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SELECTIVITY OF 4-H CLUB
WORK :: AN ANALYSIS OF
FACTORS INFLUENCING
MEMBERSHIP

By

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and

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CONTENTS

	PAGE
PURPOSE OF THE STUDY.....	248
PLAN OF THE STUDY.....	248
Tests Used in Measurements.....	248
Subjects of the Investigation.....	250
ANALYSIS OF SELECTIVITY FACTORS IN 4-H CLUB WORK.....	251
Socio-Economic Factors.....	252
Size of Farm.....	256
Occupations of Fathers.....	257
Nativity of Parents.....	258
Size of Family.....	260
Parental Approval of Social Functions and Activities...	261
Organizational Participation of Parents.....	264
Intelligence.....	268
Participation in Other Organizations.....	270
Rating in Ascendance-Submission.....	272
Appreciation or Depreciation of Farm Life.....	274
SUMMARY AND CONCLUSIONS.....	277

Selectivity of 4-H Club Work

An Analysis of Factors Influencing Membership

By D. E. LINDSTROM and W. M. DAWSON¹

TWO DECADES have passed since the approval of the Smith-Lever Act and related federal and state measures appropriating funds for the promotion of extension work in agriculture and home economics by the various land-grant institutions of the country. During that time project work in agriculture and home economics for boys and girls between the ages of ten and twenty years, known as 4-H club work, has become an important part of the national system of extension education promoted cooperatively by the U. S. Department of Agriculture, the state colleges of agriculture, and county boards or local organizations of farmers and homemakers.

The magnitude of 4-H club work in Illinois is indicated by the fact that more than 23,000 Illinois boys and girls were enrolled in 4-H clubs in 1932, when the data for this study were gathered. These 23,000 boys and girls constituted more than 6 percent of all rural boys and girls between the ages of ten and nineteen inclusive in the state and about 11 percent of the total number of farm boys and girls of those ages in the state.²

¹D. E. LINDSTROM, Associate in Rural Sociology; and W. M. DAWSON, Assistant in Animal Husbandry, who was responsible for the more complicated statistical analyses, and has rendered other assistance in the preparation of the manuscript.

In addition to those whose connections with this study are shown in text or footnotes in the following pages, acknowledgment is due especially to Herbert Woodrow, Head of the Department of Psychology, and C. W. Odell, Associate Professor of Education, for valuable suggestions and criticisms on certain phases of the study, particularly in relation to the multiple-factor analysis and the reliability of the tests; to G. S. Randall and Cleo Fitzsimmons, Extension Specialists in Junior Club Work, for their aid in working out methods to test the reliability of the achievement tests; and to L. A. Wilson, student in commerce, for his assistance in developing the methods of statistical analysis used, especially the factorial analysis method. L. H. Scott and Marshall Harris, Assistants in the Departments of Psychology and Agricultural Economics respectively, also aided in the study.

²According to the U. S. Census there were 205,226 rural boys and 186,334 rural girls in Illinois in 1930. Fifty-seven percent of the rural boys and 53 percent of the rural girls were living on farms.

PURPOSE OF THE STUDY

In 1930 a committee¹ to make a study of 4-H club work in Illinois was appointed by Dean Herbert W. Mumford. The present report represents one part of the work of that committee. In his charge to this committee Dean Mumford said, in part: "I look upon 4-H club work as one of the most constructive activities of the Extension Service. I am pleased with the progress of the work. I feel that it is not necessary to set up a defense of the work, present or past. Recommendations for changes of policy, objectives, or methods need not be considered as a criticism of the past but as evidence of vision and wisdom."

The study was started in September, 1931. The specific objects were to determine by exact methods, so far as possible, (1) the selectivity factors in 4-H club work; (2) the extent to which 4-H club work increases the capabilities of members, if at all; and (3) the extent to which it develops desirable personal qualities.

In this first publication of the results of the study, the general scope of the entire study is indicated, but only those data are presented and analyzed that deal with the selectivity phase of 4-H club work; that is, with those factors which influence boys and girls to join or not to join these clubs. Later reports are planned covering the other phases of the study.

PLAN OF THE STUDY

Tests Used in Measurements

The objectives of 4-H club work may be broadly stated as being: first, to increase the capability of the boys and girls with reference partly to farm and home work and partly to the citizenship in the farming community; and, second, to improve the personal quality of the boys and girls by developing or fostering desirable traits of character, social mindedness, honesty and integrity.²

¹This committee consisted of the following persons: F. E. Longmire, Assistant State Leader of Farm Advisers, Chairman; Mary A. McKee, State Leader in Girls' 4-H Club Work; E. I. Pilchard, State Leader in Boys' 4-H Club Work; Mary Louise Chase, Assistant State Leader of Home Advisers; and D. E. Lindstrom. The committee secured valuable aid in its work from Coleman R. Griffith, Associate Professor of Educational Psychology; E. T. Hiller, Acting Head of the Department of Sociology; and from other members of these staffs.

²These objectives were taken by the committee, from the following statements by 4-H club leaders, to be the chief objectives of 4-H club work in Illinois: (*see page 249*)

In the present study it was found impossible to measure the effectiveness of 4-H club work with regard to all of the points involved in these objectives. Measures were found or devised, however, which could be used with some degree of accuracy to indicate the effectiveness with which 4-H clubs are attaining some of the more important of these objectives. These measures were the following:¹

1. Achievement tests—measuring the degree to which boys or girls have acquired a knowledge of better farm and home practices.
2. Attitude test—measuring the attitude toward farm life.²
3. Social-behavior test—measuring tendencies to attend or take part in desirable or undesirable social functions.
4. Ascendance-submission tests³—measuring reactions to various social situations and indicating probable abilities for leadership and self-confidence.
5. Organization index (number of organizations belonged to and offices held)—showing something of the social inclination, leadership, cooperation, etc., of the individual.
6. Prize index—indicating the extent to which the individual has won prizes and awards.⁴

In addition to these tests, each individual boy or girl in the study was given the Otis intelligence test; and data were collected, by questionnaires, on his status in the 4-H club, his age, occupational preferences, self-rating attitude, agricultural training (both as to projects

¹A more complete description of these is given later at points where they are specifically considered.

²The original attitude scale measured appreciation and depreciation of farm life (Attitude I). A new scale worked out from the same data measured interest in the possibilities of farm life (Attitude II).

³The *Allport Ascendance-Submission Tests* were used.

⁴The prize index was secured on members only, and hence could only be used to help measure differences between groups of members, e.g., those having high achievement scores compared with those having low achievement scores.

Objectives for boys' club work, as set forth by E. I. Pilchard were to enable boys to learn better farm practice, become habitually better workmen thru project work well done, realize upon opportunities around them now, test their fitness for farm life, learn to cooperate thru work and play, develop the ability they have for leadership, develop self-confidence, practice healthful living, develop an interest in continuing their education, and enlarge their vision for possibilities for useful service in life.

Objectives for girls' club work as set forth by Mary A. McKee were to further the adoption of better homemaking practices among girls as a means of interesting them in the finer appreciation of homemaking, to assist in directing the activities of these girls along lines that will aid in their personal development, and to create more intelligent interest in worth-while rural life.

taken in 4-H club work and subjects taken in school), reasons for not belonging to a 4-H club or, in the case of past members, for dropping out, and the size of the family of which he was a member, number of brothers and sisters, nativity and occupation of parents, and socio-economic status of the family. Thus means were obtained for measuring nineteen factors which might influence the scores made on the measures of objectives.

Subjects of the Investigation

Tests and measurements were administered to 2,301 boys and girls between the ages of 10 and 20 years¹ living in sixty communities in six counties² in a diversified-farming section of Illinois, a section in which 4-H club work had been carried on as long as in any part of the state. Usable sets of data were obtained on 2,263 subjects:

Boy members.....	525
Boy past members.....	69
Boy nonmembers.....	446
Girl members.....	599
Girl past members.....	208
Girl nonmembers.....	416

Every effort was made to test comparable groups of members and nonmembers, for it was realized that any variation—as, for example, in the age of persons taking the achievement test—could be expected to influence the scores.

The boys and girls were brought to a central place thru the agency of the farm and home advisers and the local club leaders. Each club member and each past member invited to the meeting was asked to bring an acquaintance who was not a member but who was of about equal age and advancement in school. In this way a fairly satisfactory control group of nonmembers was obtained. By comparing the scores made by these comparable groups of members or past members and nonmembers it was believed that it would be possible to show the influence which 4-H club teaching had had on the members of the 4-H clubs. Furthermore, by comparing the scores of nonmember boys living in areas where no 4-H club work was available with the scores of members living in other comparable areas, one might arrive at a

¹A few past members and nonmembers were older than twenty years, and a few others were a few months younger than ten years.

²The authors acknowledge the cooperation and helpfulness of the farm and home advisers, county superintendents of public instruction, local public school superintendents, principals, and teachers, and the 4-H club leaders in these counties and communities in providing facilities and bringing the children together for the tests.

truer measure of the influence of club work on members; but in the present study the absence of a 4-H club was for so few nonmembers (only about 2 percent) the reason for not belonging to such a club, that it was not possible to make this comparison.

Inasmuch as the sample of members included all 4-H members living in the community at the time the test was made, irrespective of their age or length of time in 4-H club work, it was felt that the sample was as nearly random as it was possible to get.

