothers from their homes twelve hours per day--in some instances, longer. Although in some instances both mother and father were at home at the same time, in a larger number of instances they were not. The same condition existed among the children, for many children were seldom at home at a reasonable and convenient hour. The few instances in which the entire family were at home at the same time did not furnish a very natural situation for observing interrelationships among members of the family. In fact, a rather well rehearsed visitor's atmosphere was sensed. The prevalence in this community of the belief that

children are to be seen, not heard, reduced to a minimum the opportunity to hear the children speak in the home.

The latter condition, though suggestive of the relationship between many parents and their children, did not indicate the exact relationship or the child's attitude toward other persons. Those parents who were notably cantankerous toward each other as well as toward their children appeared congenial and amicable. They tended to conceal undesirable relationships in the presence of a teacher. Under these circumstances the children were ultimately decided upon as a more reliable source of information. Here also the examiner admits the possibility of subjectivity and the likelihood of exaggeration; but, even though a child might misrepresent the relationship between himself and other persons, his own statement of his reaction to other persons was considered valuable. No matter what the true relationship between him and other persons might be, his attitude toward them as evidenced by his statement indicates the presence of emotion and the general desirableness of other people in his speaking situation.

Each child was asked to arrange at school in order of preference those persons with whom he should find the most enjoyment and freedom in conversing. Brief interviews for this purpose were arranged after all other data had been

collected. From student responses to these questions the examiner was able to ascertain whether the relationship between the child and each of the aforementioned persons was comparatively desirable and conducive to the acquisition of speech or undesirable and detrimental.

CHAPTER III

DESCRIPTION AND ANALYSIS OF MATERIALS USED

The Speech Test of the Indiana State Speech and Reading Clinic. For the purpose of differentiating between speech-defective children and non-speech-defective children, the Speech Test of the Indiana State Speech and Reading Clinic was used. The technique of administering the test was already familiar to the examiner, as he used the same test in each of four graduate courses in the field of speech correction. Moreover, he used the test in making a survey of the condition of speech among Negro children from grades one through twelve in the Indiana State Teachers College Laboratory School during the summer of 1939.

This test emphasizes twenty-five sounds which recur most frequently in the English language. The vocabulary is easily adapted to the reading level of a second or a third-grade child, and certainly to that of a fourth-grade child even among retarded children. In this research the test was not administered to any child beneath the fourth grade. The sounds tested were as follow: s, z, m, w, e, o, f, 3, tʃ, dʒ, t, d, m, n, ŋ, l, r, h, j, f, v, k, g, p, and b. Whenever it is feasible to do so, these sounds are used in initial, medial, and final positions in different words--in some instances, in the same word. One complete sentence is devoted to the testing of each of the twenty-five sounds.

A few sounds which do not lend themselves readily to use in all three positions are not used in the final position in this test.

The second part of the Indiana State Speech Test consists of a data card for the marking of items--personal, scholastic, psychological, and academic. In this research the name, grade, address, sex, and age of the pupil examined; the name and address of the mother and father were the only items used from the data card.

The third part of the Indiana State Speech Test consists of summarization blanks for indicating the defective speech sounds. These data include rating of voice, of articulation, and of speech; description of speech; and description of voice. The comparative and subjective rating of voice, articulation, and speech was used. A choice of some number between 1 and 7 inclusive was made to indicate the comparative rating of voice, of articulation, and of speech. A rating of 1 indicated defective speech and was subdivided into mild, medium, and severe. In this study, however, only medium and severe cases were used. To use mildly defective cases would have increased the number appreciably. A rating of 4 indicated average speech; and a rating of 7, superior. Other ratings ranged between these.

of speech. Suggested for future use: rating of voice, rating of articulation, rating of speech.

The other items in this part of the test were not used, since they were believed more useful to a speech clinician than to the examiner. Nevertheless, teachers of grades four, five, and six requested a list of defective sounds made consistently by pupils from their rooms. The examiner complied with the requests.

Test of educational knowledge of parents. To test the educational knowledge of parents the examiner constructed a test of educational knowledge. Fearing that the use of technical language would prejudice underprivileged, poorly educated parents against the test or prevent their scoring on items of which they might have correct knowledge, the examiner endeavored to select those colloquial expressions and localisms which most nearly conveyed the exact meaning which more highly literary language would convey to more highly educated people. The examiner felt that a three-year acquaintance with the parents of the community familiarized him with local lingo. Thus he approached identical connotations though different levels of English were used.

The test consists of thirty-five objective questions-- fifteen true-false and twenty multiple choice. It includes those educational factors--psychological, physical, emotional, and/or linguistic--which are important in the acquisition of speech. Suggestions from the thesis committee were

utilized in determining the scope of the content and in formulating the questions. The overlapping of implications for all four educational phases was unavoidable, since each multiple-choice question includes four alternative answers.

Determining the values of the alternatives in the multiple-choice test. The relative values of the alternatives in the multiple-choice test were determined by totaling the rankings of five experts and finding the average value of each alternative. The jury consisted of four doctors of philosophy in the field of speech correction and one doctor of philosophy in the field of education. Standards for the gradation of replies were fixed by the decision of the judges. Each expert was asked to list in order of his preference the alternative answer for which he thought: first, the largest number of points should be given; second, the next; third, the next; fourth, the next; and fifth, the least or none.

The ranking by experts was done during or after the period for the collection of data; so, there was no opportunity for the elimination of contentious items or for revision of any part of any question. Though somewhat arbitrary, each decision was independent of the other four. In a few instances the total ranking (and consequently the average ranking) for two given alternatives of the same

question was equal. In such instances the values were divided equally between the two alternatives in question. In every instance the summarized report from the experts agreed upon the value assigned to the best choice and the second best choice. Occasional failure to agree upon an assignment of value to fourth or fifth choice was not considered sufficiently serious to affect the scores of the parents. The value of each alternative answer is indicated in the score key on the following page.

Determining the answers to the true-false statements.

The examiner determined whether each of the statements was true or false. The value of each was 4. The following is the score key for the true-false test:

1. True	6. True	11. False
2. True	7. False	12. False
3. False	8. False	13. False
4. False	9. False	14. True
5. False	10. True	15. False

Socio-economic check list. Although this study deals primarily with the educational knowledge among the parents of speech-defective children, components of the family background other than educational knowledge are indicative if not significant. Two fundamental components of the

SCORE KEY FOR MULTIPLE-CHOICE QUESTIONS

Number of question	A l t e r n a t i v e a n s w e r s				
	a	b	c	d	e
1.	0	2	4	1	3
2.	3	2	4	1	0
3.	3	1	0	4	2
4.	3	0	2	1	4
5.	3	2	4	0	1
6.	4	1	0	3	2
7.	4	3	2	1	0
8.	1	3	0	4	2
9.	0	1	2	4	3
10.	3	4	2	1	0
11.	0	1.5	3	1.5	4
12.	.5	2	3	.5	4
13.	1	2	4	3	0
14.	0	1	3	2	4
15.	0	4	3	2	1
16.	3	2	1	0	4
17.	2	3	.5	4	.5
18.	0	4	1.5	1.5	3
19.	1.5	4	0	1.5	3
20.	3	1	2	4	0

reveal descriptive & functional characteristics of the test

family background which are related to educational knowledge are the social and the economic status of the family. Thus, an attempt was made to characterize socially and economically the home of each speech-defective child. For this purpose a socio-economic list of twenty-five items was checked at the time of the visit to the home. It seemed desirable and reasonable to construct a check list which more nearly fitted the conditions in this community than to use any of the available published ones.

The presence or absence in the home of items on the list has distinct sociological as well as economic implications. A certain amount of overlapping was unavoidable, since the possession of costly articles implies both the necessary finance to purchase and a desire for its social advantages or an awareness of its social value.

