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FOR NEW 4-H LEADERS.

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THE EFFECTIVENESS OF A CORRESPONDENCE COURSE
FOR NEW 4-H LEADERS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

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The Ohio State University
1971

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PLEASE NOTE:

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Many people have been instrumental in the research reported in this study and in the educational program leading up to it. I express my most sincere appreciation to each of them.

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And finally, to a graduate committee of men who exemplify the meaning of teaching competence—Professors Edgar Dale, Ralph Bender, Robert Warmbrod, and Clarence Cunningham—thank you for a rich experience!
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The 4-H Club President, 4-H Circular 98, Ohio Cooperative Extension Service, The Ohio State University, January, 1965.

Ohio 4-H Club Secretary's Record, 4-H Circular 174, Ohio Cooperative Extension Service, The Ohio State University, June, 1967.

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CHAPTER I

THE PROBLEM AND METHODOLOGY

The faculty of the Cooperative Extension Service devote a major share of their efforts to educational programs for volunteer leaders. This is particularly true in regard to 4-H leaders. It has been estimated that the more than 14,000 4-H leaders in Ohio in 1969 devoted nearly three million hours to 4-H volunteer work. It is the responsibility of Extension faculty to help these volunteer leaders maximize their leadership potential.

Because 4-H leaders are volunteers, the Extension faculty member can be confident that they are genuinely interested in helping with the 4-H program. The Extension professional is justified in assuming that each lay leader wants to perform to the maximum of his ability and that most are anxious to improve their capabilities through various means. The 4-H leader is, however, under no compulsion to participate in educational programs arranged by the Extension faculty. This freedom requires that

programs for 4-H adult leaders must meet their needs, be interesting and be available at appropriate times. Extension faculty have used meetings, telephone calls, home and office visits, news-letters, booklets and other methods to educate 4-H leaders.

The educational meeting is the most universally applied method to teach the basic knowledge needed by 4-H leaders. A long-time major concern of Extension faculty is that large numbers of leaders do not attend the meetings provided. Though studies and reports vary, data in a study by Lau are probably typical. He found that eleven percent of his sample of 4-H leaders had attended no leader training meetings, while twenty percent had attended all meetings. About half the leaders attended more than half the meetings. ²

Of particular concern to Extension faculty is the new 4-H leader. He or she may volunteer to lead a 4-H club at anytime during the year, but educational meetings for new leaders are usually held only once a year. Thus the new leader who does not attend the meetings must gain his basic knowledge by visiting with the Extension faculty member, by reading printed materials, and by asking questions. It has not been deemed feasible for Extension

faculty to arrange for a great many more meetings, although
efforts have been made to hold meetings at the most
appropriate times and more frequently.

In 1966 the Area faculty concept was relatively
new in Ohio. Area 4-H agents were addressing themselves
to the problems outlined above. They were aware of a
correspondence course that had been developed for 4-H
leaders in Minnesota. Two of the area agents obtained
copies of that material, and in consultation with members
of the state 4-H staff, wrote lessons for correspondence
courses. Though the area faculty shared ideas, each de­
veloped his own set of lessons and duplicated the materi­
als in his own area office. The area 4-H faculty enthusi­
astically reported that the correspondence course method
was successful. Their evaluations, however, were based
almost entirely on responses from leaders who had com­
pleted all lessons in the courses.

Even though the faculty who used the correspond­
ence course were pleased with it, the idea was not adopted
by all other area 4-H agents. Four of the ten areas used
the method to varying degrees in 1968. In 1969 the area
4-H faculty suggested that a state-wide correspondence
course be developed to eliminate the duplication of effort
caused by each area agent preparing his own materials. A
committee of area 4-H faculty met with Miss Beatrice Cleve­
land, assistant state leader, 4-H, to outline the tonics
for a series of five lessons. Miss Cleveland wrote the
lessons and they were printed in the winter of 1970.

Each lesson was composed of three or four eight
and one-half by eleven-inch pages of attractively illus­
trated informational material and a quiz sheet that the
leader was asked to complete and return to the county or
area Extension agent.

The five lessons were designed to help the new
4-H leader to gain knowledge about 4-H in general, to learn
to work with other leaders in their 4-H clubs, to gain
understanding about working with boys and girls, to gain
skill in selecting and using teaching methods, to learn
to plan club meetings, and to become familiar with ideas
for 4-H club programs. As a by-product it was anticipated
that the new leader would recognize the value of using
other 4-H printed materials provided for him.

Photographically reduced copies of the course
lessons are included in Appendix A. Each lesson and its
quiz sheet was printed on a different colored paper, and
is three-hole punched.

With a new educational device being introduced to
new 4-H leaders (advisors)\(^3\) in Ohio, an opportune time was
available to research its effectiveness. An experiment

\(^3\)In Ohio 4-H volunteer adult leaders are called advisors.
was designed to determine whether new 4-H leaders in Ohio who participated in the correspondence course would learn enough more than non-participants to make it worthwhile to continue to offer the correspondence course as a supplement to regular leader educational programs. If it were found that the correspondence course was an effective teaching device, it would help solve the problem of providing timely information for new leaders, particularly those who were unable to attend meetings. If, on the other hand, this technique was found to be ineffective, the expense to print and handle the materials could be transferred to some more productive use.

The Problem

The professional Extension faculty member is a change agent. He has as his prime objective the bringing about of behavioral changes in his clientele. In order to be most effective, he must be alert to making changes in his own methodology, too. He tries many new methods; he constantly attempts to improve the methods he now uses. Rarely, however, is a new method exposed to the rigors of carefully controlled experimental research.

The central problem to which this study was addressed tried to answer these questions: Can a correspondence course of five lessons be an effective method
to provide basic information to new 4-H leaders? Will leaders who participate in the correspondence course know more about 4-H, and will their clubs perform desirable practices to a greater extent than clubs of leaders who do not participate?

Other questions were also explored. Is there an association between 4-H leaders' knowledge and the practices performed in their 4-H clubs? Are there significant relationships between each of these two variable (knowledge and practices in clubs) and such characteristics of the leaders as sex, age, educational level, degree of contact with Extension, and whether the leader was a 4-H member?

A major shortcoming in Extension research is that there have been almost no longitudinal studies involving 4-H leaders. Though this study was not longitudinal, adequate demographic data were obtained from the subjects (new 4-H leaders in ten randomly selected Ohio counties) to provide a foundation for subsequent follow up studies.

Objectives

The primary objective of this study was to evaluate the effectiveness of a correspondence course for new Ohio 4-H leaders. More specifically:

1. To determine whether leaders who participated in the correspondence course gained more knowledge about 4-H
than did non-participants.

2. To determine whether 4-H clubs led by leaders who participated in the correspondence course performed desirable club practices to a greater extent than clubs led by non-participants.

3. To analyze the participants' evaluations of the correspondence course, and to determine whether non-participants thought a correspondence course would have been desirable.