Differences in the environment and the interests of boys and of girls made it necessary to give them different tests on achievement and on ascendance-submission, and consequently most of the data are reported separately for boys and for girls.

Differences between the environmental conditions of rural boys and girls living in towns and villages and those living on farms might also be expected to affect their interests and consequently their scores in some of the tests. Some indication of the effect of such differences is shown in Table 1. In the present study, however, this point was measured only with respect to the achievements and attitudes of the boys.

TABLE 1.—SCORES OF FARM BOYS AND TOWN BOYS: AVERAGES MADE ON NINE VARIABLES BY MEMBERS AND NONMEMBERS

Variable	Scores of nonmembers			Scores of members		
	135 town boys	309 farm boys	Difference in favor of farm boys	57 town boys	527 farm boys	Difference in favor of farm boys
Age (months).....	173.9	173.8	— .1	180.2	183.1	+2.9
Intelligence quotient.....	100.1	99.2	— .9	98.8	98.3	— .5
Achievement.....	23.7	28.8	+5.1	29.5	39.1	+9.6
Ascendance-submission.....	36.3	34.9	—1.4	35.1	35.8	+ .7
Organization index.....	9.7	7.8	—1.9	10.7	10.6	— .1
Attitude I.....	4.9	4.2	— .7*	4.2	3.8	— .4*
Attitude II.....	31.4	31.4	0	37.8
Socio-economic status.....	45.0	47.5	+2.5	53.7	59.4	+5.7
Social behavior.....	10.3	10.8	+ .5	10.6	10.7	+ .1

*A low score is a good score for Attitude I; the difference is therefore in favor of the farm boys.

ANALYSIS OF SELECTIVITY FACTORS IN 4-H CLUB WORK

The selectivity of 4-H club membership is an important consideration in any study of the effectiveness of club work. By selectivity is meant the quality of attraction or of repulsion in club work which draws or fails to draw boys and girls into the work. Selectivity is

the sum of all the factors or influences which determine whether or not a boy or girl will join the club.

Club work may, for example, appeal to the more intelligent rural young people, or it may appeal to relatively greater numbers with average or inferior mental ability. Or it may be more readily available to boys and girls belonging to families with high socio-economic status; or it may draw especially on families whose circumstances are not so favorable. It may draw and hold the interest of those boys and girls who had, previous to their joining such a club, a more sympathetic attitude toward farm life; and thus "previous attitude toward farm life" may be considered to be a selective factor in determining membership in 4-H clubs.

In measuring the effects of any one of these factors, it was possible to show, by comparing the scores of groups in which all other factors which could be shown to have an effect on the result were comparable, whether the factor was an important consideration in determining membership—that is, whether the scores made by members and nonmembers on that factor differed significantly.

More accurate knowledge concerning the nature of the appeal made by 4-H club work should prove helpful to administrators and leaders in their efforts to broaden the scope and increase the effectiveness of the work.

Socio-Economic Factors

The scale¹ for determining the socio-economic status of members and nonmembers of 4-H clubs consisted of twelve items: whether or not the family had (1) a telephone, (2) furnace heat, (3) a piano, (4) an automobile other than a truck, (5) a phonograph or radio; (6) the number of newspapers taken regularly; (7) the number of books in the home; (8) the number of magazines taken regularly; (9) whether the father had attended high school; (10) whether the mother had attended high school; (11) tenure or occupational status; and (12) whether English was the only language spoken in the home.

The average rating, on the socio-economic rating scale, of the boy members' families was significantly higher than that of the nonmembers' families, the average score for members' families being 59.38 and for nonmembers 47.17 (Table 2). The difference between averages was 12.21 points, which is 14.7 times its probable error, and may therefore be considered highly significant statistically.

¹Heilman's revision of the *Chapman-Sims Socio-Economic Ruling Scale*. Jour. Ed. Res. 18, 117-126. Sept., 1928.

TABLE 2.—BOYS' SCORES: AVERAGES OF MEMBERS AND NONMEMBERS ON ELEVEN VARIABLES

Variable	Members (total number = 525)	Nonmembers (total number = 446)	Difference	D/P.E.
A. Years in 4-H club work.....	2.65 ± .043
B. Size of family.....	6.11 ± .063	5.93 ± .069	.18 ± .093	1.9
C. Age (months).....	182.60 ± .758	174.09 ± .769	8.51 ± 1.080	7.9
D. Intelligence quotient.....	98.47 ± .384	99.56 ± .437	1.09 ± .574	1.9
E. Achievement.....	38.46 ± .552	27.34 ± .515	11.12 ± .768	14.5
F. Ascendance-submission.....	35.99 ± .391	35.26 ± .456	.73 ± .607	1.2
G. Organization index.....	10.66 ± .226	8.37 ± .212	2.29 ± .310	7.4
I. Parental organization index.....	4.33 ± .221	3.41 ± .134	.92 ± .258	3.6
K. Attitude I.....	3.77 ± .048	4.45 ± .059	.68 ± .071	9.6
L. Socio-economic status.....	59.38 ± .562	47.17 ± .609	12.21 ± .829	14.7
M. Social behavior.....	10.72 ± .043	10.57 ± .053	.15 ± .068	2.2

TABLE 3.—GIRLS' SCORES: AVERAGE OF MEMBERS AND NONMEMBERS ON ELEVEN VARIABLES

Variable	Members (total number = 599)	Nonmembers (total number = 416)	Difference	D/P.E.
A. Years in 4-H club work.....	2.29 ± .038
B. Size of family.....	5.83 ± .059	6.14 ± .075	.31 ± .095	3.3
C. Age (months).....	167.61 ± .665	172.50 ± .803	4.89 ± 1.043	4.7
D. Intelligence quotient.....	103.84 ± .370	101.89 ± .440	1.95 ± .575	3.4
E. Achievement.....	46.22 ± .415	44.26 ± .471	1.96 ± .628	3.1
F. Ascendance-submission.....	48.49 ± .377	45.60 ± .472	2.89 ± .604	4.8
G. Organization index.....	9.35 ± .185	8.56 ± .209	.79 ± .279	2.8
I. Parental Organization index.....	6.07 ± .181	4.08 ± .170	1.99 ± .248	8.0
K. Attitude I.....	4.13 ± .049	4.53 ± .062	.40 ± .078	5.1
L. Socio-economic status.....	54.54 ± .579	48.50 ± .679	6.04 ± .892	6.8
M. Social behavior.....	10.80 ± .041	10.71 ± .051	.09 ± .654	.1

Note.—For those who are unfamiliar with statistical methods, it might be stated that the quotient obtained by dividing the difference by its probable error indicates the probability that the event described was or was not a matter of chance. A difference three times its probable error is usually considered significant in statistical procedure, and is the standard used in this paper. It should be understood, however, that this standard is an arbitrary one. The following brief table from Hayes and Garber, *Breeding Crops Plants*, may be of help to some readers in realizing the significance of certain differences when viewed in relation to their probable errors.

Difference divided by
probable error

Odds against the occurrence of a difference as
great as or greater than the designated
one in a normal population

1.0.....	1.00:1
2.0.....	4.64:1
3.0.....	22.26:1
4.0.....	142.26:1
5.0.....	1,350.35:1
6.0.....	19,230.00:1

The simple frequency chart (Fig. 1) shows that a significantly larger percentage of member boys than nonmember boys came from families rating in the higher socio-economic brackets. Fifty-four percent of the members' families had ratings of 60 and higher, while but 27 percent of the nonmembers' families rated that high. Past-member boys likewise came from more favorably situated families than nonmember boys. The slight difference between member and past-member boys favored the members.

The difference in socio-economic status of families of girl members and families of girl nonmembers was not so marked as in the boy

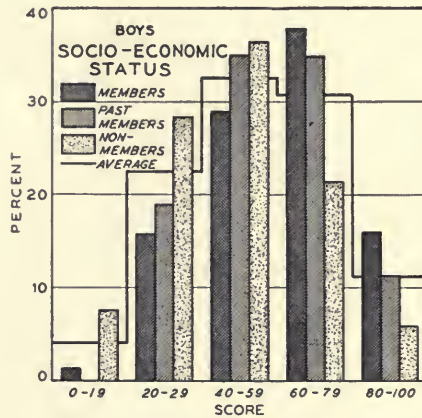


FIG. 1.—DISTRIBUTION OF SCORES MADE BY BOYS ON TEST FOR SOCIO-ECONOMIC STATUS OF FAMILIES

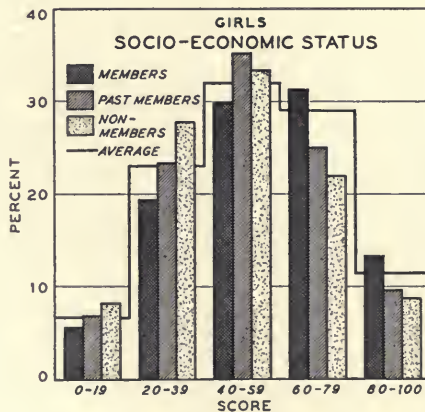


FIG. 2.—DISTRIBUTION OF SCORES MADE BY GIRLS ON TEST FOR SOCIO-ECONOMIC STATUS OF FAMILIES

groups, but still it was highly significant. The mean rating for families of girl members was 54.54 and for families of girl nonmembers, 48.50 (Table 3). The difference, 6.04, is 6.8 times its probable error. Forty-five percent of the girl members came from families with socio-economic ratings of 60 or higher, whereas only 34 percent of past members and 30 percent of nonmembers came from families with such ratings (Fig. 2).