The standard underlying the choice of items included in the socio-economic check list is intended to represent the social and economic circumstances of the mean family of the community. In assuming a mean for the socio-economic standard, the examiner relied upon observation, inquiry, and investigation. The items on the check list should be explained. It is hoped that an explanation of the items used will justify their being included in the list and reveal descriptive information concerning the community.

among the group in this community. For instance

customary for children above twenty years of age.

Number 1. The community affords only a limited number of professional workers. Therefore, the possibilities for classification of the fathers' occupations are skilled and unskilled. It may be that "employed" or "unemployed" would suggest a better classification, since idle fathers are prevalent.

Number 2. Economic conditions, together with a seemingly greater opportunity for female employment than male, necessitates the employment of most mothers of the community. Most of the women are employed in private families; and, although remuneration in dollars and cents is meager, access to used clothing and residual foods increases the desirability of opportunities for women.

Number 3. Opportunities for children to work likewise appear unattractive, since they are not especially lucrative. However, it is fashionable for children of twelve years of age or over to be in the employ of some reputable, prosperous citizen or firm. Girls of school age serve as part-time maids and practical nurses for children of pre-school age. The desirability of identification with some influential person is seldom questioned and often pays invaluable dividends in the event of legal or civic violations.

Number 4. Crowded housing conditions exist generally among the group in this community; but, inasmuch as it is customary for children above twelve years of age to contri-

bute to their support, families with older children enjoy a more favorable proportion of room space to each individual member.

Number 5. The radio is a commodity enjoyed by all members of the community who desire ownership of it. The radio is among the commodities obtainable through employment in private homes. The absence of electricity in some houses, owing to economic circumstances and to less accessibility of some locations, prevents the use of an electric radio set. However, battery sets are not infrequently used in the absence of electricity. Failure of the ordinary radio program to appeal to the less enlightened element of the group may account for its absence from the home. Venders in the corner rendezvous afford a more popular assortment of selections.

Number 6. The possession of an automobile is far more common than general economic conditions warrant. Nevertheless, automobiles are purchased at a sacrifice. For the Negro citizen the automobile perhaps affords social opportunity and enjoyment to which traditional, racial barriers would serve as a social impediment in the absence of automobile ownership. Also, the car, in many instances, is owned by an older brother without dependents or by the recipient of some government pension. Ownership of a car,

in most instances, does not imply prosperous financial circumstances, since the mean automobile in possession of a group member is estimated to be of negligible value. The outmoded automobile is scarcely marketable because of its decrease in dependability and its general unfavorable comparison with more recent models. A few members of the group claim ownership of automobiles when actual ownership is questionable. The examiner has reason to suspect that some generous employer permits daily use of his car for social purposes.

Number 7. The discussion is the same as that for Number 4.

Number 8. An individual tooth brush is known by the examiner not to be in the possession of every child. This fact is confirmed by the tabulation of this item from the socio-economic check list, since a knowledge of dental hygiene and of the desirability of individual ownership of a tooth brush is taught in the public schools.

Number 9. Whereas twelve books and/or periodicals is a small number for educational purposes, the purchase of books remains a problem to individuals whose incomes afford only a meager existence. Irregular school attendance, due to economic conditions, compels teachers to emphasize fundamentals to the extent of neglecting the development of

interest in supplementary materials.

Number 10. The surprizingly frequent occurrence of home ownership is attributable to several factors. First, financial evaluation of the home does not represent a sizeable sum of money. Second, the occupancy of many houses by more than one distinct family unit tends to alleviate the difficulty ordinarily associated with the purchase of a house. Third, it is only recently that many sites of present dwellings were incorporated within the limits of the city, and therefore were of comparatively little value at the time they came into possession of the family. Nevertheless, housing still remains a problem to many members of the group. Although the rate of rent for houses is comparatively low, the ownership of a large number of small, cheaply constructed houses remains a substantial source of income for a few.

Number 11. Electricity is found in most houses. Some families, however, can not afford electricity. Also, inability on the part of a few parents and on the part of a larger number of grandparent guardians to read tends to lessen the need for and appreciation of electric lighting. Furthermore, the probability if not the experience of a discontinuation of electric service at the end of any fiscal month remains a barrier to the enjoyment of electric lights. persons not belonging.

Number 12. Houses with inside toilets are rare indeed, as sewage is available to but few of the residential districts. Also, the absence of an inside toilet does not affect prestige or social standing in the community, since few enjoy the convenience.

Number 13. Almost every parent has church membership and a commendable record of attendance. An abundance of churches of several denominations provides everyone with an opportunity to attend. The activities and requirements of the church characterize it as social as well as religious. In general, the citizenry is greatly concerned about what is right and what is wrong. It is probable that for older people the church is a more common source of knowledge and of instruction than was the school. Consequently, the choice of alternatives in answering multiple-choice questions was often influenced by some religious belief. Comments of a religious nature were not infrequent.

Number 14. In most instances the amount of insurance carried is negligible, although most families carry enough for burial of the older members.

Number 15. The community affords a number of social organizations. Social tendencies among the citizenry are strong. Most of the clubs, however, are affiliated with the churches. Several factors are accountable for many persons' not belonging. First, inadequate space in the

house makes entertainment of a large group inconvenient.

Second, financial responsibility incurred through membership is a social burden to many. Third, working hours prevent attendance at club meetings in many instances.

Number 16. The cost of admission to moving pictures is within reach of the mean individual, since a drastically reduced price of admission is enjoyed by members of the group.

Number 17. The amount contributed to the Red Cross is negligible, although the employers in many firms require an annual contribution of one dollar. Also, the children contribute a penny each at school or more often sell tuberculosis seals.

Number 18. A lack of space is accountable for many parents' not sponsoring parties for their children. The typical party consists principally of the gathering itself. Refreshments are almost lacking if not entirely so.

Number 19. Children attend parties for their entertainment. Attendance at parties avails them of social opportunities, as other forms of social opportunity are limited.

Number 20. Several factors contribute to occupancy of the house by more than one family. The practice of discrimination in wages and of economic inequality prevents
meal.

the necessary preparation for old age. It is questionable whether the mean parent is aware of the advantage of having an abundance of room; and it may be that more room is not needed, since in many instances little time is spent at home. The instability of the available employment behooves one to economize on room space as well as on other commodities.

Number 21. Most families within the limit of the city live on a street. People who live in the rural district do not live on streets, and a few in the city do not.

Number 22. Most members of the group do not have bank accounts. Their incomes do not warrant savings. Also, wide-spread knowledge of a degree of security can lessen consideration for financial opportunity and can serve as a hindrance to eligibility for charity. In general, the salary schedule is based on necessity for living with little thought of personal provision for one's future.

Number 23. Games are played in the home when there is sufficient space and when the parents' religious beliefs do not interfere.

Number 24. All parents welcome visitors to their home, as social opportunity is thereby secured.

Number 25. When working hours and outside interest do not prevent, most parents are at home after the evening meal.

CHAPTER IV

COMPARATIVE RESULTS AND IMPLICATIONS OF TESTS

Noticeable differences in replies of mothers and of fathers to multiple-choice questions. Fifty-four mothers and forty-six fathers responded. Eight speech-defective children used in the study were fatherless. Thus, there were fifty-four children in the study. Only three more children than this number were found to be speech-defective. The parents of the latter three were not interviewed because of the inaccessibility of their homes or extremely irregular presence in the home.

Table I shows the number of mothers and the number of fathers choosing each alternative answer to the twenty multiple-choice questions. A difference of fifteen or more between the number of mothers and of fathers choosing a given alternative on the multiple-choice test was regarded as highly significant. Thirty mothers and only nine fathers thought they should whip as a punishment for misbehavior. Thirty-one fathers and fifteen mothers thought they should scold a child for not answering as soon as they spoke to him.