A second major objective was to explore the relationships between certain variables. Again, more specifically:

1. To investigate associations between the leaders's level of 4-H knowledge and:
   a. sex of leader
   b. age of leader
   c. educational attainment level of leader
   d. degree of contact leader had with Extension programs
   e. whether leader was a 4-H member
   f. number of other youth groups with which leader works
   g. income level of leader's family
   h. Extension faculty situation in the county
   i. amount of time devoted to 4-H objectives by Extension faculty in the county
2. To investigate associations between the extent to which desirable practices were performed in the subject's club and:

   a. sex of leader
   b. age of leader
   c. educational attainment level of leader
   d. degree of contact leader had with Extension programs
   e. whether leader was a 4-H member
   f. number of other youth groups with which leader works
   g. income level of leader's family
   h. Extension faculty situation in the county
   i. amount of time devoted to 4-H objectives by Extension faculty in the county
   j. place of residence of leader.

A third objective was to compile demographic data on the subjects as a means to describe new 4-H leaders in Ohio. These data might also be the basis for possible subsequent longitudinal studies of these new 4-H leaders.

Chapter II provides additional evidence to support the significance of the problem this research attempts partially to solve. That chapter also reviews related research and other writings which furnish a rationale for
the inclusion of the variables identified in the above objectives, and for the hypotheses tested in the study.

**Hypotheses**

To attain the preceding objectives, the following hypotheses were formulated for testing.

1. New leaders who participate in the Ohio 4-H correspondence course will score higher on a 4-H cognitive test than will leaders who do not participate in the course.

2. Four-H clubs led by new 4-H leaders who participate in the Ohio 4-H correspondence course will demonstrate performance of desirable practices to a greater extent than will clubs led by non-participants.

3. Female new 4-H leaders will score higher on a 4-H cognitive test than will males.

4. New 4-H leaders with higher levels of educational attainment will score higher on a 4-H cognitive test than will those with lower levels of educational attainment.

5. New 4-H leaders with much Extension program contact will score higher on a 4-H cognitive test than will those with less contact.

6. New 4-H leaders who were 4-H members will score higher on a 4-H cognitive test than will those who have not been 4-H members.
7. There will be an association between family income of new 4-H leaders and scores on a 4-H cognitive test.

8. There will be an association between age of the new 4-H leaders and scores on a 4-H cognitive test.

9. There will be an association between the number of other youth groups with which the new 4-H leader works and scores on a 4-H cognitive test.

10. Scores on a 4-H cognitive test will differ in relation to the place of residence of the new 4-H leaders.

11. There will be a positive association between stable, fully staffed Extension faculty situations within counties and scores on a 4-H cognitive test by new 4-H leaders in those counties.

12. There will be a positive association between the amount of time devoted to 4-H objectives by Extension faculty within a county and scores on a 4-H cognitive test by new 4-H leaders in those counties.

13. New leaders who score higher on a 4-H cognitive test will lead 4-H clubs in which there will be performance of desirable practices to a greater extent.

14. In 4-H clubs led by female new 4-H leaders, there will be performance of desirable practices to a greater extent than in clubs led by males.

15. In 4-H clubs led by new leaders with higher levels of educational attainment, there will be performance of
desirable practices to a greater extent than in clubs led by leaders with lower levels of educational attainment.

16. In 4-H clubs led by new leaders who have had much Extension program contact, there will be performance of desirable practices to a greater extent than in clubs led by leaders with less Extension contact.

17. In clubs led by new leaders who were 4-H members, there will be performance of desirable practices to a greater extent than in clubs led by leaders who were not 4-H members.

18. An association will exist between the level of family income of the new 4-H leader(s) in a club and the extent to which there is performance of desirable practices in the club.

19. An association will exist between age of new leader(s) in a 4-H club and the extent to which there is performance of desirable practices in the club.

20. There will be an association between the number of other youth groups with which the new leader(s) in a club work and the extent to which there is performance of desirable practices in the club.

21. The extent to which there will be performance of desirable practices in a 4-H club led by a new leader will differ in relation to the place of residence of the leader.
22. A positive association will exist between a stable, fully staffed Extension faculty situation within a county and the extent to which desirable practices are performed by the clubs led by new leaders in that county.

23. A positive association will exist between the amount of time devoted to 4-H objectives by Extension faculty within a county and the extent to which there is performance of desirable practices in the clubs led by new leaders in that county.

24. The degree to which there will be performance of desirable practices in a 4-H club will differ between a club led by both new and experienced leaders and in a club led only by new leaders.

Methodology

Population and Sample

A stratified random sample of ten Ohio counties was obtained by randomly drawing the name of one county from each Extension administrative area in Ohio. Each area consists of from eight to ten counties. It was felt that involving all area Extension supervisors and area 4-H faculty would aid in the ultimate dissemination of the results of the study. Permission to contact and seek cooperation from the selected counties was obtained
from Extension administrators and each area supervisor. (See Appendix B.) Area 4-H faculty were also informed and their cooperation was solicited. An agreement to cooperate was received from the county chairman and (where there was one) the 4-H faculty member in each of the sample counties.

In February, 1970 each of the counties was asked to provide a current list of all 4-H leaders who had volunteered since July 1, 1969. They were asked to update this list periodically through May 1, 1970. (See Appendix B.) This resulted in a list of 360 new leaders and 262 sampling units. (See below for definition of a sampling unit.)

The May 1 cut-off date was set in order to provide adequate time for the five correspondence lessons to be mailed to the experimental group of leaders at weekly (or longer) intervals, and to insure that the process be concluded by July 1—the anticipated date for mailing the questionnaire. The ten sample counties added twenty-three new leaders after May 1. Thus about six percent of the new leaders in fiscal year 1969-70 were not included in the research.

As lists were received from the counties, each leader sampling unit was randomly assigned either to the experimental group which received the lessons or to the
control group which did not. The assigned list was then returned to the county, the researcher duplicating a copy for his use. The cooperating county agent was asked to provide the correspondence course lessons to the experimental group and to prevent the control group from having access to the lessons. County faculty members were also asked to cooperate in other ways to avoid the Hawthorne Effect. For example, they were asked to use their letterhead for cover letters (rather than having cover letters from the state office). They were asked to not change their planned leaders' educational program. And they were asked to handle the correspondence course however they would if no research was underway. (See letter to agents in Appendix D.)

The researcher provided suggested cover letters to each county with a request that the cover letters be sent from the county office, and that response sheets for each lesson be returned by the leader to the county office. (See Appendix B for how one county used the suggested cover letters.)

It was recognized that new leaders who were married couples, or who were leaders in the same club, would readily become aware of "something going on" if one leader were to receive the correspondence course while the other might not. It was thus determined that, for purposes of random assignment to experimental and control
groups, the sampling unit would be (1) an individual leader who was the only new leader in a club, or (2) a married couple of new leaders, or (3) all new leaders in a single club in which there was more than one new leader.