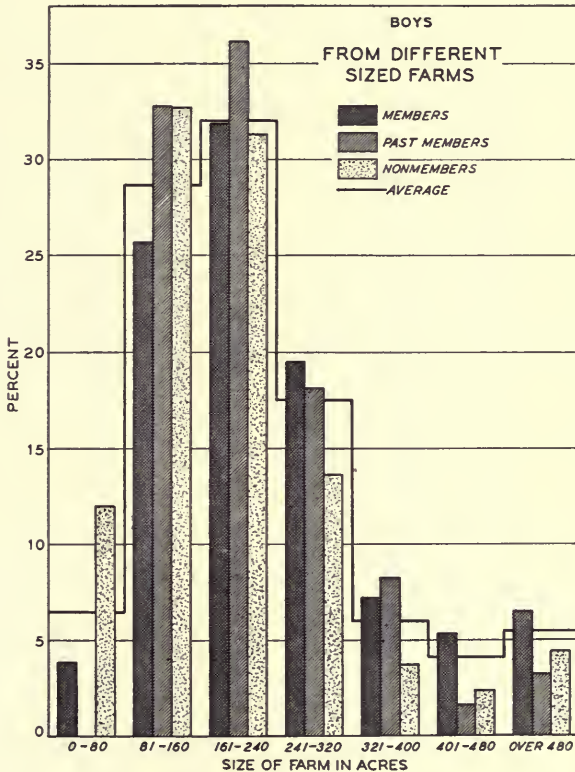


FIG. 3.—PERCENTAGES OF BOYS WHO LIVED ON FARMS OF DIFFERENT SIZES

These data on socio-economic status indicate, in general, that 4-H club membership tends to draw boys and girls from homes having the greater economic and social advantages. That this occurs to a greater extent with boys than with girls may be due to the fact that a larger outlay of money is required in starting a boys' project than in starting

a girls' project. Participation in a pig or calf club requires, for example, buying a pig or a calf.

Size of Farm

The largest percentage of member boys came from families living on farms of 161 to 240 acres, while the greatest percentage of non-member boys came from farms of 81 to 160 acres (Fig. 3). The situation was somewhat different, however, with the girls. The high-

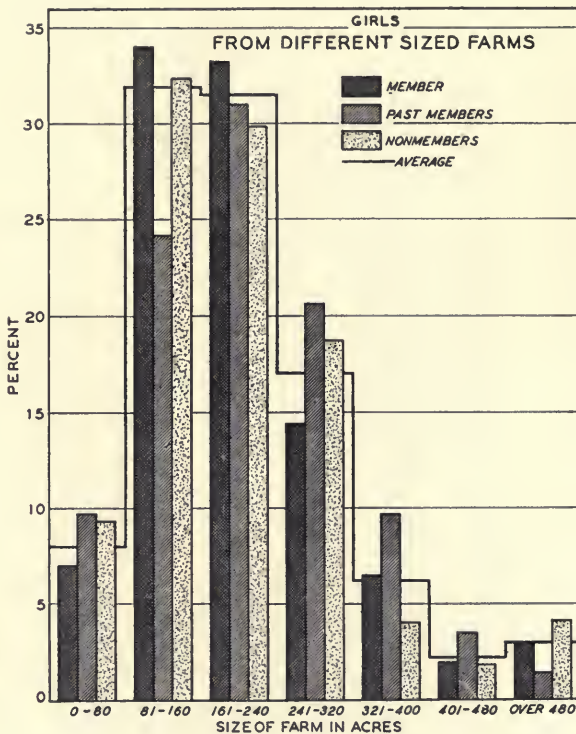


FIG. 4.—PERCENTAGES OF GIRLS WHO LIVED ON FARMS OF DIFFERENT SIZES

est percentage of both member and nonmember girls came from families living on farms of 81 to 160 acres (Fig. 4). Yet girl members came from families more advanced socio-economically than families of girl nonmembers (Fig. 2). The girl members' families that were furthest advanced in the socio-economic scale evidently had more of things other than land.

Occupations of Fathers

Boys' club work is very closely related to farm work and farm life. Only 9.9 percent of the boy members' fathers, compared with

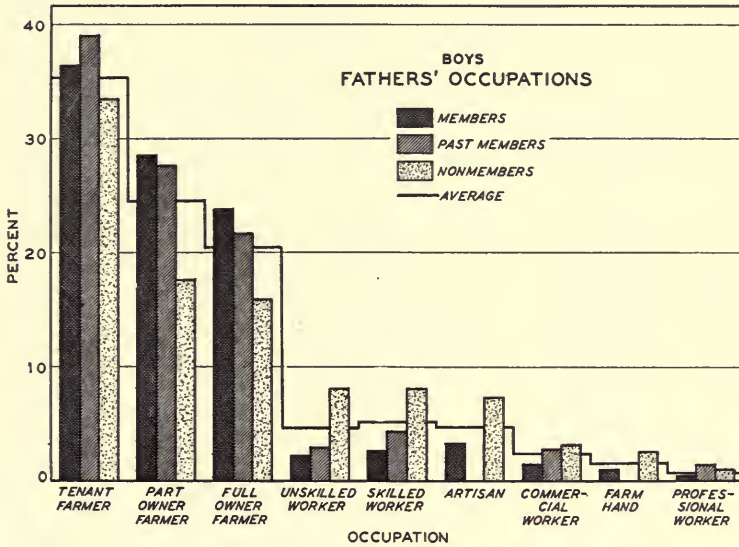


FIG. 5.—PERCENTAGES OF BOYS WHOSE FATHERS HAD OCCUPATIONS SPECIFIED

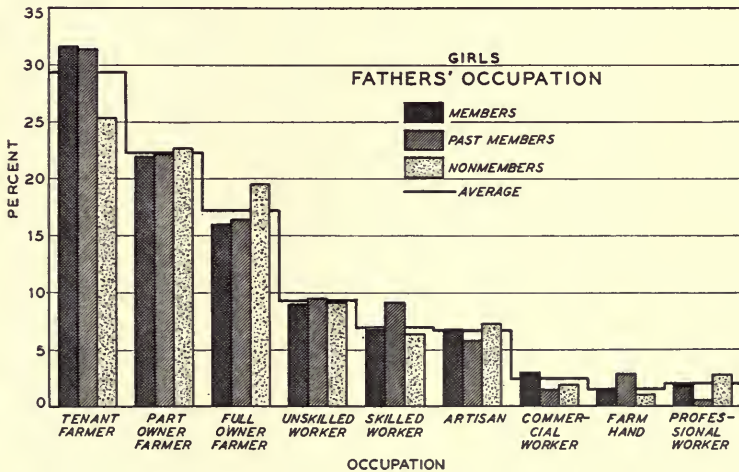


FIG. 6.—PERCENTAGES OF GIRLS WHOSE FATHERS HAD OCCUPATIONS SPECIFIED

27.4 percent of the boy nonmembers' fathers (Fig. 5), were in other than farming occupations. Equal proportions (27.4 percent) of the girl members' and nonmembers' fathers were engaged in occupations other than farming¹ (Fig. 6). Girls' 4-H club work, being closely related to homemaking activities, would be expected to appeal as much to town girls as to girls living on farms.

Nativity of Parents

About 87 percent of the parents of all the subjects of this study were native born (Figs. 7 and 8). Of the foreign-born parents, those

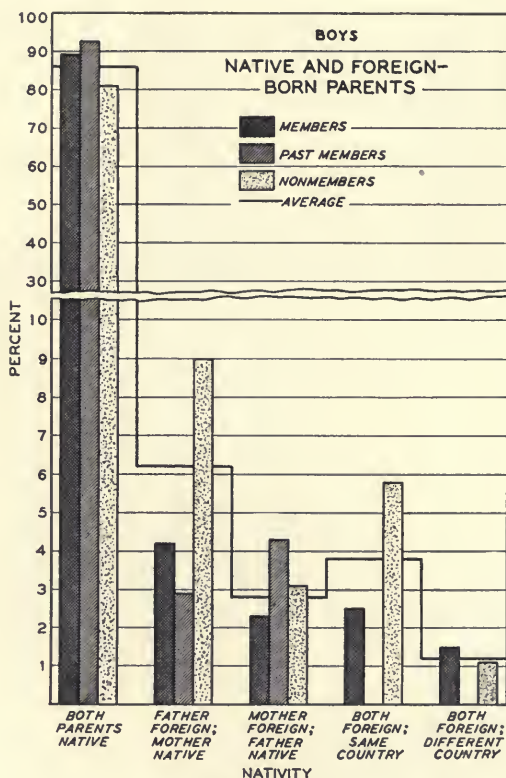


FIG. 7.—PERCENTAGE OF BOYS WITH NATIVE OR FOREIGN-BORN PARENTS

¹The percentage of nonmember boys and girls whose fathers were in occupations other than farming may have been influenced to some extent by the method of selecting the sample, for many of the chums of members may have been village boys or girls. See pages 250 to 251.

of German and Scandinavian ancestry predominated. A greater proportion of the fathers than of the mothers were of German birth. Other nationalities represented were English, Scotch, French, Italian, Spanish, Polish, Russian, and a few Asiatics.