A difference of more than ten and less than fifteen in the number of mothers and of fathers choosing a given alternative was regarded as significant. Fifty-three mothers

TABLE I

NUMBERS OF MOTHERS AND FATHERS CHOOSING EACH
ALTERNATIVE ANSWER IN MULTIPLE-CHOICE TEST

Number of question	A l t e r n a t i v e a n s w e r s									
	a		b		c		d		e	
	M	F	M	F	M	F	M	F	M	F
1.	1	0	0	0	11	18	30	9	12	19
2.	31	27	3	0	13	11	7	6	0	2
3.	10	2	0	0	3	3	23	27	18	14
4.	1	0	2	0	15	6	21	27	15	13
5.	3	2	3	9	34	30	0	0	14	5
6.	11	8	31	28	11	8	0	1	1	1
7.	1	5	5	4	5	3	28	19	15	15
8.	0	0	0	0	0	0	53	39	1	7
9.	11	16	4	4	5	4	31	8	13	14
10.	19	20	15	13	0	0	17	13	3	0
11.	0	2	15	31	0	0	21	8	18	5
12.	0	1	5	4	8	7	9	6	32	28
13.	5	12	7	5	2	4	13	11	27	14
14.	18	21	2	1	31	20	0	1	3	3
15.	5	0	14	10	26	29	7	7	2	0
16.	18	7	22	21	2	0	2	3	20	15
17.	3	3	18	16	1	2	26	16	6	9
18.	0	0	53	45	0	0	0	1	1	0
19.	4	4	39	28	1	2	2	3	8	9
20.	23	24	0	1	1	3	30	18	0	0

and only thirty-nine fathers thought they should treat siblings alike to prevent jealousy. Twenty-one mothers and eight fathers thought they should scold a child for talking about grown-ups' affairs. Twenty-seven mothers and fourteen fathers thought they should beat a child when they were angry. Twenty-one mothers and eight fathers thought they should pay little attention to a child when he had a fit of anger. Thirty mothers and eighteen fathers thought they should show their love for their child by planning for his future. Thirty-one mothers and twenty fathers thought they should be most sorry for a child when he was ill. Eighteen mothers and seven fathers thought a child amused them most when he got some saying twisted. Thirty-nine mothers and twenty-eight fathers thought they should praise a child when he agreed with them.

A difference of less than eleven and more than five in the number of mothers and of fathers choosing a given alternative was considered sufficiently interesting to call attention to the fact. Twenty-six mothers and sixteen fathers thought they should laugh aloud when they were amused at a child. Fifteen mothers and six fathers thought they should tell a child to hush when he did not agree with them. Fourteen mothers and five fathers thought they should force a child to eat everything on his plate at meal time.

Twenty-eight mothers and nineteen fathers thought they should tell a child a ghost story when he was afraid of the dark.

Noticeable differences in replies of mothers and of fathers to true-false statements. In Table II a few differences in the number of mothers and of fathers answering correctly each item on the true-false test are noticeable. Forty-six mothers and thirty-three fathers thought a parent should use baby talk when a child first began to talk. Thirty mothers and seventeen fathers thought enuresis was unquestionably attributable to a weakness in the bladder.

Table III shows the number of parents (including both mothers and fathers) choosing each alternative answer to the multiple-choice test.

Relative adequacies and inadequacies in parental knowledge as revealed by responses to multiple-choice test. The ranking in Table IV of multiple-choice questions based on total scores indicates that parents of speech-defective children possessed the most adequate knowledge of how to (1) discourage selfishness, (2) prevent jealousy, (3) demonstrate affection, (4) show approval, and (5) create a wholesome atmosphere at meal time. They possessed the least adequate knowledge and indulged in the least desirable practices with regard to (1) reaction to fear of dark,

TABLE II

NUMBERS OF MOTHERS, FATHERS, AND BOTH
ANSWERING CORRECTLY EACH TRUE-FALSE ITEM

Number of item	Mother	Father	Total
1.	13	13	26
2.	47	46	93
3.	52	46	98
4.	27	33	60
5.	46	33	79
6.	11	13	24
7.	46	37	83
8.	37	30	67
9.	48	41	89
10.	54	46	100
11.	30	17	47
12.	23	27	50
13.	36	38	74
14.	47	40	87
15.	12	16	28

16. 0 0

17. 8 0

18. 47 0

TABLE III

NUMBERS OF PARENTS CHOOSING EACH ALTERNATIVE
ANSWER IN MULTIPLE-CHOICE TEST

Number of question	A l t e r n a t i v e a n s w e r s				
	a	b	c	d	e
1.	1	0	29	39	31
2.	58	3	24	13	2
3.	12	0	6	50	32
4.	1	2	21	48	28
5.	5	12	64	0	19
6.	19	59	19	1	2
7.	6	9	8	47	30
8.	0	0	0	92	8
9.	27	8	9	29	27
10.	39	28	0	30	3
11.	2	46	0	29	23
12.	1	9	15	15	60
13.	17	12	6	24	41
14.	39	3	51	1	6
15.	5	24	55	14	2
16.	25	43	2	5	35
17.	6	34	3	42	15
18.	0	98	0	1	1
19.	8	67	3	5	17
20.	47	1	4	48	0

TABLE IV

ORDER RANKS OF MULTIPLE-CHOICE QUESTIONS
AS ANSWERED BY MOTHERS, FATHERS, AND BOTH

Number of question	O R by mothers	Number of question	O R by fathers	Number of question	O R by both
18.	1	18.	1	18.	1
8.	2	8.	2	8.	2
20.	3	20.	3	20.	3
19.	4	19.	4	19.	4
16.	5	5.	5	5.	5
17.	6	12.	6	12.	6
12.	7	3.	7	3.	7
5.	8	15.	8	15.	8.5
2.	9.5	1.	9	17.	8.5
3.	9.5	2.	10	2.	10
15.	11	10.	11	16.	11
9.	12	17.	12	10.	12
10.	13	16.	13	1.	13
11.	14	4.	14	9.	14
4.	15	9.	15	4.	15
1.	16	11.	16	11.	16
14.	17	14.	17	14.	17
6.	18	13.	18	6.	18
13.	19	6.	19	13.	19
7.	20	7.	20	7.	20

(2) action at time of anger on part of parent, (3) method of prevention and cure of nail-biting, (4) just cause for sorrow, (5) just cause for scolding a child.

In general, it is believed that the parents of speech-defective children are noticeably emotional and somewhat neurotic. However, this experimental group exhibited much greater knowledge of how to promote desirable relationships between children and parents, siblings, and playmates.

Relative adequacies and inadequacies in parental knowledge as revealed by response to true-false statements.

Table II shows that with one hundred parents responding, on items 10, 3, and 2 in the true-false test the number of parents answering correctly were 100, 98, and 93 respectively. Thus, the parents possessed most adequate knowledge of the desirability of using good English in the presence of their children, of refraining from quarreling in the presence of children, and of praising children for acts approved by the parents.

On items 6, 1, and 5 of the true-false test the numbers of parents answering correctly were 24, 26, and 28 respectively. Thus, the parents possessed the least adequate knowledge and indulged in the least desirable practices with regard to encouraging the development of that dextrality pattern toward which he is naturally disposed, encouraging

children to make their own decisions, and permitting growing children to sleep more than eight hours per day.

Comparison between knowledge of mothers and of fathers as revealed from order rank of multiple-choice questions.

In Table V, questions 7, 8, 14, 18, 19, and 20 of the multiple-choice test had the same order ranks by mothers as by fathers. Differences in order ranks by mothers and fathers of the remaining fourteen questions varied from .5 to 8.0. A difference of six or more was regarded as highly significant; a difference of two to five was regarded as rather significant. Mothers exhibited far greater knowledge than fathers with regard to a wholesome choice of child behavior intended to amuse a parent. Fathers possessed greater knowledge than mothers in their choice of a means of punishment for misbehavior. Fathers' superiority in knowledge of punishment should not be interpreted as possession of a more desirable attitude toward the child or of superior knowledge of child psychology, since fathers were aware of their physical strength and therefore thought it unsafe to whip children. They had no objections to the mothers' unrestricted use of corporal punishment.