This sampling procedure permitted the findings of the study to be generalized to all new 4-H leaders in Ohio in 1969-70. Though the findings regarding the effectiveness of the correspondence course method cannot be generalized beyond Ohio, other states and other voluntary youth organization leaders may find the results to be the basis for looking more closely at the methods they use in their educational programs for lay leaders.

Design

A posttest-only control group design was used for the experimental portion of the study. Random assignment of the new leaders to the experimental and control groups was done to avoid threats to internal validity. Efforts to account for some threats to external validity included telephone interviews with a sample of fifty of the subjects. For example, leaders in this sub-sample were asked whether they were aware, before receiving the questionnaire, that

---

they were involved in a research project. Twenty-one of
these fifty were non-respondents. Their replies to re-
quests for demographic data were compared with similar
data for early and late respondents in an effort to de-
termine whether there were differences between leaders
on the basis of whether or not they returned the question-
naire.

A pretest-posttest design was ruled out in order
to avoid sensitizing the subjects to the fact that they
were part of a research project. A distinct advantage of
the posttest-only design is that it permits experimental
research to be conducted more readily with subjects for
whom the intrusion of a pretest would be unique.

The only manipulated independent variable in the
study was participation or non-participation in the
correspondence course by the subjects. Two dependent
variables were measured. The first was each individual's
score on a cognitive test related to the course lessons.
The second was each individual's score on a forced-choice
instrument designed to measure the extent to which desir-
able practices were carried out in the subject's 4-H club.

The correlational portion of the study compared
data on demographic characteristics of the new 4-H leaders
(see below under Data Collection) with each of the de-
pendent variables.
In testing Hypothesis 13, a comparison was made between the two dependent variable scores; in this test the 4-H cognitive test score was the independent variable and the club practices score was the dependent variable. For Hypotheses 11 and 22, the county Extension faculty situations (stability and number of agents) were ranked and compared with dependent variable mean scores for each county.

Data Collection

Data were collected primarily through a questionnaire mailed to all subjects. The questionnaire consisted of three parts—demographic data, the cognitive test, and the forced-choice desirable practices instrument. The questionnaire is included in Appendix B.

Demographic data included:
1. Sex of leader—male or female
2. Age of leader—as of July 1, 1970
3. Educational attainment of leader—number of years of formal education completed
4. Degree of contact between leader and Extension programs—the total number of home or office visits, phone calls, meetings and events attended
5. Whether or not leader was a 4-H member
6. Number of other youth groups with which leader worked
7. Family income—by $3,000 groupings
8. Residence of leader—urban, suburban, farm, and so forth (definitions and classifications as required in current federal Extension Service 4-H reports)
9. How leader was recruited
10. Whether or not leader had children in 4-H
11. Whether or not the leader worked with experienced leaders in the same club.

The cognitive test was designed to measure new leaders' knowledge related to 4-H. It was developed by the writer by preparing a test of fifty multiple-choice questions (ten related to each lesson). These questions were evaluated for content validity and clarity by Miss Cleveland, author of the lessons, and by other members of the state 4-H staff. After revisions were made, the test was sent to 120 4-H leaders (sixty in each of two non-experimental counties). (See Appendix B for a copy of the trial test and a cover letter used by one of the two cooperating county faculty members.) The test was termed a "research quiz."

A computer programmed item analysis available through The Ohio State University Center for Measurement and Evaluation was applied to the responses received from forty-nine of these leaders. A summary of this analysis
is included in Appendix B. From the item analysis, four questions related to each of the five correspondence course lessons were selected for inclusion in the questionnaire. Criteria for deciding which questions to select included:

1. The question should discriminate well between high and low scoring leaders.
2. The question should be relatively easy.
3. The question should demonstrate a good degree of internal validity.
4. The question should be not similar to other questions on the final test.

The Kuder-Richardson Formulas 20 and 21 which yield coefficients of internal consistency were applied to both the fifty-item pretest (results were .81 for K-R 20 and .73 for K-R 21), and the selected twenty items in the final test (results were .79 for K-R 20 and .72 for K-R 21).

The forced-choice desirable practices instrument was designed to measure the extent to which certain desirable practices or situations existed in 4-H clubs of the leaders in the study. The instrument was adapted from the procedure described by Hudson in his development of the procedure described by Hudson in his development of

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a personnel appraisal instrument for use in Extension in Ohio. His dissertation includes a detailed review of literature related to the forced-choice technique. 6

A list of thirty-two "desirable 4-H club practices" was prepared by the researcher. A copy of the list may be found in Appendix B. Five members of the Ohio state 4-H staff and the ten area 4-H faculty members in Ohio formed a panel of experts who reacted to these items by indicating the extent to which each practice would be carried out in, first, an "ideal" 4-H club and then in an "ineffective" 4-H club. From these responses an Applicability Index and a Discrimination Index were calculated for each item. Below is illustrated the calculation for the responses to Item One.

<table>
<thead>
<tr>
<th>Extent of Applicability</th>
<th>little</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>(w)(weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal (H) club (f) (frequency)</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ineffective (L) club (f)</td>
<td>7</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency difference (/H - L/)</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Applicability Index (A.I.) = \[ \Sigma fw = 79 \]

Discrimination Index (D.I.) = \[ \Sigma /H - L/ = 16 \]

Items with similar Applicability Index values

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6Ibid., pp. 7-14.
(within four points) and dissimilar Discrimination Index values (at least eight points difference) were paired. (See Appendix B for a summary of indexes.) Ten dyads were formed in this manner. Each 4-H leader respondent was required (forced) to choose, from each pair, the one item that most closely described the actual situation within his or her 4-H club. A point was scored for each item checked that was associated more highly with an "ideal" club as described by the panel of experts. Possible scores thus ranged from zero through ten.

Additional data were obtained through methods other than the questionnaire. For Hypotheses 11 and 22, the researcher identified the situation regarding number of agents and stability of the agent situation in the sample counties, and from this information, ranked the counties in order, from largest number of agents and a stable faculty condition to the smallest number of agents and a changing personnel situation. For Hypotheses 12 and 23, information was quantified from Ohio State Extension Management Information System (SEMIS) data; the researcher retrieved the number of manhours which were devoted to 4-H objectives from July 1, 1969 through June 30, 1970 in each of the sample counties.

Extension faculty, 4-H assistants and/or secretaries in the sample counties were interviewed to determine
the degree to which there was follow-up to leaders' comments or questions on the return sheet for each lesson. This information was used to determine whether there might be an explanation, other than the "treatment" of receiving the correspondence course, for possible county by county differences in scores on the dependent variables.