Greater proportions of nonmembers than of members had foreign-born parents. Nine percent of the boy nonmembers and 6.7 percent

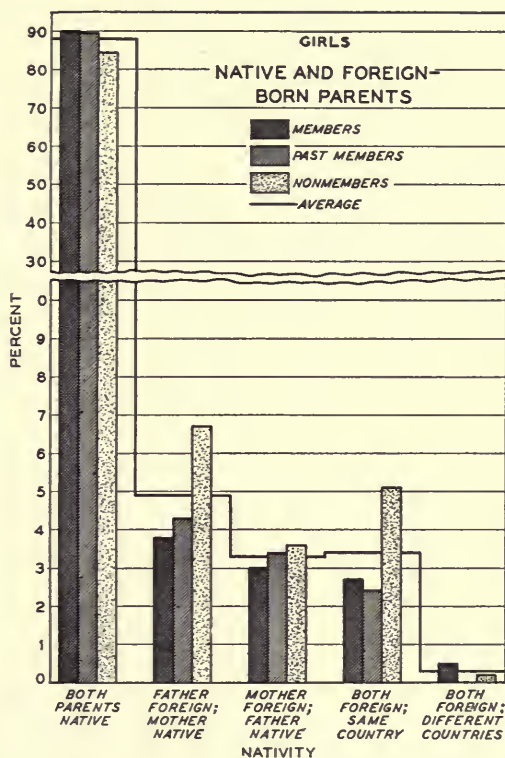


FIG. 8.—PERCENTAGES OF GIRLS WITH NATIVE OR FOREIGN-BORN PARENTS

of the girl nonmembers had foreign-born fathers and native mothers; whereas only 4.2 percent of boy members and 3.8 percent of girl members had this parentage. Both parents of 5.8 percent of the boy nonmembers and 5.1 percent of the girl nonmembers were foreign born. Only about 2½ percent of both the boy and the girl members came from families in which both parents were foreign born.

These differences suggest that 4-H clubs make a greater appeal to, or are more easily available to, children of native-born parents than to children of foreign-born parents. A division of the data per-

taining to boys on the basis of farm and town reveals that this is not a tendency resulting wholly from the fact that town boys as well as country boys are included in the samples. The same tendency operates among farm boys, altho to a less degree than among town boys:

	Nonmember boys		Member boys	
	135 town boys perct.	309 farm boys perct.	57 town boys perct.	527 farm boys perct.
Parents native born	75.6	83.1	94.7	89.1
One or both parents foreign born	24.4	16.9	5.3	10.9

Size of Family

Size of family appeared to have little relation to 4-H club membership. The small difference between the average size of the boy members' families (6.11 persons) and of boy nonmembers' families (5.93 persons) is not significant. Between girl members' families (5.83 persons) and girl nonmembers' families (6.14 persons) the difference is just significant (Tables 2 and 3).

The differences between members, nonmembers, and past members in the numbers of brothers and sisters which they had at home also are small and probably not significant (Figs. 9 and 10). While there is

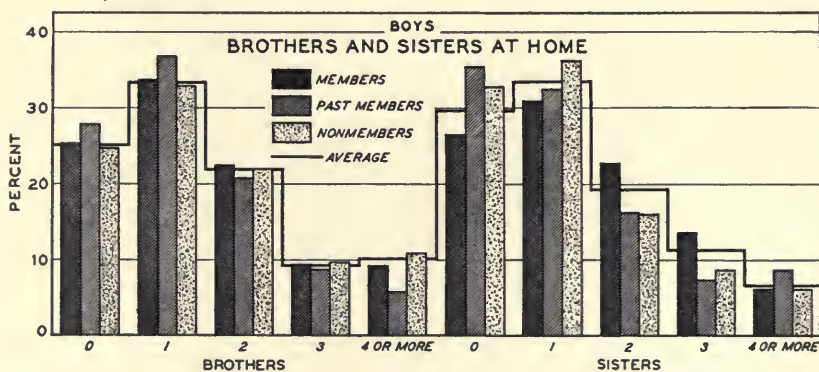


FIG. 9.—PERCENTAGES OF BOYS WHO HAD INDICATED NUMBERS OF BROTHERS AND SISTERS AT HOME

a slight indication that the fewer brothers a boy had at home the more likely he was to become a 4-H club member, and likewise the fewer sisters a girl had at home the greater was the likelihood that she would join a 4-H club, little reliance can be placed on these differences. The exact percentages were as follows:

	More than 1 brother at home	No brother at home	More than 1 sister at home	No sister at home
Boy members.....	41.0	25.3	42.5	26.5
Boy nonmembers.....	42.6	24.7	31.1	32.7
Girl members.....	39.7	28.0	33.6	34.1
Girl nonmembers.....	43.3	25.2	35.6	28.1

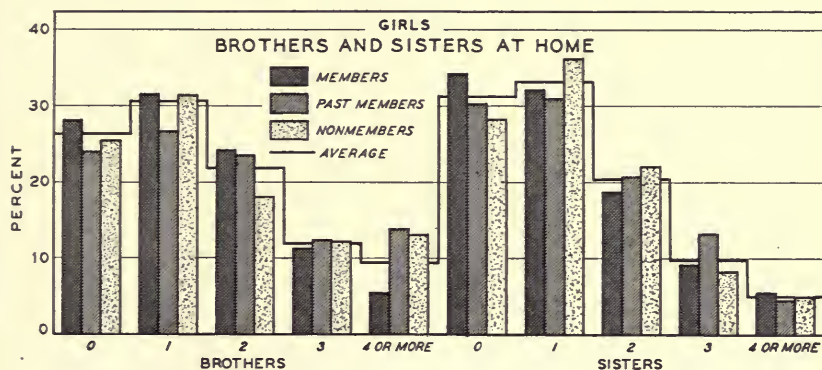


FIG. 10.—PERCENTAGES OF GIRLS WHO HAD INDICATED NUMBERS OF BROTHERS AND SISTERS AT HOME

Parental Approval of Social Functions and Activities

The boys and girls were asked to indicate on the questionnaire the various types of social functions and activities of which their parents approved.¹ The activities upon which they reported were visiting, attending church services, parties, fairs, movies; frequenting soda fountains, street carnivals, and dances; street loafing; and visiting roadhouses. In general, greater proportions of the members than of the nonmembers, both boys and girls, reported parental approval of the more socially "desirable" activities. The "desirability" of a function or activity was determined on the basis of the percentage of parents of all the boys and girls (members, past members, and nonmembers) of this study who, according to the report, approved of the function. Thus churches, visiting, parties, and fairs were rated high in desirability, while street carnivals, dances, and especially street loafing and roadhouses were rated low (Fig. 11).

Boys.—The greatest differences in the boys' reports occurred in

¹More accurate information might have been obtained had the question been whether the parents *disapproved* of certain undesirable places or activities, but lack of time and the nature of the questionnaire would not permit doing so at the time the data were obtained. Doubtless this, as well as other of the technics used, could be improved were another similar study to be made.

regard to church, fairs, and social visiting. Eighty-six and one-half percent of the boy members and 60.1 percent of the boy nonmembers reported parental approval of church activities. The proportion of boy members reporting parental approval of fairs was 80.6 percent and of nonmembers, 68.2 percent. Parental approval of visiting was reported

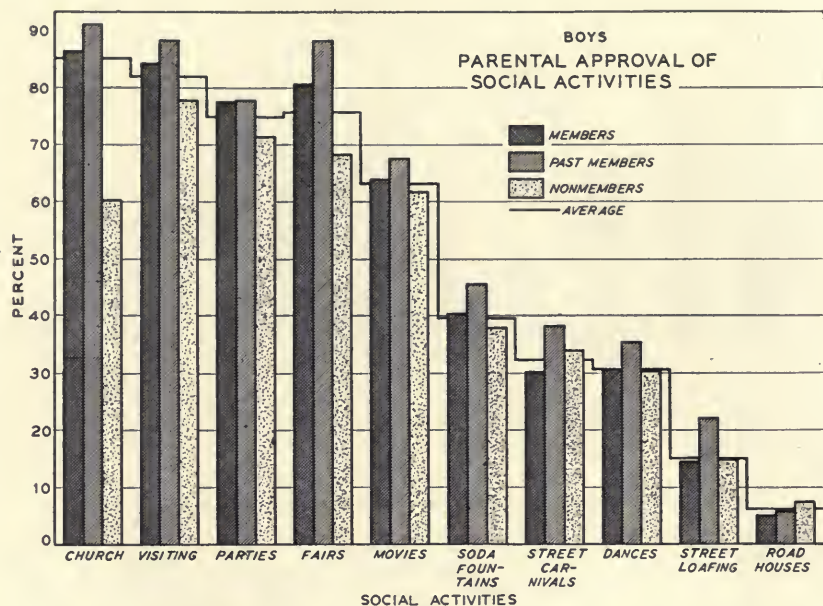


FIG. 11.—PERCENTAGES OF BOYS WHOSE PARENTS APPROVED OF SPECIFIED SOCIAL ACTIVITIES

by 84.4 percent of the boy members and 77.8 percent of the boy nonmembers (Fig. 11). The differences shown in connection with the other types of activities were small. Slightly greater proportions of boy members than of boy nonmembers indicated that their parents approved of parties, "movies," and frequenting soda fountains. On the other hand, slightly greater proportions of the nonmember boys than of member boys reported parental approval of street carnivals and road houses. The percentages were about equal in regard to approval of dances and street loafing.