Mothers showed superior knowledge in their choice of a desirable parental attitude toward amusing demeanor on the part of a child.

TABLE V

COMPARISON BETWEEN ORDER RANKS OF MULTIPLE-CHOICE
QUESTIONS AS ANSWERED BY MOTHERS AND BY FATHERS
DIFFERENCES BASED ON RANKS OF FATHERS

Number of question	O R by mothers	O R by fathers	Difference
1.	16	9	7
2.	9.5	10	-0.5
3.	9.5	7	2.5
4.	15	14	1
5.	8	5	3
6.	18	19	-1
7.	20	20	0
8.	2	2	0
9.	12	15	-3
10.	13	11	2
11.	14	16	-2
12.	7	6	1
13.	19	18	1
14.	17	17	0
15.	11	8	3
16.	5	13	-8
17.	6	12	-6
18.	1	1	0
19.	4	4	0
20.	3	3	0

Less serious differences in order ranks occurred with regard to the choice of an alternative in the matter of creating a desirable atmosphere at meal time, parental reaction toward sorrow, knowledge of dental hygiene--in all of which the fathers possessed somewhat greater knowledge than did the mothers. Mothers possessed equally greater knowledge than fathers in regard to treatment of temper tantrums, and somewhat greater knowledge with regard to choice of conduct for which a child might be scolded. Fathers showed better judgment than mothers in settling disputes between a child and his playmate.

Considering the score made by the mother and that made by the father individually in each home on the multiple-choice test, in twenty-five instances the mother made a higher score than the father. In nineteen instances the father made a higher score than the mother.

Comparison between knowledge of mothers and of fathers as revealed from order ranks of true-false statements. Table VI shows the order ranks by mothers, by fathers, and by both of the true-false statements. From this table it is seen that only statement 3, pertaining to avoidance of emotional scenes created by parental quarrels in the presence of the child, received the same order rank by mothers as by fathers. Differences in order ranks of the remaining fourteen

TABLE VI

ORDER RANKS OF TRUE-FALSE STATEMENTS
AS ANSWERED BY MOTHERS, BY FATHERS, AND BOTH

Number of statement	O R by mothers	Number of statement	O R by fathers	Number of statement	O R by both
10.	1	2.	2	10.	1
3.	2	3.	2	3.	2
9.	3	10.	2	2.	3
2.	4.5	9.	4	9.	4
14.	4.5	14.	5	14.	5
5.	6.5	13.	6	7.	6
7.	6.5	7.	7	5.	7
8.	8	4.	8.5	13.	8
13.	9	5.	8.5	8.	9
11.	10	8.	10	4.	10
4.	11	12.	11	11.	11
12.	12	11.	12	12.	12
1.	13	15.	13	15.	13
15.	14	1.	14.5	1.	14
6.	15	6.	14.5	6.	15

statements varied from 0.5 to 3.5. Fathers possessed greater knowledge than mothers with regard to remaining calm and dispassionate while punishing a child, not disclosing unnecessarily to a child knowledge of a speech defect in his grandparents, praising a child to show approval on the part of a parent.

To a less degree, the mothers possessed greater knowledge than fathers with regard to refraining from the use of baby talk when a child begins to talk, not forcing a child to talk before a stranger, and being aware of causes other than a weak bladder which might account for enuresis. In general, the fathers possessed greater knowledge than mothers as indicated by their response to the true-false statements.

Considering the score made on the true-false test by the mother and by the father individually in each home, in twenty-six instances the father made a higher score than the mother. In twelve instances the mother made a higher score than the father. Considering the total score on both multiple-choice and true-false tests by the mother and by the father in each family individually, in twenty-seven instances the mother made a higher score than the father. In nineteen instances the father made a higher score than the mother.

In Table VII the order ranks of true-false statements as answered by mothers and by fathers are compared.

TABLE VII

COMPARISON BETWEEN ORDER RANKS OF TRUE-FALSE STATEMENTS
AS ANSWERED BY MOTHERS AND BY FATHERS
DIFFERENCES BASED ON RANKS OF FATHERS

Number of question	O R by mothers	O R by fathers	Difference
1.	13	14.5	-1.5
2.	4.5	2	2.5
3.	2	2	0
4.	11	8.5	3.5
5.	6.5	8.5	-2
6.	15	14.5	0.5
7.	7.5	7	0.5
8.	8	10	-2
9.	3	4	-1
10.	1	2	-1
11.	10	12	-2
12.	12	11	1
13.	9	6	3
14.	4.5	5	-0.5
15.	14	13	1

The socio-economic status of the home of the speech-defective child. The socio-economic status of the home of the speech defective child is believed to be somewhat lower than that of the normal-speaking child. It can be seen in Table VIII that the predominant socio-economic characteristics of the home in favor of the speech-defective child are (1) possession of an individual tooth brush, (2) church membership or a record of regular attendance, (3) participation in some insurance company, (4) attendance by the children at parties for their entertainment, and (5) the welcoming of visitors to the home by the parents.

The predominant socio-economic inadequacies of the home of the speech-defective child are (1) the absence of an inside toilet, (2) the classification of the father's occupation as unskilled, (3) a lack of ample bedroom space to provide sufficient privacy and a separation of siblings of opposite sexes, (4) the contributing of child to his own support, and (5) the absence of ownership of an automobile. The examiner regards the second, third, and fourth in the aforementioned inadequacies as significant. While significant of the economic status of the family, the first and fifth most characteristic inadequacies are not necessarily detrimental to the acquisition of normal speech.

TABLE VIII

NUMBER OF HOMES POSSESSING EACH ITEM ON
SOCIO-ECONOMIC CHECK LIST AND
ORDER RANK OF EACH

Number of item	Number of homes possessing	Order rank
1.	5	24
2.	28	13.5
3.	14	22.5
4.	21	19
5.	32	12
6.	15	21
7.	14	22.5
8.	54	3
9.	41	9
10.	20	20
11.	27	15.5
12.	2	25
13.	54	3
14.	54	3
15.	28	13.5
16.	34	11
17.	22	18
18.	36	10
19.	54	3
20.	27	15.5
21.	47	8
22.	24	17
23.	50	6
24.	54	3
25.	48	7

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probably provide the basis for the study.

Table IV, V, VI, and VII, and VIII, reveal the following general trends:

reveal the following general trends:

The estimated intelligence of the parents of speech-defective children. In estimating the intelligence of the parents of speech-defective children, the following ratings were used: 3 for above normal, 2 for normal, and 1 for below normal. Eight mothers and six fathers were estimated to be of less than normal intelligence, thirty-nine mothers and thirty-three fathers of normal intelligence, and seven mothers and seven fathers of higher intelligence than normal.

Considering the mother and the father of each home individually, in seven instances the mother was estimated to be of higher intelligence than the father; in eleven instances the father was estimated to be of higher intelligence than the mother.

According to the rating system described above, the intelligence rating of the average mother was 1.94; that of the average father, 2.02; that of both mothers and fathers, 2 or normal. Thus, the fathers were believed to be slightly more intelligent than the mothers. Although the difference between the intelligence of the mothers and of the fathers is very small, it might suggest a contributing factor to the condition of the speech-defective child, since the influence of the mother upon the acquisition of speech is probably greater than that of the father.