After as many questionnaires were returned as could be anticipated, the researcher interviewed a random sample of five leaders in each sample county. The purpose of these interviews was to determine:

1. Whether the leader was aware that he was involved in a research project.

2. Methods by which the leader learned about his 4-H leadership job.

3. What the leader thought of the correspondence course (or if he was in the control group, what value he would see in participation in such a course).

4. How the leader went about answering the questions on the cognitive test. Did he do it like a school test (no "cheating") or did he utilize the resources he had available as he searched for answers?

5. How did the leader actually use some of the printed resources provided through Extension?
Questionnaire Construction, Mailing, and Follow-up

The placement of "correct" responses and distractors for both the cognitive test and the forced-choice instrument was done at random. A table of random numbers was used for the multiple-choice test; a coin was flipped for the forced-choice dyads.

The researcher pre-tested the questionnaire with three new 4-H leaders in his community. He found that it took them from thirteen to sixteen minutes (with interruptions) to complete the questionnaire. Each leader said she felt that she would be willing to complete the instrument and return it promptly if she received it in the mail. Each felt that the coding column along the edge of the page would not cause respondents to be reluctant to complete the questionnaire. Each offered constructive suggestions for improving the questionnaire.

To avoid some of the possibility that a respondent might be reluctant to complete the "tests" after providing personal data, the demographic data section of the questionnaire was placed last.

Questionnaires were mailed, under a cover letter signed by the Ohio Director of Extension, on July 17, 1970. (See Appendix B.) A stamped, addressed envelope was enclosed for convenience in returning the questionnaire. About ten days later the researcher asked the county
faculty to prepare a letter to encourage non-respondents to return the questionnaire. (For an example, see Appendix B.) On July 31 the researcher sent to each county a supply of envelopes addressed to the non-respondents as of that date; the county faculty were asked to have their reminder letters stuffed in these envelopes and place them in the mail. As of July 31, 103 questionnaires had been received.

On August 17, with 220 questionnaires still not accounted for, a second questionnaire with another letter from the Extension Director, and another stamped, addressed envelope, was sent to the non-respondents. Coding was done in a different colored ink so that it would be possible to determine from which mailing responses were coming. The last questionnaire was received on September 21. A total of 219 completed questionnaires were returned. Another ten persons responded by indicating that they had dropped out as leaders. Thus some sixty-one percent of the initial sample responded. An analysis of respondents and non-respondents is included in Chapter III.

Statistical Analysis

Response data were coded in the questionnaire coding columns by the researcher. For the additional data obtained from the telephone interviews with the sub-sample
of fifty new leaders, supplemental coding sheets were used. The data were transferred to electronic data processing cards.

Resources of The Ohio State University were used to assist with data analysis. The Center for Measurement and Evaluation scored and analyzed the cognitive test and the practices instrument. These scores were then punched into each individual's data processing card.

The Instruction and Research Computer Center was utilized as a source of appropriate statistical programs and as a resource for calculating these programs.

In addition, some statistical analysis was done by the researcher on an electronic calculator in the Agricultural Education Department. Sorting and key-punch facilities of the Department of Agricultural Economics were also utilized.

Specific statistical procedures will be described and documented in this study at the time their application is discussed. Procedures used included chi squares, t-tests, product-moment correlations, rank correlations and analysis of variance.

In all tests of significance, decisions were based on the .05 level of significance.
CHAPTER IX

RELATED SCIENCE AND PRACTICE

The purpose of this chapter is to provide a rationale for the study as a whole as well as a justification for the hypotheses tested. The first portion of the chapter is devoted to a survey of literature and studies regarding correspondence instruction in general and its use in some situations relevant to 4-II. The second section of the chapter reviews some studies that help to support the variables incorporated in this study's hypotheses.

Correspondence Instruction

Correspondence instruction is defined as "instruction offered through correspondence which requires interaction between the student and the instructing institution."\(^1\) Erdos\(^2\) explains the distinction between

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correspondence teaching and home study as dependent upon
the degree of contact between the issuing institution and
the student. In home study the issuing institution may
do little more than mail materials to the learner; self-
instruction is essential. Correspondence teaching re-
quires that the student provide evidence of his progress
to his tutor and that the tutor respond to support strengths
and correct weaknesses. In spite of this distinction, most
statistics on numbers of correspondence instruction stu-
dents do not separate the two types.

The National Home Study Council in 1969 reported
nearly five million students studying by correspondence in
the United States and eight million world-wide. The
United States survey showed some 1,800,000 in private home
study schools, 2,500,000 in federal and military programs,
300,000 in sixty-four colleges and universities, over
100,000 in religious institutions and 40,000 enrolled
through business and industry. When compared with some
7,000,000 students enrolled in colleges and universities
in the United States, the number engaged in correspond-
ence study is substantial.

Correspondence instruction is seen as fully

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3"1969 Correspondence Education Survey," (Wash-
ingen: National Home Study Council), mimeographed.
4John R. Sivatko, "Correspondence Instruction," Encyclopedia of Educational Research, ed. Robert L. Ebel,
consistent with the spirit of democratic education. It provides education for everyone, everywhere, regardless of their situation, condition or interest. The relatively low cost (Hosmer calculated its cost at ninety-two cents an hour per student compared to $5.21 an hour per student for resident instruction) permits many students to participate who might not be able to afford other educational means. A handicapped person, or one who is embarrassed at his slowness in a group educational setting, can feel secure in a correspondence situation. Religious topics, not permissible in public schools, can be studied through correspondence. Childs states that correspondence instruction is "far and away the most flexible educational technique."

The origin of correspondence study is difficult to pinpoint. Some claim that it began when priests exchanged letters with laymen in the early Sumerian and Egyptian civilizations. Certainly the Epistles of St. Paul were a form of correspondence study for early Christians.7

The basic concept of correspondence instruction

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5 Ibid.
6 Ibid., p. 214.
was a European development. As early as 1850 William Sewell of Exeter College in England suggested that it might "be possible to carry the university to them (the masses)." This English university extension movement is considered as the "ancestor of correspondence teaching." In Germany Charles Toussaint and Gustav Langenscheidt formed, in 1856, the Toussaint-Langenscheidt Correspondence School which was destined to teach language by correspondence for over eighty years.

The American frontier spirit encouraged a flexible approach to educational problems. This spirit, coupled with the typically American pragmatic attitude that every obstacle could be overcome, provided fertile soil for the cultivation of correspondence instruction as a means to serve the educational needs of those not able to attend a resident system.

But the beginnings of correspondence instruction in the United States were not on the frontier. Anna Eloit Tichnor, the daughter of a Harvard professor, is credited with founding the first correspondence program. Begun in 1873 in Boston, her Society to Encourage Studies at Home functioned until her death twenty-four years later. The idea of an interchange of letters between student and

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8 The basic resource for this historical outline was MacKenzie, Chapter 2.
teacher seems to have been hers. Many of Anna Tichnor's students were women.