Girls.—In general, the differences in the percentages of girl members and girl nonmembers who reported parental approval of the various social activities were small and most of them were too small to be significant. However, as with the boys, but to a less extent, there was a tendency for a greater percentage of members than of

nonmembers to report parental approval of the more socially desirable activities (Fig. 12). Ninety and three-tenths percent of the girl members and 88 percent of the girl nonmembers reported parental approval of church activities. The proportions of members and nonmembers who reported parental approval of fairs were 79 and 72.4 percent respectively.

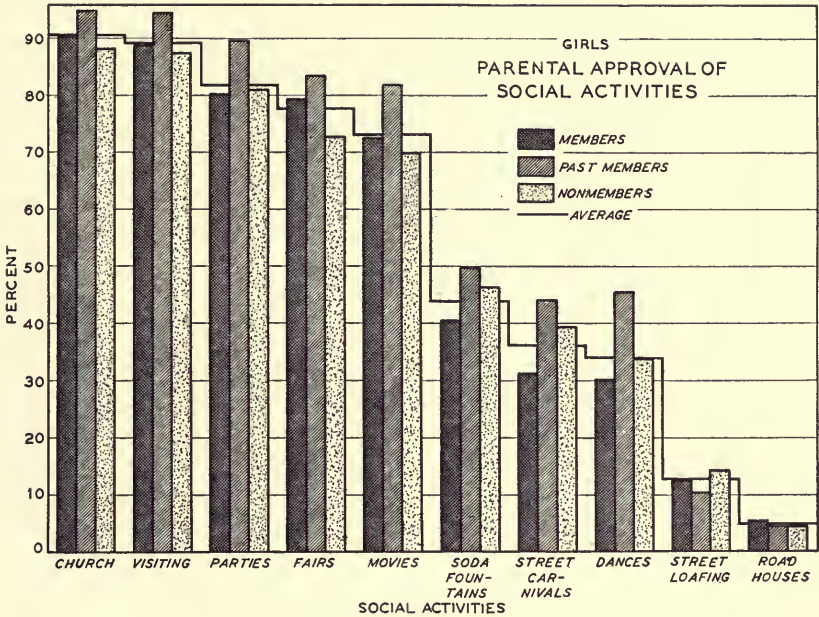


FIG. 12.—PERCENTAGES OF GIRLS WHOSE PARENTS APPROVED OF SPECIFIED SOCIAL ACTIVITIES

The proportions of members and nonmembers reporting parental approval of visiting were 88.6 and 87.3 percent respectively, and of movies, 72.3 and 68.7 percent respectively.

The greatest differences in the girls' reports occurred in connection with street carnivals and soda fountains. Over 39 percent of the girl nonmembers and 31 percent of the girl members reported parental approval of street carnivals. In regard to frequenting soda fountains the proportions were 46.2 percent and 40.2 percent respectively for nonmembers and members. Slightly greater percentages of nonmembers than of members reported parental approval of dances and street loafing. The percentages were about equal in regard to parties.

Past Members.—It is interesting to note that greater proportions of boy past members than of boy members reported parental approval

of all forms of social functions and activities. The same was true in the girls' reports, with the exception of street loafing and frequenting roadhouses. These were reported by slightly greater proportions of members than of past members as having parental approval.

Some of the differences between the reports of members and past members were quite large (Fig. 12). For example, the proportions of parents of member girls and of past-member girls who were said to approve dances were 30 and 45.5 percent respectively. In regard to street carnivals, soda fountains, "movies," and parties the differences were smaller, ranging from 12.8 to 9.4 percent, the larger proportion being in each case the reported attitude of past members' parents.

A higher percentage of parents of past members than of parents of nonmembers were also reported as approving practically all activities.

All this suggests that rural boys and girls whose parents are lenient in regard to the social activities of their children tend to join the 4-H club and then, because so many other forms of activity are open to them, tend to drop out of the club as soon as the novelty wears off or when, perhaps, they fail to win awards or be outstanding in other ways. Thus the general attitude of the parent toward the various available social activities seems to be a factor which helps to determine not only whether the boy or girl shall join a 4-H club but also how long he or she shall remain a member.

Organizational Participation of Parents

The boys and girls examined were asked to indicate on the questionnaire the community organizations to which their parents belonged and also the offices held by their parents in the various organizations. A parental "organizational index,"¹ was calculated from the information thus obtained, which indicated the relative amount of organizational participation for each parent.

¹The organization indexes, worked out by D. E. Lindstrom and E. L. Welker, were designed to measure the social mindedness and leadership of the individual by means of a single score weighted in accordance with the individual's membership in certain organizations and his having or not having held office in them. The organizations included in the parental index were (1) farm bureau, (2) home bureau, (3) grange, (4) household science club, (5) school board, (6) church, (7) Sunday school, (8) church society, (9) social club, and (10) lodge. The index score was the sum of the scores for the individual organizations. These scores were themselves derived by weighting the organization in accordance with the percentage of the parents of boys or girls belonging to it, the number of years membership in the organization, and whether the parent of the boy or girl held an office.

When these organizational indexes (Figs. 13 and 14) of parents of members, past members, and nonmembers of 4-H clubs were com-

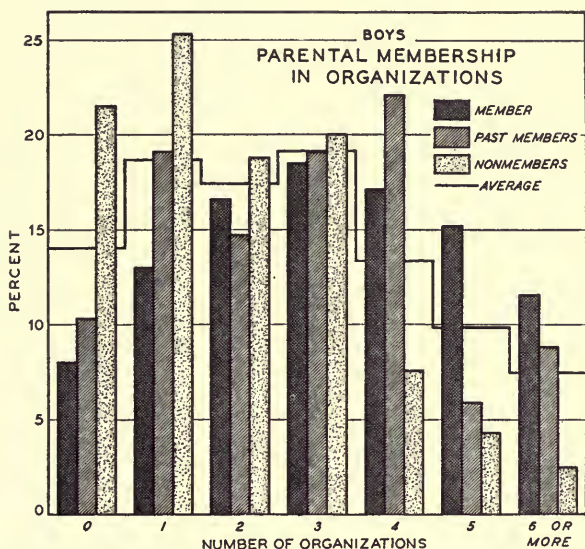


FIG. 13.—PERCENTAGES OF BOYS WHOSE PARENTS WERE MEMBERS OF NUMBERS OF ORGANIZATIONS INDICATED

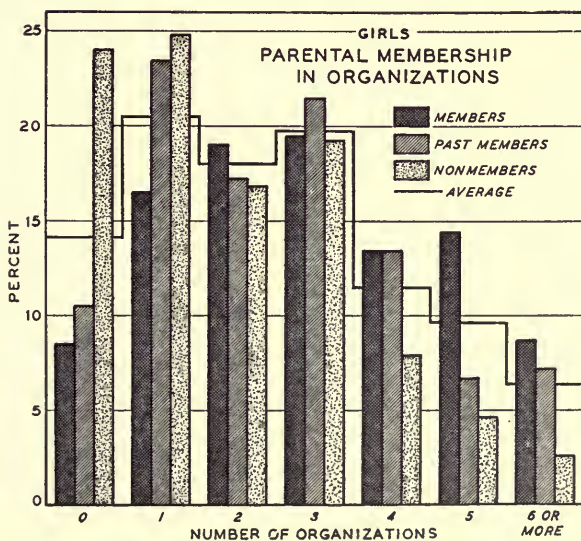


FIG. 14.—PERCENTAGES OF GIRLS WHOSE PARENTS WERE MEMBERS OF NUMBERS OF ORGANIZATIONS INDICATED

pared, it was apparent that the clubs tended to draw to them the boys and girls whose parents were reported to be socially active. The mean index of the parents of boy members was 4.33 and that of the parents of boy nonmembers was 3.41. The difference is fairly significant ($D/PE_d = 3.6$). Sixty-two and five-tenths percent of the parents of boy members and but 33 percent of the parents of boy nonmembers had indexes above 3.0.

The mean organizational index of the parents of girl members was 6.07, and of the parents of girl nonmembers 4.08. The difference is very significant, being eight times its probable error. Fifty-six percent of the parents of girl members and 38.2 percent of the parents of girl nonmembers had indexes above 3.0.

These figures seem to indicate that participation by parents in organizations increased the likelihood that their children would join 4-H clubs.