Tables IX, X, XI, and XII are self-explanatory. They reveal the following general types of information: the number

TABLE IX

DISTRIBUTION OF PUPILS TESTED AND OF
SPEECH-DEFECTIVES FOUND

Grade	Number of boys	Number of girls	Total	Number boys S. D.	Number girls S. D.	Total
4	7	15	22	4	6	10
5	15	25	40	5	5	10
6	10	12	22	3	3	6
7	7	12	19	4	3	7
8	8	15	23	3	7	10
9	9	21	30	1	1	2
10	4	14	18	1	1	2
11	6	10	16	1	3	4
12	5	5	10	3	0	3
Totals	71	129	200	25	29	54

TABLE X
CLASSIFICATION OF PUPILS TESTED BY AGES AND GRADES

Age	4			5			6			7			8			9			10			11			12		
	G			r			a			d			e														
	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
9	4	5	9																								
10	0	2	2	2	6	8																					
11	1	4	5	1	3	4	1	3	4																		
12	1	2	3	6	7	13	2	6	8	0	2	2	0	2	2												
13	1	2	3	4	4	8	2	2	4	0	1	1	5	5	10	1	4	5									
14				2	3	5	3	0	3	3	0	3	2	6	8	2	8	10	0	3	3						
15				0	2	2	2	1	3	3	5	8	0	1	1	5	3	8	0	5	5	1	4	5			
16										0	3	3	1	1	2	0	2	2	1	3	4	4	3	7			
17										1	1	2				1	4	5	1	1	2	1	1	2	1	0	1
18																			2	2	4	0	2	2	1	4	5
19																									1	0	1
20																									1	1	2
21																									1	0	1

TABLE XI
CLASSIFICATION OF SPEECH-DEFECTIVE PUPILS
BY AGES AND GRADES

Age	4			5			6			7			8			9			10			11			12		
	G			r			a			d			e														
	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
9	2	2	4																								
10				1	0	1																					
11	0	3	3	0	1	1	0	1	1																		
12	1	0	1	0	3	3	0	2	2				0	2	2												
13	1	1	2	2	1	3	1	0	1				1	2	3												
14				2	0	2	2	0	2	2	0	2	1	3	4				0	1	1						
15										2	0	2				1	0	1				0	1	1			
16										0	2	2	1	0	1	0	1	1				0	1	1			
17										0	1	1										1	0	1	1	0	1
18																			1	0	1	0	1	1			
19																											
20																									1	0	1
21																									1	0	1

TABLE XII

CLASSIFICATION OF SPEECH DEFECTS AND
THEIR RECURRENCE AMONG
25 SPEECH-DEFECTIVE BOYS AND 29 GIRLS

Speech	B o y s			G i r l s			B o t h		
	Mild	Med	Sev	Mild	Med	Sev	Mild	Med	Sev
Teeth, Lips									
Organic Tongue	10	3	2	9	1	1	19	4	3
Rhythm (Stuttering)	1	1		2	1		3	2	
Aphasia	2	1					2	1	
Mutism	2			6			8		
Foreign Accent									
Oral Inaccuracy	9	10	4	12	8	8	21	18	12
Abnormally Slow	11			7			18		
Fast	2			5			7		
Organic Obstruction Or Malformation				1	1		1	1	
Muffled		1		1			1	1	
Metallic	2			5			7		
Nasal				3			3		
Denasal			1		1			1	1
Harsh	1						1		
Hoarse-Husky	1			1			2		
Breathy	8	1	1	8			16	1	1
Infantile	4			2	2		6	2	
Monotonous	9			8	1		17	1	
Pitch High	5			8			13		
Low				3			3		
Loudness Hypo	8			13			21		
Hyper	2			3			5		

WAS ASKED TO TALK IN ORDER TO

WHOM HE MOST ENJOYED TALKING. THE

of boys and of girls tested, the ages of the pupils tested, the grade levels attained, and a classification of speech defects found. In general, these tables suggest that the children used in the study are retarded. The ages given are as of the time of the testing--spring, 1941.

Subjective rating of voice, articulation, and speech.

Table XIII gives the subjective rating of voice, articulation, and speech for boys, girls, and for both. An explanation of the ratings used is given on page 16. The voices of speech-defective children appeared to the examiner to rate only slightly below average; their speech, somewhat lower than their voices; and their articulation, lowest and rather far below average. Voice, articulation, and speech of girls were rated higher than those of boys. The greatest difference occurred in articulation, in which the girls surpassed the boys by almost half a point. Girls surpassed the boys in speech by approximately one-fourth point only. The voices of the boys and of the girls were rated almost equally high. The rating of the voices of both boys and girls was considered exceptionally high for speech-defective children.

Preference of boys and of girls and of both of persons for desirable conversation. Each speech-defective pupil was asked to list in order of preference the persons with whom he most enjoyed talking. The following statement was

TABLE XIII

NUMBER OF BOYS, GIRLS, AND BOTH RECEIVING
EACH OF SEVEN RATINGS FOR VOICE,
ARTICULATION, AND SPEECH
AND THE AVERAGE RATING FOR EACH

R a t i n g								
	1	2	3	4	5	6	7	Average
V o i c e								
Boys	1	2	7	10	4	1	0	3.68
Girls	1	1	8	12	7	0	0	3.79
Both	2	3	15	22	11	1	0	3.74
A r t i c u l a t i o n								
Boys	4	11	9	1	0	0	0	2.28
Girls	3	7	16	1	1	1	0	2.76
Both	7	18	25	2	1	1	0	2.54
S p e e c h								
Boys	2	8	14	1	0	0	0	2.56
Girls	2	7	16	3	1	0	0	2.79
Both	4	15	30	4	1	0	0	2.69

made to each pupil at the close of the interview: "If you had your choice of persons to talk with, whom would you enjoy most, and with whom would you feel most free--mother, father, sisters and brothers, other children, or other grown-ups?" After the child stated his preference, the examiner listed the remaining four and requested the pupil to make a choice of them; then, the remaining three, the remaining two, and the last. The examiner noted only the last two and asked the child why he least preferred talking with those persons.

Table XIV tells the choice next to the last one and the last choice for the boys, for the girls, and for both. The last choice among the boys was other adults. Other children were next to their last choice. First, second, and third choices were mother, sisters and brothers, and father respectively.

The girls least enjoyed talking with other adults. Next to their last choice were other children. First, second, and third choices were sisters and brothers, mothers, and fathers respectively.

For both the boys and the girls the last choice was other adults. Next to their last choice were other children. Their first choice was mother; their second, sisters and brothers; and their third, father.

Boys enjoyed talking with their mothers more than did the girls. Girls enjoyed talking with their sisters and

TABLE XIV

NUMBER OF BOYS, GIRLS, AND BOTH
CHOOSING LEAST PREFERRED PERSONS FOR
FREE, ENJOYABLE CONVERSATION

	B o y s		G i r l s		B o t h	
	Next to last	Last	Next to last	Last	Next to last	Last
Mother	2		3		5	
Father	7		8	2	15	2
Sisters and Brothers	3	1	1		4	1
Other children	8	6	14	2	22	8
Other adults	5	18	3	25	8	43

brothers more than did the boys. The father was none too popular a choice among either the boys or the girls.

Table XV lists the reasons given by the speech-defective pupils for least preferring the last choice and the one next to the last of persons for free, enjoyable conversation. The least desirable tendencies on the part of persons who talk with speech-defective children are: a lack of knowledge or information, a lack of interest, general distaste, lack of understanding, inability to choose interests in common with the child, inability to put the child at ease, parental objections to association, and inability to confide in the child.

Comparisons between knowledge of parents of severely speech-defective children and that of parents of the group as a whole. The total scores from which the mean scores were derived were found by adding each parent's score on the multiple-choice test to that made on the true-false test. The value of each true-false statement was 4. Thus, the mean score of the mothers on the objective test was 92.315. The mean score of both mothers and fathers on the objective test was 92.555.

To note more clearly the relationship between the knowledge and attitude of parents and speech defects in children, it was decided to compare the mean scores of the parents of

Fusses too much

TABLE XV

REASONS GIVEN BY STUDENTS FOR NOT
ENJOYING CONVERSATION OR FEELING FREE
AND THE NUMBER GIVING EACH

R e a s o n	Number of students
Doesn't know so much	17
Is not of interest	12
For no particular reason	12
Is not so understanding	10
Does not have common interest	9
Does not make for such easy feeling	7
Mother tells me to go play (doesn't approve)	6
Aren't secretive or confidential	5
Not agreeable and fair	4
Too inquisitive	4
Not dependable	3
Won't pay attention	3
Not enjoyable	3
I don't like him	3
Avoids certain subjects	2
I don't see him often enough	2
Feelings easily hurt	1
I can't get any fun out of him	1
Chooses undesirable subjects	1
"Full of stuff"	1
Talks too much	1
Fusses too much	1

those eleven children who manifested the most severe speech defects with the mean scores of parents of all the children as a whole. The mean score of the mothers of the eleven most severely speech-defective pupils was 87.18; the mean score of the fathers of the eleven most severely speech-defective pupils was 86.27. The mean score of both mothers and fathers was 86.73. Thus, the parents of the most severely speech-defective pupils scored appreciably lower than did the parents of the entire group.