*William Rainey Harper is considered as the "father of correspondence study." It was his concern for students who were unable to attend his classes in Hebrew at the Baptist Theological Seminary in Morgan Park, Illinois, that led him to mail his first lesson in 1881. In 1886 Harper moved to Yale Divinity School; his Correspondence School of Hebrew moved with him. When Harper became president of the University of Chicago in 1892 one of its five divisions, Continuing Education, made provision for correspondence instruction. The home study department of the University of Chicago continued to extend education "to all classes" until 1964.

Other pioneering universities were Penn State, the University of Wisconsin, the University of California at Berkeley and the University of Nebraska. The National University Extension Association reports that some seventy-five of their member schools offer courses by correspondence.9

As compulsory school attendance became the law in many states about 1890 many correspondence instruction suppliers began to fill the need for helping high school students to complete their schooling.

9Letter from Keith E. Glancy, Associate Director, National University Extension Association, August 5, 1970.
Sidney B. Mitchell, superintendent of schools in Benton Harbor, Michigan, innovated "supervised correspondence instruction" using courses from private correspondence schools as instructional materials for high school students. By 1930 Mitchell's idea had spread to 100 other high schools.

In some states the State Department of Education set up a division of correspondence instruction. One of the first states was Massachusetts in 1915. Other states which followed included Oregon, North Dakota, Montana and Alaska—states in which many students might be remote from existing schools.

In 1941 the Army Institute was founded. Two years later its services were extended to the other armed forces branches and its name was changed to the United States Armed Forces Institute (USAFI). It is based on the premise that "citizens in military uniform are interested in continuing their civilian education." Education through USAFI is not military training. By 1964 some 200 courses were offered by USAFI directly in elementary, high school, college, technical and vocational subjects. In addition, some 6,000 courses were made available to military personnel through contracts with some forty colleges and universities. In terms of numbers of students however, USAFI's 1965 enrollment of 132,000 is small in comparison with over 1,767,000 in courses sponsored by the Army, Navy,
Marine Corps, Air Force and Coast Guard. Courses in these armed forces schools are provided for the purpose of advancing the military career program of the student.

Most of the discussion to this point has been about public efforts in correspondence instruction. Private ventures have played a major role. In 1886, Thomas J. Foster, a newspaper publisher in the mining valleys of Pennsylvania, appalled at the loss of life in mining accidents, attempted to teach mining safety through his newspaper. His efforts succeeded and grew until a need existed for a more formal program. In 1891 he offered a completely graded course to the public at a fee to cover its cost. From this beginning emerged the International Correspondence Schools (ICS). The American School, founded in Massachusetts in 1895, is a private school that emphasizes high school education. Another early private home study school was the LaSalle Extension University; it specialized in business courses. All three of these schools are in operation today.

A discussion of correspondence instruction would be incomplete without mention of the Calvert Schools. Begun in 1905, Calvert has continuously provided elementary education with parents or tutors as intermediary instructors.

Other groups which have moved into the correspondence
instruction picture include professional and trade associations, business and industry, labor unions, religious organizations, and the federal government.

In an effort to protect the public from fraudulent private home study schools, the National Home Study Council has established an Accrediting Commission which accredits schools meeting its high standards. In 1970, 137 accredited private home study schools offered courses ranging from accident prevention to writing.  

Reports from all parts of the world attest to the international scope of correspondence study. In many cases it is used in combination with other media such as television, radio, newspapers, discussion groups or face to face lectures.  

Sloos calls attention to two distinct applications of correspondence education. In one case it substitutes for oral (in presence of the teacher) education; an example would be in Australia where students are far removed from instructors. In the second application, correspondence education competes with oral education; in this situation it must stand on its own and people must

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choose it for its own sake—and they seem to be doing so.
Sloos is intimately involved with correspondence study in
The Netherlands where he says the method is succeeding
under the second (competitive) situation.

He lists four possibilities for the future of
correspondence education:

1. Large schools—perhaps with as many as 1,000
courses and 50,000 lessons which can be up-
dated readily.

2. International cooperation and coordination.

3. Integration of correspondence and oral edu-
cation.

4. Use of more mechanical aids in correspondence—
tapes, records, work sets, traveling labs, simulations.

Sloos concludes:

Education by correspondence, in its present phase,
is still in its initial stages. When its adverse
factors have at last been completely removed, when
international cooperation in the field of education
has been developed to some extent, education by
correspondence will prove to be a medium with a
meaning for mankind that cannot be appreciated
eough.13

One objective of the 1964-1966 Correspondence
Education Research Project (CERP) was to evaluate corres-
pondence instruction as a method. The researchers out-
lined many of the benefits and shortcomings of corres-
pondence instruction.14

13Ibid., p. 77.
14MacKenzie, Chapter 4.
Benefits

Correspondence instruction is flexible. There is virtually no limitation as to location of the student, or the pace of his learning. Course content possibilities are broad, though not unlimited. It can be a supplement to other educational methods.

Correspondence study is economical. The initial cost of developing courses, as well as operating expenses are less than for a resident school. There is no need for assembling students in classrooms, nor is there a need for establishing a minimum number of students for a course offering. A student can study while he continues to work full time.

Correspondence instruction is psychologically sound. The student can regain confidence in his ability to learn as competition with classmates is eliminated. He need have no fear of embarrassment caused by comparison with other students in a resident setting.

Instruction by correspondence is effective. It is the best available method for certain situations—for the poor, the isolated, the handicapped, or the embarrassed, for example. Testimony from satisfied users, though questionable from a research standpoint, provides evidence of effectiveness. In empirical studies that have been conducted, correspondence students did at least as well as
others. A shortcoming in most of these studies has been the lack of control regarding motivation and selection.

Shortcomings

Some overriding shortcomings of the correspondence instruction method include being able to specify students, being able to provide guidance and motivation, and being able to validate student achievement effectively.

Working at a distance causes problems in student-teacher interaction, in counseling and guiding, in witnessing performance, in revising courses relative to student needs and in regulating the quality of student work.

Limitations may exist regarding subject matter. Not every subject can be taught through correspondence. Generally those subjects relying on physical performance are less appropriate for correspondence teaching while those relying on words for instruction are more successfully taught.

Some people claim that some students "just aren't capable" of learning by correspondence, but this is largely discounted as a shortcoming by correspondence developers.

Correspondence instruction must depend on the written word. This can be partly overcome through the
use of illustrations and other aids, but the correspondence student needs to rely on ability to understand abstractions. Testing in correspondence study has allowed little opportunity for analysis or synthesis by the student.

The lack of some physical facilities can be a shortcoming. These would be resources such as libraries and laboratories. CERP mentioned a tranquil place to study as a shortcoming, but current campus environments are perhaps less tranquil than homes.