The greatest differences between parents of members and parents of nonmembers with respect to organizational participation were in relation to the farm bureau (Figs. 15 and 16). Fifty-four percent of the fathers of boy members and 48.5 percent of the fathers of boy past members, but only 19 percent of the fathers of boy nonmembers, belonged to the farm bureau. Twenty-three percent of the mothers

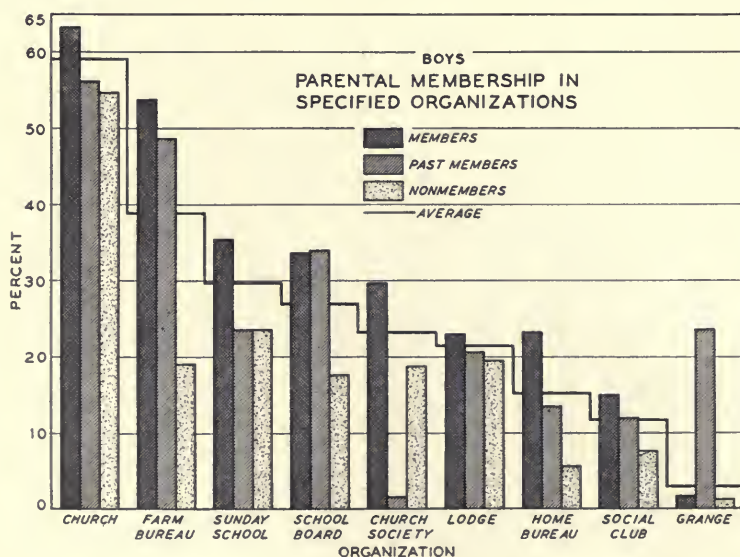


FIG. 15.—PERCENTAGES OF BOYS WHOSE PARENTS WERE MEMBERS OF SPECIFIED ORGANIZATIONS

of boy members and 13.2 percent of the mothers of boy past members, but only 5.6 percent of the mothers of boy nonmembers, were in the home bureau. The difference in proportion of girl members' fathers and girl nonmembers' fathers belonging to the farm bureau was not so marked: 35.7 percent of members' fathers, 30.6 percent of past members' fathers, and 23.6 percent of nonmembers' fathers. These smaller differences in the girl groups were probably due to the fact mentioned above (pages 257 and 258) that a higher proportion of girl members than of boy members of 4-H clubs came from families not engaged in farming, and fathers of such families would not be likely to join the farm bureau.

Greater proportions of the parents of members than of nonmembers, both boys and girls, were said to belong to the church, Sunday school, school board, church society, lodge, social club, and granges. The greatest differences were in the percentages reported as belonging to Sunday school, school board, church society, and social club.

The above facts indicate that the type or character of the social participation of parents, as well as its extent, is related to the extent to which the children become members of 4-H clubs. A definite relationship very probably exists between the type or character of the

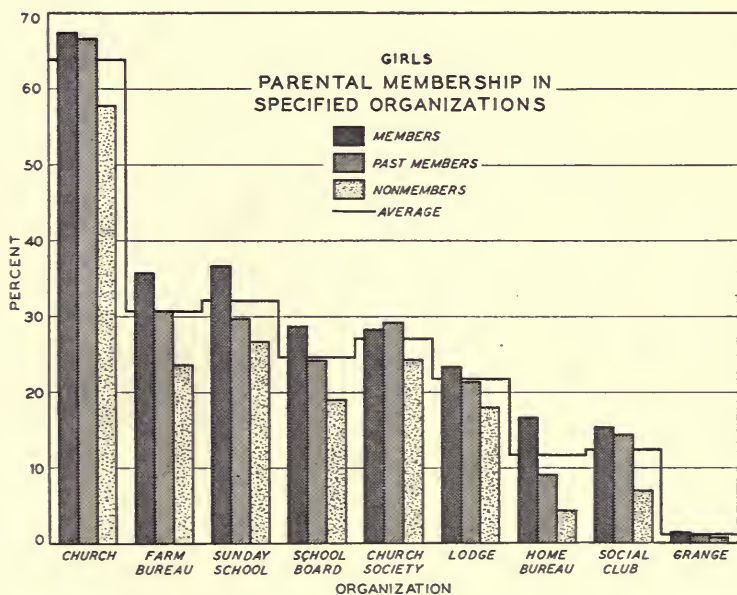


FIG. 16.—PERCENTAGES OF GIRLS WHOSE PARENTS WERE MEMBERS OF SPECIFIED ORGANIZATIONS

social participation of the parent and his attitude toward the various social activities of young people. The same personality traits, in other words, which determine his choice of organizations also underlie his attitudes toward the social organizations, functions, and activities available to his children.

Intelligence

The *Otis Self-Administering Intelligence Test, Higher Form B* was used to obtain I.Q. ratings on all the boys and girls in this study. This test was considered sufficiently reliable for group comparisons.

According to the scores made on these tests, girls 4-H club work appeals to superior girls in such a way as to hold them in relatively greater numbers than the boys' 4-H club work holds superior boys. Also, boys' 4-H club work appeals to boys in the lower I.Q. ranges in such a way as to hold them in greater relative numbers than girls' club work holds girls in the lower ranges.

Boys.—The results from the tests with the boys indicated that within the I.Q. limits covered in the study,¹ 4-H clubs exerted no particular selective influence. The mean I.Q. of the boy members was 98.47 and of the boy nonmembers 99.56 (Table 2). The difference of 1.09 points, only 1.9 times its probable error, is not significant. Thirty-five and three-tenths percent of the members and 35.0 percent of the nonmembers had I.Q.'s of 93 or less, 48.4 percent of the members and 47.6 percent of the nonmembers had I.Q.'s of 94 to 111, and 16.3 percent of the members and 17.5 percent of the nonmembers had I.Q.'s of 112 or above (Fig. 17).

The boys' clubs seemed to keep the interest of a greater proportion of boy members of superior mental ability than boys of more nearly average intelligence. This is shown by the fact that only 48.4 percent of the boy members, compared with 56.6 percent of the past members, had I.Q.'s of 94 to 111, whereas 16.3 percent of the members and 16.0 percent of the past members fell in the highest I.Q. group (112 or above). At the same time the club held the boys of the lower I.Q. group in greater proportions than the boys of the superior groups. Only 27.4 percent of the past members, but 35.3 percent of the members, had I.Q.'s of 93 or less.

The fact that a greater proportion of "superior" boys than of "average" boys remained in these clubs may be due to the tendency

¹Ninety-nine and one-half percent of the 2,263 subjects included in this study fell within the Otis I.Q. range of 61 to 141. This study would naturally not include individuals from the lower levels of intelligence.

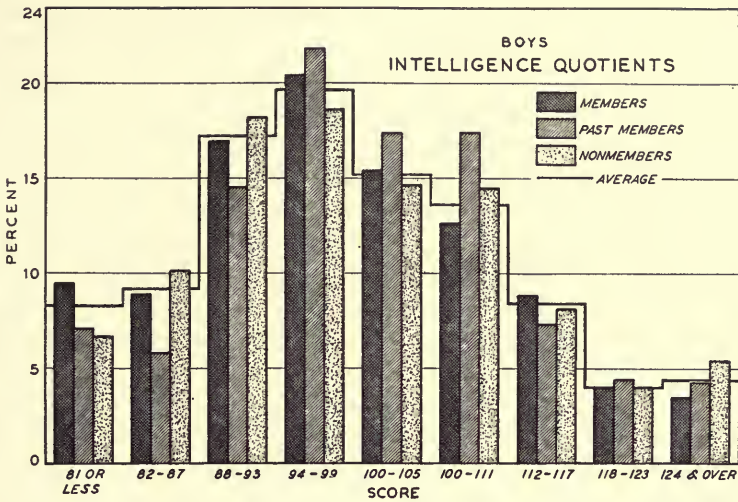


FIG. 17.—DISTRIBUTION OF SCORES MADE BY BOYS ON INTELLIGENCE TESTS

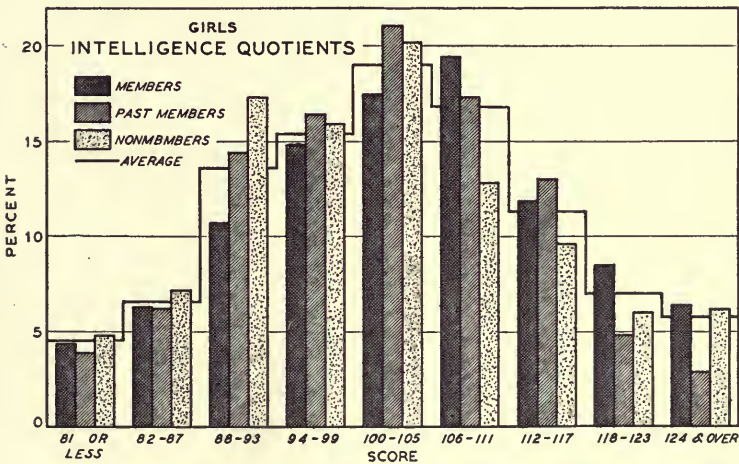


FIG. 18.—DISTRIBUTION OF SCORES MADE BY GIRLS ON INTELLIGENCE TESTS

for greater numbers of them to win prizes, assume leadership, or succeed in other respects in club work. Those of "inferior" mental ability probably receive sufficient stimulation to remain in the club in greater proportions than those of average or superior mental ability even tho they are not able to lead, or succeed in any outstanding manner.