The heretofore superiority of knowledge of fathers over that of mothers does not exist among the fathers of the most severely speech-defective children. However, the difference between the mean scores of their mothers and of their fathers is too slight to be meaningful. It is questionable whether or not the number of eleven cases is sufficient to form a basis for any more highly significant conclusions.

Comparison between the mean home of the severely speech-defective pupil and that of the speech-defective pupil in general. To denote more clearly the relationship between the socio-economic status of parents and speech defects in children, it was decided to compare the mean score of the parents on the socio-economic check list with that of the parents of the eleven severely defective pupils.

The mean score of the parents used in the entire study was 59.63. (This score is calculated on the basis of 100%; that is, 4 was given for the presence in the home of each item on the socio-economic check list.) The mean score of the parents of the eleven severely defective pupils was 57.45. It should be noted that the comparisons between the severely speech-defective group are made with the group as a whole. Consequently, the mean of the group is lower, since it is affected by low scores among the severely defective group; and the difference is greater than the comparison might indicate.

Thus, the socio-economic status of the home of the speech-defective child is lower than that of the more nearly normal speaking child. Here also the number of eleven is considered too small to warrant more detailed comparisons or analyses.

Comparison between the intelligence of the parents of the eleven most severely speech-defective pupils with that of the group as a whole. Four mothers of severely defective pupils were estimated to be of lower intelligence than normal; seven of normal intelligence; and none of higher intelligence than normal. By using a rating of 3 for higher intelligence than normal, 2 for normal, and 1 for less than normal, the average intelligence of the mothers of severely speech-defective

children was found to be 1.64.

Of the eleven most severely speech-defective pupils two fathers were estimated to be of less than normal intelligence; seven of normal intelligence; and two of higher intelligence than normal. The average intelligence of the fathers was 2.0. The average intelligence of both mothers and fathers was 1.88.

The estimated average intelligence of the mothers of all speech-defective pupils was 1.94; that of the fathers, 2.02; that of both mothers and fathers, 2 or normal. Thus, the intelligence of mothers and of fathers of severely speech-defective children is believed to be lower than that of parents of less severely defective children. A much greater difference between the intelligence of parents of severely speech-defective children and less severely defective ones occurred among the mothers. The difference between the intelligence of the two groups was probably not sufficient to handicap the offspring beyond the point of rehabilitation of their speech, and perhaps not even sufficient to impede correction.

Basis for scoring the speech test. The scores for the speech test were determined as follows: 25% for articulation as rated subjectively; 25% for speech as rated subjectively (by speech is meant general effectiveness); and 50% for the twenty-five sentences. For each sentence in which

Ibid.

a key sound was defective 2 was subtracted from the highest possible score of 50. In scoring the speech test and in determining the total score, the subjective rating of the voice was disregarded because voice was considered a physical instrument not susceptible to the influence of parental knowledge or attitude. A copy of the speech test can be found in the appendix.

Correlations. To present more concisely the relation between the condition of speech among the children and the background of the parents, by the rank-difference method¹ the following three correlations were found from raw scores which can be found in the appendix.

1. Between the socio-economic status of the families and the condition of speech: $r = .226$. This correlation is lacking in significance.

2. Between the educational knowledge of parents as revealed by the total scores on both multiple-choice and true-false tests and the condition of speech: $r = .399$. This correlation is significant at the 1% level.²

3. Between the background of the parents as revealed by the total scores on all three tests and the condition of speech: $r = .291$. This correlation is barely significant.³

¹ H. O. Rugg, Statistical Methods Applied to Education (Chicago: Houghton Mifflin Company, 1917), p. 402.

² E. F. Lindquist, Statistical Analysis in Educational Research (Chicago: Houghton Mifflin Company, 1940), 266 pp.

³ Ibid.

CHAPTER V

SUMMARY AND CONCLUSIONS

Of the two hundred pupils (seventy-one boys and one hundred twenty-nine girls in Bruce High and Elementary School, Dyersburg, Tennessee) tested with the Indiana State Speech Test, twenty-seven per cent manifested sufficiently definite deviations from normal speech to justify their classification as speech-defectives. The defective group was comprized of twenty-five boys and twenty-nine girls. Thus, a much larger percentage of boys than of girls was defective.

Through the use of a subjective rating, the voice, articulation, and speech of the girls were found to be superior to those of the boys. The rating of the voice was found to be most nearly equal for both boys and girls and exceptionally high for speech-defective children.

Given their choice of five persons (mother, father, sisters and/or brothers, other children, and other adults), with whom they felt most free and from whom they derived the greatest amount of enjoyment, to be listed in order of preference for conversation, speech-defective children chose mothers most often. The remaining four possible choices in order of popularity and desirableness were sisters and/or brothers, father, other children, and other adults. The most

frequently recurring reasons offered for least preferring choices four and five were: a lack of knowledge, interest, or understanding; inability to put the child at ease; parental objections due either to disapproval of association or to beliefs regarding the proper place of a child.

A classification of defects among the fifty-four pupils used in the study revealed the following facts: that the most serious and most frequently recurring defects were oral inaccuracy, organic disturbances due to defective teeth, tongue, or lips, and an abnormally slow rate; that the least desirable voices were characterized by the presence of hypo-houdness, monotony, or breathiness.

On the multiple-choice test the scores of a few more mothers exceeded those of the fathers than did scores of fathers exceed those of mothers. Conversely, on the true-false test of parental knowledge and attitudes the scores of a far greater number of fathers exceeded those of mothers than did the scores of mothers exceed those of fathers.

The differences in the comparative numbers of mothers and of fathers choosing certain alternative answers to multiple-choice questions were very noticeable and probably significant, since in many instances the choice of an alternative not only revealed the amount of knowledge possessed but also implied the customary practice of the parent in the

home. Many more mothers than fathers thought they should whip as a punishment for misbehavior, treat siblings alike to prevent jealousy, scold a child for talking about grown-ups' affairs, beat a child while they were angry, and pay little attention to a child while he was having a fit of anger. Far more fathers than mothers thought they should scold a child for not answering as soon as they spoke to him. In general, the fathers' choice of alternative answers to multiple-choice questions presented a wider distribution of practices and preferences than did those of the mothers. To a less degree, more fathers than mothers chose certain other alternatives, but the difference was insufficient to be of any great significance.

On the true-false test many more mothers than fathers thought a parent should use baby talk when a child first began to talk and that enuresis was unquestionably attributable to a weakness in the bladder.

A comparison between the order ranks of total scores on multiple-choice questions as answered by mothers and by fathers revealed rather striking similarity in the relative abundance of certain kinds of knowledge of mothers and of fathers, since six questions received the same order rank by mothers as by fathers. These six questions concerned nail biting, sorrow, prevention of jealousy, taking sides with

with a child, agreeing with a child, and demonstrating affection for a child. Striking differences in order ranks showing relatively more abundant knowledge among mothers than fathers occurred in questions concerning child behavior intended to amuse a parent and parental attitudes toward amusing demeanor on the part of a child. A similar difference in favor of fathers concerned the method of punishment for misbehavior.