There seems to be a lack of general acceptance and understanding of the method. CERP asked a "highly selective group of . . . influential citizens" for their opinions about correspondence instruction. Most expressed ignorance of the method and rated it below television instruction, programmed learning devices, lecture and reading, and student participation.15

The Future

CERP recommended that correspondence instruction take full advantage of newer educational media such as audio tape, films and slides, television, video tape recordings, programmed instruction, computer assisted instruction, telephone and radio. Efforts will need to be

15Ibid., p. 103.
made to integrate the written word with these new media.

All groups and organizations involved with correspondence instruction will need to cooperate fully to reduce costs; to make better use of facilities (e.g., laboratories); in training teachers; in conducting research; in establishing standards for accreditation, testing, course content, and so forth; and in planning for the future.

These recommendations echo those made by Sloos on an international level.

Research Related to Correspondence Instruction and Extension

A search for related research uncovered very little that had been done on the use of correspondence instruction with an Extension audience. A programmed Self-Study Course for Adult 4-H Leaders was developed by the Human Factors Research Laboratory at Colorado State University in 1968. It was tested in four states, but the emphasis in the study was on comparing response modes to the multiple choice statements in the program. (No significant differences were found.) The course consisted of ten units and involved pretests and post-tests of 100 questions each. No provisions were made for teacher-student interaction; thus the course was not actually correspondence instruction. There were 1223 4-H
leaders contacted initially, but only 207 completed all requirements. The researchers concluded that "the response from adult learners to material presented as an adjunct program can be minimal but still result in learning."¹⁶

They recommended that subsequent editions of the course be printed (instead of mimeographing) and include attractive illustrations.

Correspondence courses have been developed for youth leaders in three other states. A Home Study Series is in use in Minnesota; no formal evaluation of the series had been made at the time of this study. A unique feature of this series is a guide for the Extension worker in which interaction between the leader and Extension faculty member is stressed. A completion certificate was provided by the state 4-H office.

In Wisconsin an ambitious self-instructional program has been initiated; the lessons are for leaders of all youth groups and include sound tapes, filmstrips and workbooks. Czarniecki, in a rather loosely controlled study and using a very small sample, compared pretest and posttest scores for groups using the study materials in a group setting with discussion, in a group

¹⁶Charles O. Neidt, "Report on Development and Evaluation of a Self-Study Course for Adult 4-H Leaders" (Human Factors Research Laboratory, Colorado State University, 1968), p. 34 (Mimeographed.)
without discussion, and at home alone. He found that test scores for all groups increased substantially after participation. He did not compare the various methods. He concluded that youth leaders could gain knowledge in the absence of an instructor, and that they apparently were satisfied with the method employed.\footnote{Paul Czarniecki, "Research Seminar Report" (The University of Wisconsin, 1969. Mimeographed.)}

A series of five lessons on 4-H in Louisiana, 4-H leader responsibilities, understanding young people, parent cooperation, and activities and awards was developed for Louisiana 4-H leaders. Koch reported "not gratifying" results in the return of quiz sheets by the leaders. He said that county Extension workers felt that leaders had "gained information and knowledge" from the lessons. The leaders, he reported, wanted to get together following the correspondence course to discuss other items.\footnote{Letter from Kenneth A. Koch, Associate Specialist, Rural Sociology, Louisiana Cooperative Extension Service, May 14, 1970.}

A study by Marsh and Hyman used North Carolina Extension agents as subjects and concentrated more on programming than on the self-instructional or correspondence-interaction aspect. They concluded that "programmed self-instruction proved to be as effective as workshop instruction"\footnote{C. Paul Marsh and Theodore M. Hyman, Programmed Learning in Extension Training, Technical Bulletin No. 161 (North Carolina Agricultural Experiment Station, 1964), p. 14.} in terms of the objectives of an instructional
unit on the use of radio by Extension faculty. They also pointed out that "self-instruction was substantially more efficient than was the workshop."²⁰ It took less time to learn with self-instruction, and agent time and travel expenses to the workshop were saved. The cost of developing the programmed materials was recognized as considerable, but was not included in the analysis.

Two non-Extension studies demonstrate that the correspondence course technique may be an effective teaching method. The subjects in a study by Simich were seventh grade boys in an industrial arts class. One group participated in programmed self-instruction, while the other group used materials originally prepared for a correspondence course. The students subjected to the correspondence course materials showed significantly greater gains in knowledge at immediate recall; they also showed greater retention three weeks later.²¹

Green used elementary mathematics teachers as his subjects. The control group took part in a workshop during which they used a worktext, viewed a videotape, 

²⁰Ibid., p. 16.
participated in discussions led by an instructor, and worked exercises under the instructor's supervision. The experimental group did the same except that it was done at home and not in the presence of an instructor. No differences in "criterion test" scores were demonstrated between the two groups. There was some evidence that subjects rated as "low" in prior achievement took longer to do the home exercises and liked the home technique less than higher achievers. Green concluded that "adults can learn significant portions of subject matter in the absence of a live instructor when basic instruction is mediated by a coordinated system involving both programmed instruction and television."\(^22\)

Though each of the preceding studies approached correspondence instruction from a different viewpoint--and none of them from the approach contemplated by this writer--each study lent support to the premise that students can learn with self-instructional materials without the physical presence of an instructor.

In a Chairman's Report to the International Council

on Correspondence Education which met May 19, 1969 at the UNESCO House in Paris, Dr. Gayle B. Childs summarized research in correspondence education.

On the basis of the evidence available now the only reasonable conclusion that one can reach is that there is no measurably demonstrated superiority that can be attributed to one general method of instruction over another, including correspondence study, programmed instruction, classroom instruction, independent study, tutorial instruction, or instruction where television is a major component. People can, and do, learn adequately and according to all evidence about as well under each method.

It is no doubt true that some students will prefer one method to another, that some subjects or courses of instruction will lend themselves more readily to one procedure or another, that some people will find it more convenient to study by some particular method or even be limited to one method which is available . . . .23

The discussion to this point lends support for the development of correspondence course materials for new 4-H leaders. It also adds credence to the need for testing experimentally whether correspondence instruction, when supplementing regular educational programs for new 4-H leaders, can be shown to affect the leaders' knowledge or their 4-H club practices.

Variables of the Study

The two dependent variables of this study were knowledge of 4-H and performance of desirable 4-H club practices. These were two of the general behavioral outcomes anticipated to result from 4-H leaders' participation in the correspondence course. The specific cognitive questions were determined by the content of the lessons. The practices were those identified by Ohio's state and area professional 4-H Extension faculty.

Only one active or manipulated variable was compared with these two dependent variables. That was participation or non-participation in the correspondence course.

In addition, several assigned independent variables were compared with the dependent variables. These included sex, age and educational attainment of the leader; the amount of contact between the leader and Extension programs; whether the leader had been a 4-H member; the number of other youth groups with which the leader worked; and the family income of the leader.