Girls.—The situation was somewhat different in regard to the relation between intelligence and membership of girls. (The girls averaged about three I.Q. points higher than the boys.) There was a greater difference in I.Q. points between the girl members and nonmembers than between boy members and nonmembers, indicating that 4-H clubs tend to attract and hold girls having the higher grades of intelligence in somewhat higher proportions than boys having the higher grades of intelligence. The average I.Q. for girl members was 103.84, and for girl nonmembers, 101.89. The difference, 1.95 I.Q. points, is fairly significant, being 3.4 times its probable error. Twenty-one and four-tenths percent of the girl members and 29.3 percent of the girl nonmembers had I.Q.'s of 93 or less; 51.8 percent of the girl members and 48.9 percent of the girl nonmembers had I.Q.'s ranging from 94 to 111; and 26.8 percent of the members and only 21.8 percent of the nonmembers had I.Q.'s of 112 or above (Fig. 18).

4-H clubs appear not only to attract greater proportions of superior than of average or inferior girls in the first place, but also to hold them in club work in somewhat greater proportions than girls either of average or of inferior intelligence, as may be seen in Fig. 18. Twenty-four and one-half percent of the girl past members and 21.4 percent of the girl members had I.Q.'s of 93 or less. Practically 55 percent of the past members and 52 percent of the members fell in the middle I.Q. group (94 to 111), while only 20.7 percent of the past members and 26.8 percent of the members had I.Q.'s of 112 or above.

Participation in Other Organizations

An attempt was made to measure the social-mindedness and leadership ability of the individual boy or girl in terms of a single score weighted in accordance with his membership and his having or not having held office in certain organizations other than 4-H clubs.¹ These organizations were: (1) Future Farmers, (2) debate club, (3) music club, (4) dramatic club, (5) community club, (6) Sunday school class, (7) church, (8) church society, (9) Y.M.C.A. or Y.W.C.A., (10) boy scouts or girl scouts, (11) high-school class club, (12) football team, (13) basketball team, (14) baseball team, (15) track team, (16) social club, and (17) lodge.

Apparently, according to the scores on this test, fewer girls than

¹The index score was the sum of the scores for the individual organizations. These scores were themselves derived by weighting the organization in accordance with the percentage of boys belonging to it, the number of years of membership in the organization and whether the boy or girl had held an office (see footnote on page 264).

boys join 4-H clubs merely because of a general organization-joining tendency.

Boys.—Boy members of 4-H clubs were indicated by the scores to be more active, socially, than nonmember boys. The average organizational index for members was 10.66 and for nonmembers, 8.37. The difference, 2.29, is statistically reliable, being 7.4 times its probable error. Forty-six percent of members and an equal percentage of past members, compared with only 34 percent of the nonmembers, had indices of 11 or higher (Fig. 19). Twenty-six percent both of members and of past members, compared with over 34 percent of nonmembers, had indices of 0 to 5.

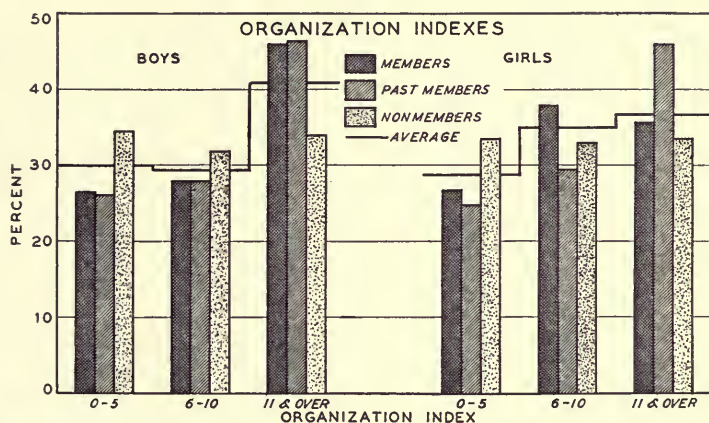


FIG. 19.—DISTRIBUTION OF ORGANIZATION INDEXES FOR BOYS AND FOR GIRLS

Questions arise, however, as to the meaning of this difference between members and nonmembers of 4-H clubs in the extent of their participation in organizations and organizational activities. Does it mean that 4-H club work tends to attract those who are more active socially because of natural inclination or parental encouragement? Or does it mean that 4-H club activity and training tends to make boys more socially minded and more socially active?

The fact that boys and girls enter 4-H club work at about the same age that they begin to take active part in other social organizations of the community seems to support the first view. For many rural young people membership in a 4-H club is maintained in addition to membership in other organizations. Club work, then, apparently serves some need which is not satisfied by the other organizations. Some individuals like to join organizations, however, and this "join-

ing" tendency brings them into the 4-H club just as it takes them into other organizations. It has already been pointed out that the 4-H club tends to draw young people whose parents participate more actively in social organizations (page 266). The attitude of parents toward the various social activities available to the boys and girls was also shown to be a selective factor in 4-H club membership (page 267). These two environmental factors are undoubtedly associated to some extent with the general tendency of young people to participate in social organizations. The difference, therefore, between the average organizational index of boy members and of boy nonmembers is probably due to a selective factor in club membership to a much greater degree than it is to the effect of 4-H club activity and training.

Girls.—General organizational participation was not so important as a selective factor in girls' 4-H club membership as in boys' 4-H club membership. The average organizational index for girl members was 9.35 and for girl nonmembers, 8.56. The difference of $.79 \pm .279$ is on the borderline of significance. Forty-six percent of the girl past members, 35.6 percent of the girl members, and 33.5 percent of the girl nonmembers had high indices of 11 or above (Fig. 19).

Rating in Ascendance-Submission

The tendency toward ascendance or submissiveness in the various face-to-face relationships of every-day life was measured by means of the *Allport A-S Reaction Study*. The score on this test is undoubtedly more accurate as an indication of social aggressiveness and leadership than is the organizational index.

Boys.—Boy 4-H club members were not found, on the average, to be significantly more aggressive or ascendant in social situations than boy nonmembers. The average A-S score for boy members was 35.99 and for boy nonmembers, 35.26. The small difference of .73 is not significant ($D/PE_d = 1.2$).

There is, however, an indication that the boys scoring low (-30) in the A-S reaction test joined 4-H clubs, and also remained in them, in relatively smaller numbers than those making medium scores (31-59) (Fig. 20). Thirty-four and nine-tenths percent of the boy members, 39.2 percent of the past members, and 39.0 percent of the nonmembers had ascendance scores of 0 to 30; whereas 60.7 percent of the members, 56.6 percent of the past members, and 56.1 percent of the nonmembers scored from 31 to 59. The percentages scoring high (60 to 120) were not greatly different for the three groups, being 4.4 percent, 4.2 percent, and 4.9 percent respectively.

The same question arises in regard to the effects of ascendance-submission traits as in connection with organizational participation, i.e., whether the very small differences among A-S scores of members, past members, and nonmembers were due to selectivity or to 4-H club activities and training. Again no definite answer can be given on the basis of the present data. The simple correlation between the A-S scores and the years those 4-H club members remained in club work is only .158, indicating that there was not much association between

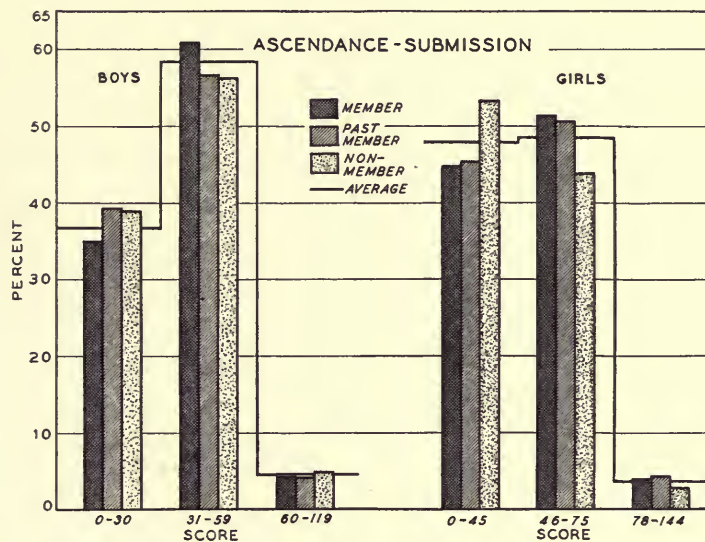


FIG. 20.—DISTRIBUTION OF SCORES MADE BY BOYS AND BY GIRLS ON ASCENDANCE-SUBMISSION TEST

the length of time these boys had been in their club and their ascendance. It is probable then that whatever difference did exist was due to the selectivity factor rather than to 4-H club training, altho one would expect 4-H club activities to develop qualities of leadership and initiative.

Girls.—Girl 4-H club members scored significantly higher on the A-S reaction test than did the girl nonmembers. The average score for members was 48.49; for nonmembers, 45.6. The difference is 4.8 times its probable error. Forty-four and seven-tenths percent of the members, 45.2 percent of the past members, and 53.3 percent of the nonmembers had scores of 0 to 45; whereas 51.3 percent of the members, 50.5 percent of the past members, and 43.8 percent of the nonmembers scored between 46 and 75. The percentages making high ascend-

ance scores (76 to 144) were also greater for members and past members than for nonmembers. These percentages were 4.0 percent, 4.3 percent, and 2.9 respectively (Fig. 20).