Similarity in the order ranks of total scores on the true-false test as answered by mothers and by fathers occurred in questions concerning the desirability of quarreling in the presence of a child, favoring the youngest child, being occupied and satisfied most of the time, and sleeping more than eight hours per day. The question with a striking difference in order rank, showing relatively more abundant knowledge among fathers than mothers, concerned causes for enuresis other than a weakness in the bladder. Knowledge of fathers ranked relatively higher than that of mothers shown by their answers to questions concerning the desirability of reminding children of speech defects in grandparents and forcing children to talk in the presence of strangers.

As shown by an inspection of total scores on the multiple-choice test, parents (including mothers and fathers) of speech-defective children possessed the most adequate

knowledge with regard to discouraging selfishness, the prevention of jealousy, demonstration of affection, method of showing approval, and creating a wholesome atmosphere at meal time. They possessed the least adequate knowledge and indulged in the least desirable practices with regard to (1) reaction to fear of dark, (2) action at time of anger on part of parent, (3) methods of prevention and cure of nail-biting, (4) choice of a just cause for sorrow, and (5) choice of a just cause for scolding a child. Thus, it was believed that the parents of speech-defective children were noticeably emotional and somewhat neurotic. However, the parents in this study exhibited much greater knowledge of how to promote desirable relationships among children and parents, siblings, and playmates.

As shown by total scores on the true-false test, the parents possessed the most nearly adequate knowledge of the desirability of using good English in the presence of their children, of refraining from quarreling in the presence of children, and praising children for acts approved by parents. The parents possessed the least adequate knowledge of the desirability of encouraging the development of that dextrality pattern toward which he is naturally disposed, of encouraging children to make their own decisions, and of permitting growing children to sleep more than eight hours per day. Most severely defective children are those who are

The predominant socio-economic characteristics of the home of the speech-defective child in his favor were (1) possession of an individual tooth brush, (2) church membership or a record of regular attendance by the parents, (3) participation in some insurance policy, (4) attendance by the children at parties for their entertainment, and (5) the welcoming of visitors to the home by the parents.

The predominant socio-economic inadequacies in the home of the speech-defective child were (1) the absence of an inside toilet, (2) the classification of the father's occupation as unskilled, (3) a lack of ample bedroom space to provide sufficient privacy and the separation of siblings of opposite sexes, (4) the contributing of the child to his own support, and (5) the absence of ownership of an automobile.

The intelligence of the fathers of speech-defective children is believed to be normal and higher than that of the mothers. This condition is believed a contributing factor to the condition of speech among the children, since the influence of the mother upon the acquisition of speech was probably greater than that of the father. The intelligence of the mother, however, was not considered sufficiently low to handicap the children beyond rehabilitation.

A comparison between the general background of the most severely defective children and that of the group as a

whole revealed several interesting and significant facts.

Both mothers and fathers of severely speech-defective children made appreciably lower scores on the multiple-choice and true-false tests of parental knowledge and attitudes than did the parents of the group as a whole. The average intelligence of both mothers and fathers of severely speech-defective children was only slightly lower than that of the parents of the group as a whole. The socio-economic status of severely defective children was somewhat lower than that of the group as a whole.

A coefficient of correlation of .399 between the amount of educational knowledge of parents and the condition of speech of children in forty-six cases is highly significant at the 1% level.¹

A coefficient of correlation of .22 between the socio-economic status of the home and the condition of speech of children is low and not at all significant at any level.²

A coefficient of correlation of .28 between the total background of the parents and the condition of speech of the children is rather meaningful.

Thus, to the speech-defective child, the possession of inadequate knowledge and of undesirable attitudes by the parent is definitely disadvantageous.

¹ E. F. Lindquist, Statistical Analysis in Educational Research (Chicago: Houghton Mifflin Company, 1940), pp. 15-16.

² Ibid.

BIBLIOGRAPHY

A. BOOKS AND MONOGRAPHS

- Lindquist, E. F., Statistical Analysis in Educational Research. Chicago: Houghton Mifflin Company, 1940. 266 pp.
- Ojemann, Ralph H., Lois Alberta Ackerley, Evelyn Ini Butler, and Blanche E. Hedrick, Researches in Parent Education III. University of Iowa Studies in Child Welfare, Vol. X, No. 285. Iowa City, Iowa: University of Iowa Press, 1934. 391 pp.
- Ojemann, Ralph H., Vera H. Brandon, Eva I. Grant, Ruth Musgrove, Anne Gabriel, and Louise C. Coast, Researches in Parent Education IV. University of Iowa Studies in Child Welfare, Vol. XVII, No. 381. Iowa City, Iowa: University of Iowa Press, 1939. 181 pp.
- Ojemann, Ralph H., Mary Price Roberts, David P. Phillips, Eva A. Fillmore, Josephine Pollock, and Rose L. Hanson, Researches in Parent Education II. University of Iowa Studies in Child Welfare, Vol. VIII. Iowa City, Iowa: University of Iowa Press, 1934. 331 pp.
- Riper, C. Van, Speech Correction Principles and Methods. New York: Prentice-Hall, Inc., 1939. 434 pp.
- Rugg, Harold O., Statistical Methods Applied to Education. Chicago: Houghton Mifflin Company, 1917. 410 pp.
- Skodak, Marie, Children in Foster Homes. University of Iowa Studies in Child Welfare, Vol. XVI, No. 1. Iowa City, Iowa: University of Iowa Press, 1939. 156 pp.
- West, Robert, Lou Kennedy, and Anna Carr, The Rehabilitation of Speech. New York: Harper and Brothers, 1937. 475 pp.

B. UNPUBLISHED MATERIAL

- _____, compiler, Outline of Case History. Indiana State Speech and Reading Clinic. Terre Haute, Indiana. 7 pp.

APPENDIX I

SPEECH TEST, TEST OF PARENT EDUCATION, AND SOCIO-ECONOMIC CHECK LIST

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]

SPEECH TEST

1. Some policemen are fierce.
2. The zoo is the place for lazy boys.
3. Where is the bobwhite?
4. The boy went away.
5. I think Arthur has a sore tooth.
6. Their mother is with them.
7. She is fishing for large fish.
8. The car is usually in the garage.
9. The child watched his lunch.
10. Jane has gingerbread and fudge.
11. His sore toe feels better in his boot.
12. One day I waded in the mud.
13. Make Tommy go home.
14. He went to the nearby lonely barn.
15. She is singing a song.
16. The lady called for Carl.
17. The rich fairy wore a fur coat.
18. How will he behave?
19. He ate a yellow onion.
20. Fido jumped after the beef.
21. It is a very lovely stove.
22. Kate has taken the cake.
23. Give the ugly man his dog.
24. Put the apple in the cup.
25. Bobby has a rubber club.

MULTIPLE-CHOICE PART OF TEST
FOR PARENTAL KNOWLEDGE

1. When your child misbehaves, you should: a. Threaten him. b. "Baby" him. c. Find out why. d. Whip him. e. Scold him.
2. If your child were playing with matches, you should: a. Take them from him. b. Hollow at him. c. Explain the danger of matches. d. Spank him. e. Tell him they will make him wet in bed.
3. When your child "gets into it" with somebody else's child, you should: a. Act as if you don't care. b. Take sides with your own child. c. Take sides with the other child. d. Hear both sides before acting. e. See the parent of the other child.
4. When your child doesn't agree with you, you should: a. Both give and take. b. Give in to him. c. Tell him to hush. d. Lay down the law. e. Give him understanding of your opinion.
5. When you serve a meal, you should: a. Find a dance program on the radio. b. Discuss serious family problems. c. Be cheerful, pleasant, and calm. d. Argue with him. e. Force him to eat everything on his plate.
6. When your child bites his nails, you should: a. Hand him an interesting toy. b. Put pepper on his fingers. c. Wrap stiff pasteboard around his elbow. d. Keep his nails cut short. e. Explain the harm in biting nails.
7. When your child is afraid of the dark, you should: a. Explain the cause of darkness. b. Take him into the dark. c. Force him to go alone into the dark. d. Tell him a ghost story. e. Tell him the buggar-man is in the dark.
8. To prevent jealousy among sisters or brothers, you should: a. Let the younger have his way. b. Take the word of one at one time and that of another at another time. c. Dress one better than the other. d. Treat both of them alike. e. Take the word of the older.