Finally, within each county, a mean score on each of the dependent variables was compared with the size and stability of the county faculty situation and the amount of professional time devoted to 4-H in the sample counties.
One purpose of this section is to provide a rationale for the incorporation of these variables in the study.

Studies by Alexander\textsuperscript{24} and Evans\textsuperscript{25} showed that differences in intelligence, as measured by the Cottell Sixteen Personality Factor Questionnaire, though not great, did exist between sexes--favoring females. Douglah found that females who thought they could bring about change in the community participated in educational activities to a greater extent than females who thought they could not bring about such changes.\textsuperscript{26} Because this was not significant for males, it was assumed that this was another example of a sex difference.

That formal education played a role in influencing volunteer leadership and educational achievement is


shown in the Douglah study, in one by Pinnock, and in the Green study.

The Douglah study also reported that youth leadership status had greater influence on adult participation in voluntary organizations than did any other factor that he considered.

Havens compared pretest and posttest scores by 4-H leaders regarding a training program for new 4-H leaders in Washington with several variables, including: sex, age, previous volunteer youth experience, having been a 4-H member, having children in 4-H, number of years children were in 4-H, occupation, place of residence and education. Only the following significant relationships were found:

1. New 4-H leaders with previous volunteer leadership in other youth groups scored higher on both pretest and posttest.

Ibid.


Green.

Douglah.

2. New 4-H leaders who had children in 4-H for two or more years had more knowledge of 4-H before and after training than did leaders with no children in 4-H or children in 4-H for less than one year.

3. Subjects in professional occupations scored highest on both pretest and posttest.

4. Educational level had little effect on beginning knowledge, but college graduates scored highest on the posttest three months after training.

Fizer\(^{32}\) in a West Virginia study on 4-H leader tenure identified some characteristics of new 4-H leaders. Eighty-four percent were women. Place of residence showed thirty-eight percent farm, forty-eight percent rural non-farm and fourteen percent suburban and urban. Ninety percent of the leaders had children in 4-H.

In a Maryland study Joseph and Smith\(^{33}\) identified the following characteristics of new 4-H leaders:

1. Female to male ratio was two to one.

2. More than seventy-two percent were thirty to fifty-four years old; twenty-five percent were under thirty.

3. Seventy-one percent had children in 4-H.

\(^{32}\)Mildred Fizer, "Factors Associated With the Tenure of Local 4-H Club Leaders," (West Virginia State University, Cooperative Extension Service Circular 399, undated), pp. 4-6.

4. About one-third had been 4-H members.

5. More than seventy percent were high school graduates; twenty-nine percent had some college training.

6. More than four-fifths lived in rural areas; forty percent on farms.

7. County Extension staff members were the most frequently mentioned factor influencing the leader's decision to be a leader; next most frequent was being asked by club members.

Although research was not found to provide a rationale for all the variables in this study's hypotheses, the writer's thirty years' (fifteen as a professional) experience with Extension youth programs, and his study of Extension and adult education led him to include other variables.

As educators working largely with adults, Extension faculty are interested in possible relationships between age and learning. Do younger adults learn more than older adults? Do they tend to put knowledge into practice more quickly? Or are they influenced by older more conservative leaders in their groups?

The use of a correspondence course for 4-H leaders obviously is seen by its developers as a supplement to, not a replacement for, other educational methods now in use by Extension faculty. To evaluate the effect of other methods, it was felt that information would be required to show the kinds and amount of contact that each respondent had with Extension 4-H programs--phone calls,
visits, (home and office), meetings attended, and other county and area events attended.

Most Extension faculty would agree that leaders who were former 4-H members would know more about 4-H and would be expected to incorporate more desirable practices in their clubs than non-4-H member leaders.

It seemed logical to assume that a stable, fully staffed Extension faculty situation within a county would result in more, better qualified help for lay leaders. An unpublished survey made by this writer some five years before this study showed a positive relationship between increase in a county's 4-H enrollment and a stable county Extension staff situation. Could it be shown that a similar relationship existed between leader knowledge, club practices, and the county staff situation?

The fiscal year 1969-70 was the first time that data were available to show accurately how Extension faculty were allocating their time. Through the State Extension Management Information System it was possible to identify the number of manhours devoted to 4-H objectives in each county. This made it possible to test whether any association existed between time spent on 4-H in a county and behavior by new 4-H leaders in that county.

The discussion in this chapter has been designed to provide a rationale for the study in total as well as for the hypotheses explored in the research.
CHAPTER III

A DESCRIPTION OF NEW 4-H LEADERS IN OHIO

This chapter discusses the third major objective of the study—a compilation and analysis of demographic data regarding new 4-H leaders in Ohio. As was noted in the first chapter, all 360 new leaders in the ten sample counties who were recruited between July 1, 1969 and May 1, 1970 were included in the research. It was also noted that an additional twenty-three new leaders were recruited by the counties between May 1 and June 30, 1970; they were not included in the research because of the lack of time available to assign them to experimental treatment groups and to carry out the correspondence course treatment.

As a requirement for the State Extension Management Information System, each county in Ohio had been assigned a number (alphabetically) within its Extension administrative area. Counties were selected for inclusion in this study by drawing from a table of random numbers ten, one-digit numbers—one for each of the ten Extension areas. Two sets of alternate numbers were also drawn in the event that a county or two refused to participate.
Fortunately, each of the counties in the initial list agreed to participate. This helped to avoid selectivity as a threat to generalizability of the findings.

However, the random drawing of counties resulted in no county with a city of 50,000 or more population being included in the sample. Might the generalizability of the study's findings to Ohio 4-H leaders regardless of residence be questioned? Whether this possibility of bias would be reflected in other demographic data was not known because of a lack of such data on 4-H leaders. Residence data did exist on 4-H members in Ohio, however. And a chi square test between residence of members in the ten sample counties and the new advisors in those counties reveals no statistical difference in the distribution of the two groups.

| TABLE I |
| RESIDENCE OF 4-H MEMBERS AND NEW LEADERS IN TEN SAMPLE COUNTIES |

<table>
<thead>
<tr>
<th></th>
<th>Farm</th>
<th>Rural</th>
<th>Non-Farm</th>
<th>Town or City 10,000 to 50,000</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4880</td>
<td>5434</td>
<td></td>
<td>1426</td>
<td>11740</td>
</tr>
<tr>
<td>New Leaders</td>
<td>91</td>
<td>115</td>
<td></td>
<td>31&lt;sup&gt;b&lt;/sup&gt;</td>
<td>237</td>
</tr>
<tr>
<td>Total</td>
<td>4971</td>
<td>5549</td>
<td></td>
<td>1457</td>
<td>11977</td>
</tr>
</tbody>
</table>

chi-square = 0.880 (n.s.)

<sup>a</sup>Calculated from Ohio 4-H Statistical Report to Federal Extension Service, 1969-70.