The only indication as to whether the difference between members and nonmembers in the A-S scores was due to 4-H club training or to selection, is that the simple correlation between the scores and the years in the 4-H club for member girls was very low (.135). This at least points more strongly toward the result being due to selectivity than to 4-H club training.

Appreciation or Depreciation of Farm Life

The degree to which a boy or girl appreciates (likes) farm life appears to be a factor in determining whether or not he will join a 4-H club. The test used to determine the attitude of boys and girls toward farm life¹ consisted of twenty-four statements, each descriptive of certain conditions or values in farm life, weighted according to the degree to which they express appreciation or depreciation of farm life. This attitude is referred to in this report as "Attitude I"² (see footnote, page 249). The twenty-four statements follow:

1. I enjoy farm life because the outdoor activities are conducive to good health.
2. I feel that farm life offers the best opportunity for self expression.
3. I believe that farm life is for the uncultured and uncouth.
4. I think it is helpful to come into contact with people more often than one would in the country.
5. I think the most desirable place there is to live is on the farm.
6. I find it unpleasant because social isolation is a part of farm life.
7. Farm life is too quiet for me.
8. I believe that the training and possibility of satisfactory development of young people obtained in the open country cannot be duplicated in any other way.
9. Tho farm life may be good for one's health, I would not like it all the time.
10. I think that farm life is healthful, inspirational, and develops true values in respect to life.
11. I do not like the farm because of lack of educational facilities.
12. I like it because there is a pleasant atmosphere on the farm.
13. I would absolutely refuse to live in the country.

¹Worked out by D. E. Lindstrom and Carl Colvin, formerly Professor of Education in the Eastern State Teachers' College, Charleston, Illinois, using the method developed by Thurstone, L. L., and Chave, E. J., in "The Measurement of Attitude," University of Chicago Press, 1929.

²In the score for Attitude I (appreciation-depreciation of farm life), small scores express appreciation while large scores express depreciation.

14. Farm life is all right about two months of the year.
15. I like farm life because there is always work to do on the farm.
16. For me the farm is a good place to go for a temporary rest.
17. I like it because there is more room to work and play on the farm.
18. I believe that the farm is a place which furnishes clean, wholesome living, regardless of periods of prosperity and depression.
19. I think that farm life can be improved upon in most communities.
20. I think farm life is desirable only when house and farm are equipped with modern conveniences and one can easily be connected with town and one's neighbors.
21. I think that farm life is good for those who are so financed that it is not an existence of drudgery.
22. I do not like farm life because the farmer is always the goat.
23. I do not like living on the farm because there are too many hardships connected with it.
24. I find that the farm is a quiet place to live.

When the attitude test was scored on the basis of appreciation or depreciation of farm life, the members, both boys and girls, evidenced more appreciative attitudes than the nonmembers. The average score of boy members was 3.77, and for boy nonmembers, 4.45. The difference of .68 is statistically significant, being 9.6 times its probable error. The average scores of girl members and girl nonmembers were 4.13 and 4.53 respectively, a difference of .40, which is 5.1 times its probable error and is therefore statistically significant. The simple frequency distributions (Fig. 21) for both boys and girls show that larger proportions of members than of nonmembers had the smaller and medium scores, whereas larger proportions of nonmembers than of members had large scores.

As in regard to some of the other variables, the question immediately arises whether these very real differences between members and nonmembers were due to the selectivity of 4-H club work, to the effects of 4-H club training, or perhaps to the combined effects of selectivity and club training.

From the available data a definite answer to the above question is impossible, but according to indications selectivity is largely responsible for the differences. The simple correlation coefficient between the scores on Attitude I and the number of years spent in 4-H club was, for the boy members, only .198; for girl members, only .055. A multiple-factor analysis using farm-boy members and past members¹ showed the number of years in 4-H club work to have a slight degree

¹Using a method the essentials of which were developed by Thurstone, L. L. in "The Theory of Multiple Factors" (Edwards Bros., Inc., Ann Arbor, Mich., 1933); but with some modifications worked out by L. A. Wilson.

of association with the first factor in the multiple-factor analysis (Factor I), which proved to be practically identical with Attitude I as measured by the Thurstone method. In general, the same relationships occur in the frequency distributions (Fig. 21). Somewhat larger proportions of the member groups, both boys and girls, than of the past-member groups had appreciatory attitudes, and somewhat smaller proportions of members than of past members had depreciatory attitudes. These findings indicate a slight relationship between the degree

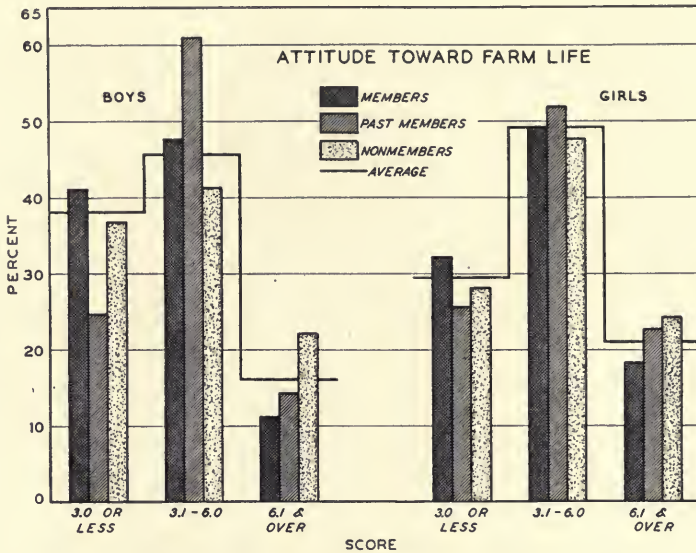


FIG. 21.—DISTRIBUTION OF SCORES MADE BY BOYS AND BY GIRLS ON TEST FOR ATTITUDE TOWARD FARM LIFE

of appreciation of farm life and the amount of time spent in 4-H clubs. This small relationship, however, is not sufficient to account for all the differences in Attitude I of members and of nonmembers of 4-H clubs. The differences, therefore, must to a considerable extent be due to selectivity.

On the other hand, the relationship, small as it may be, between time spent in 4-H club work and degree of appreciation, suggests that 4-H club training tends to increase appreciation of farm life to the extent indicated. But this small existing relationship may simply mean that the boy or girl who enters club work with the greater appreciation of farm life finds club work more interesting and consequently tends to remain in the club longer than the member with

less appreciation of farm life. The present data cannot be analyzed to determine definitely to what extent, if at all, 4-H club work increases appreciation of farm life on the part of the members.

SUMMARY AND CONCLUSIONS

This study represents an attempt to ascertain some of the factors which influence boys and girls to become and to remain members of 4-H clubs. Scores made on tests and questionnaires administered to 2,263 boys and girls living in sixty communities in six counties in Illinois furnished the statistical material for the analysis. Of these 2,263 boys and girls, 1,124 were members of 4-H clubs, 277 were past members, and 862 were nonmembers.

Comparison of the scores made by comparable groups of members, past members, and nonmembers led to the following specific conclusions as to what circumstances appeared to influence membership in 4-H clubs, and what did not.

1. Young people, especially boys, were drawn into 4-H clubs in relatively greater numbers from homes enjoying the better economic and social advantages.

2. Membership of boys, but not of girls, was affected by the size of farm on which the family lived. Boys from the larger farms joined the clubs in relatively greater numbers than boys from the smaller farms.

3. Boys and girls whose parents approved certain more desirable social activities tended to be drawn into 4-H club work in relatively greater numbers than boys and girls whose parents were less discriminating in their choice of social activities. There was some evidence, also, that the clubs failed to hold young people whose parents approved of undesirable activities as well as they held those whose parents were more discriminating in their approval.

4. Boys and girls whose parents participated actively in various organizations and social activities were attracted in relatively greater numbers to the 4-H clubs than were young people whose parents did not participate in such organizations or activities.

5. Boys, especially, and to a lesser degree girls, who participated to the greatest extent in other organizations were attracted in relatively greater numbers to 4-H clubs.

6. Girls' 4-H clubs tended to attract a relatively greater number of girls who were more ascendant than the average. Apparently boys'

clubs did not attract ascendant boys to any greater extent than submissive boys.

7. Boys and girls who were more appreciative of farm life tended to join 4-H clubs in relatively greater numbers than those who disliked farm life. The greater liking for farm life by the members of the clubs was evidently largely the result of experiences previous to or outside of their club work.

8. Boys who had a liking for farm life were attracted to 4-H clubs to a greater extent than were those who lacked this attitude.

9. The 4-H clubs made a greater appeal to, or at least were more easily available to, children of native-born parents than to children of foreign-born parents.

10. Size of family was not, to any practical degree, a selective factor in 4-H club work.

11. There was practically no indication that within the scope of intelligence found among the subjects of this study the grade of intelligence (I.Q.) was a selective factor in 4-H club work.

The results of this study suggest that considerable attention might well be given to making 4-H club work appeal to many boys and girls not now reached—those in families that feel that they cannot afford even the moderate financial outlay necessary for most projects in club work; those having the fewer or less attractive social opportunities; and especially those with potentially good qualities who are not now in 4-H club work because their parents take little or no active interest in organizations and community affairs. To solve the problems growing out of these deterrent situations will require further study and experimentation with different methods for carrying on 4-H club work. Further light will be thrown on these problems, it is hoped, when later portions of this study are published.













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