9. When your child has fits of anger, you should: a. Get angry with him. b. Lock him in the closet. c. Put him in bed without supper. d. Pay little attention to him. e. Start talking about something else.
10. A person's teeth should be examined by a dentist: a. Once per year. b. Twice per year. c. Every two years. d. When his teeth ache. e. When a hole is found in them.
11. You should scold your child for: a. Sucking his thumb. b. Not answering as soon as spoken to. c. Lending his toys or other possessions. c. Talking about grown-ups' affairs. e. Not doing his evening work.
12. You should become angry when your child: a. Tears his clothing. b. Tries to correct you. c. Associates with people you do not like. d. Earns low grades in school. e. Shows off in the presence of company.
13. When you are angry, you should: a. Punish your child. b. Talk mean or short to him. c. Try to keep him from knowing you are angry. d. Raise your voice at him. e. Beat him.
14. You should be most sorry for your child when he: a. Develops interest away from home. b. Seems to like other parent better than you. c. Becomes ill. d. Breaks or loses a toy. e. Is disappointed.
15. When you are sorry, you should: a. Cry in the presence of the child. b. Explain the seriousness of what has happened. c. Ask that it not be done again. d. Try to forget as quickly as you can. e. Go to bed.
16. Your child should amuse when he: a. Gets some saying twisted. b. Plays a trick on some playmate. c. Is impertinent. d. Acts stubbornly. e. Dances the jig.
17. When your child amuses you, you should: a. Encourage him to repeat the act. b. Act as though nothing happened. c. Present him with a gift. d. Laugh aloud. e. Correct him.
18. You should take sides with your child when he: a. Refuses to be punished. b. Demands his rights. c. Takes something from some one. d. Tattles on his playmates. e. Insists upon having his way.

19. When you agree with your child, you should: a. Pay little attention to him. b. Praise him. c. Say, "I don't blame you." d. Leave him alone. e. Tell him to go to it.
20. You should show your love for your child by: a. Denying yourself to give to him. b. Allowing him unusual privileges. c. Hugging and kissing him. d. Planning for his future. e. Letting him have his way almost altogether.

TRUE-FALSE PART OF TEST
FOR PARENTAL KNOWLEDGE

1. A child should be encouraged to make his own decisions.
2. When a child acts as you want him to, you should praise him.
3. If you and your husband are quarreling when your child enters, you should "have it out" in the presence of the child.
4. When you whip your child, you should have him know you are very angry.
5. A parent should use baby talk when a child first begins to talk.
6. If a child seems to prefer using his left hand, he should be allowed to use it.
7. What you feed your child makes little difference, so long as you feed him plenty.
8. Children should be forced to talk before strangers.
9. You should favor the youngest child.
10. In the presence of your children you should use the best English you know how to use.
11. When your child wets in the bed, you know that his bladder is weak.
12. When a small portion of your child's body jumps or quivers, you should keep him away from black cats.
13. If your child's grandparents stuttered, you should constantly remind him of this fact.
14. A child should be doing something and be satisfied most of the time.
15. Eight hours of sleep per day is enough for a growing child.

SOCIO-ECONOMIC CHECK LIST

1. Is the father's occupation skilled?
2. Does the mother work?
3. Does the child contribute to his own support?
4. Is there one room in the house for every family member older than twelve years of age?
5. Has the family a radio?
6. Has the family an automobile?
7. Has each child a separate bedroom or one shared by not more than one sibling of the same sex?
8. Has each child an individual tooth brush?
9. Are there in the home twelve books and/or periodicals exclusive of required textbooks?
10. Does the family own the home?
11. Is the house lighted by electricity?
12. Has the house an inside lavatory?
13. Have the parents church membership or a record of regular attendance?
14. Does the family carry insurance?
15. Do members of the family belong to any social organizations?
16. Do members of the family attend motion pictures?
17. Does the family contribute to the Red Cross or to any other charitable organization?
18. Does the family have parties for the entertainment of children?
19. Do the children attend parties for their entertainment?

20. Does more than one distinct family unit occupy the house?
21. Does the family live on a street?
22. Does the family have a bank account?
23. Are games played in the home?
24. Do the parents welcome visitors to the home?
25. Are both parents usually at home after the evening meal?

APPENDIX II
TOTAL SCORES ON TESTS

TABLE XVI

TOTAL SCORES ON MULTIPLE-CHOICE QUESTIONS
AS ANSWERED BY MOTHERS, FATHERS, AND BOTH

Number of question	Mothers' total scores	Fathers' total scores	Total scores of both
1.	110	138	248
2.	158	131	289
3.	158	142	300
4.	114	91	205
5.	165	149	314
6.	77	65	142
7.	57	57	114
8.	214	170	384
9.	137	86	223
10.	134	125	259
11.	126	78.5	204.5
12.	116.5	144.5	311
13.	66	71	137
14.	107	75	182
15.	150	141	291
16.	180	123	263
17.	167.5	123.5	291
18.	215	181.5	396.5
19.	189	149.5	338.5
20.	191	151	242

TABLE XVII

TOTAL SCORES ON TRUE-FALSE QUESTIONS
AS ANSWERED BY MOTHERS, FATHERS, AND BOTH

Number of question	Mothers' total scores	Fathers' total scores	Total scores of both
1.	52	52	104
2.	188	184	372
3.	208	184	392
4.	108	132	240
5.	184	132	316
6.	44	52	96
7.	184	148	332
8.	148	120	268
9.	192	164	356
10.	216	184	400
11.	120	68	188
12.	92	108	200
13.	144	152	296
14.	188	160	348
15.	48	64	112

TABLE XVIII

TOTAL SCORES OF PARENTS ON OBJECTIVE TESTS
AND OF CHILD ON SPEECH TEST

Number of parents	Score on mul.-ch. & T.-F.	Score on socio-ec. check list	Score on both	Child's score on speech test
1.	97.25	64	161.25	70.5
2.	92	64	156	58.5
3.	108.75	68	176.75	57.5
4.	100.75	72	172.75	67
5.	117	88	205	67
6.	84	60	144	59
7.	84	56	142	48
8.	91	64	155	54
9.	87.75	68	155.75	71
10.	95.75	64	159.75	57.5
11.	93.5	44	137.5	65.5
12.	108.25	64	172.75	84.5
13.	88	40	128	32.5
14.	83	56	139	57.5
15.	96	64	160	59
16.	85.5	76	161.25	57
17.	84.5	80	164.5	44
18.	102	80	182	63
19.	91	64	155	70.5
20.	97	60	157	54
21.	91.75	52	143.75	27
22.	77.25	64	141.25	59.5
23.	93.5	44	137.5	65
24.	75.75	52	127.75	53
25.	91	64	155	53
26.	95.75	64	159.75	61
27.	80.5	52	132.5	60
28.	91.75	48	139.75	35
29.	84	40	124	65
30.	84.5	52	136.5	61
31.	92.5	64	156.5	65.5
32.	108.75	64	172.75	69
33.	91	64	155	68.5
34.	94.25	60	154.25	52
35.	99.5	60	159.5	67
36.	93.5	44	137.5	71.5
37.	102	56	158	69
38.	92.5	60	152.5	67

TABLE XVIII (continued)

TOTAL SCORES OF PARENTS ON OBJECTIVE TESTS
AND OF CHILD ON SPEECH TEST

Number of parents	Score on mul.-ch. & T.-F.	Score on socio-ec. check list	Score on both	Child's score on speech test
39.	93.25	52	145.25	66.5
40.	94	60	154	59.5
41.	78.5	52	130.5	33
42.	93.75	68	161.75	69
43.	95	52	147	58
44.	99.75	56	155.75	59
45.	92.5	64	156.5	34
46.	82	64	146	42

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