<sup>b</sup>Includes four who reported living in suburb of a city of 50,000 or more.
From this table it may be concluded that residence data on 4-H members, which was available, could provide some guide to the residence status of 4-H leaders. The report noted in the table showed the following distribution of Ohio 4-H members by residence:

<table>
<thead>
<tr>
<th>Residence</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm</td>
<td>38,819</td>
<td>36.8</td>
</tr>
<tr>
<td>Rural non-farm</td>
<td>46,324</td>
<td>44.0</td>
</tr>
<tr>
<td>Town or city of 10,000 to 50,000</td>
<td>11,307</td>
<td>10.7</td>
</tr>
<tr>
<td>Suburb of city of 50,000 or more</td>
<td>2,855</td>
<td>2.7</td>
</tr>
<tr>
<td>City of 50,000 or more</td>
<td>6,059</td>
<td>5.8</td>
</tr>
<tr>
<td>Total</td>
<td>105,364</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Thus we may assume that some 8.5% of all 4-H leaders in Ohio live in cities larger than 50,000 or in the suburbs of those cities. Four leaders, of the 237 answering this question from the ten sample counties, classified themselves as living in the suburb category; none lived in large cities.

In defense of the random selection procedure, however, it should be pointed out that only fourteen of Ohio's eighty-eight counties had, at the time of the study, cities of 50,000 or greater population.¹

Extension areas had no such counties, and three others had only one large-city county each.

To conclude this discussion, the researcher recognized that some persons may be critical of this bias in the residence situation in the ten sample counties. On the other hand, the selection was done completely at random, and there is no evidence to show that 4-H leaders in the sample counties differ in other ways than by residence from non-sample county leaders.

**Did Non-Respondents Differ From Early Or Late Respondents?**

If non-respondents differ significantly from respondents in a research study the ability to generalize the findings is seriously threatened. In an effort to determine whether that threat was a factor to consider in this study, data were obtained by telephone from twenty-one non-respondents whose names were randomly drawn as a part of the fifty names (five from each county) drawn to provide additional information for the research.

Demographic data from the twenty-one non-respondents were compared with data from 106 early (before August 4) and 113 late (August 4 and later) respondents. Two statistical procedures were used. Where data were at interval measurement levels, t-tests were calculated comparing early with late respondents and then non-respondents
with early respondents. A computer program (QAWST) was used for these tests. For nominal data chi-squares were calculated. Tables for the chi-square tests are in Appendix C.

None of the t-values in Table 2 were significant at the .05 level. Thus there was no evidence to show any significant differences in the above variables between leaders according to the time of response, or whether or not they returned a questionnaire.

None of the chi-square values in Table 3 were significant at the .05 level. With these variables there also was no evidence of difference between leader groups on the basis of time of response or whether a questionnaire was returned.

It may be concluded from these findings that non-respondents did not differ from respondents. This permits greater confidence in generalizing further findings of the study to all new 4-H leaders in the ten sample counties. Generalizability to all new 4-H leaders in Ohio was assured by the random selection of the counties.

2 M. B. Colhar, Questionnaire Analysis, Weighted Scoring and t-tests, Instruction and Research Computer Center, The Ohio State University, 1970. Reference for computational procedures is to B. J. Winer, Statistical Principles in Experimental Design, Ch. 2.

TABLE 2
MEANS ON CERTAIN VARIABLES AND t-TEST RESULTS BY TIME OF RESPONSE

<table>
<thead>
<tr>
<th>Time of Response</th>
<th>Early</th>
<th>Late</th>
<th>Non</th>
<th>Early-Late t-value</th>
<th>d.f.</th>
<th>Early-Non t-value</th>
<th>d.f.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>31.5</td>
<td>33.4</td>
<td>36.2</td>
<td>1.35 (n.s.)</td>
<td>217</td>
<td>1.85 (n.s.)</td>
<td>125</td>
</tr>
<tr>
<td>Years of school</td>
<td>12.4</td>
<td>12.0</td>
<td>12.7</td>
<td>-1.06 (n.s.)</td>
<td>217</td>
<td>0.45 (n.s.)</td>
<td>125</td>
</tr>
<tr>
<td>No. of other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>youth groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>worked with</td>
<td>0.8</td>
<td>1.0</td>
<td>0.8</td>
<td>1.25 (n.s.)</td>
<td>217</td>
<td>-0.19 (n.s.)</td>
<td>125</td>
</tr>
<tr>
<td>Total Extension</td>
<td>10.7</td>
<td>11.3</td>
<td>7.9</td>
<td>0.35 (n.s.)</td>
<td>217</td>
<td>-1.03 (n.s.)</td>
<td>125</td>
</tr>
</tbody>
</table>

aEach figure in the Means column is the mean number of total Extension contacts (visits, phone calls, meetings, and so forth) by individuals in these groups.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Chi-square value</th>
<th>d.f.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whether leader was a 4-H member</td>
<td>2.58 (n.s.)</td>
<td>2</td>
</tr>
<tr>
<td>Sex</td>
<td>1.42 (n.s.)</td>
<td>2</td>
</tr>
<tr>
<td>Marital status</td>
<td>1.46 (n.s.)</td>
<td>2</td>
</tr>
<tr>
<td>Whether children are, or were, in 4-H</td>
<td>2.58 (n.s.)</td>
<td>2</td>
</tr>
<tr>
<td>Whether club is led only by new leader(s)</td>
<td>2.66 (n.s.)</td>
<td>2</td>
</tr>
<tr>
<td>Factor most significant in decision to be a 4-H leader</td>
<td>1.56 (n.s.)</td>
<td>6</td>
</tr>
</tbody>
</table>
Description of Demographic Data

The data in this section were obtained from leaders who returned the questionnaire plus other leaders who were included in the list of telephone interviewees. A total of 240 individuals provided this information. In cases where some individuals failed to respond, this is noted.

One hundred, thirty-two (fifty-five percent) of the new 4-H leaders had been 4-H members; 108 (forty-five percent) had not.

Males made up 27.1% of the sample (sixty-five) while females made up the remaining 72.9% (175).

The mean age (as of July 1, 1970) of the 236 new leaders who responded to this question was 33.4. Ages ranged from seventeen to sixty. See Figure 1 for a graphic presentation of the age distribution. A detailed table is in Appendix C.

The average number of years of formal schooling completed by 235 respondents was 12.5. One hundred, thirty-five (57.4%) replied that they had completed high school. Twelve (5.1%) had completed sixteen years of school, while eight (3.3%) had more than that. A detailed table is in Appendix C.

Thirteen percent (thirty-one) of 239 respondents
were single, 86.2% (206) were married, only 0.8% (two) said they were divorced, and none replied that they were widowed.

Table 4 shows responses to the question on annual family income. An average calculated from these data would not reflect the degree to which the "under $3,000" and the "over $15,000" categories might be skewed. With 113 cases below $9,000 and 108 at or above that level, it would appear that the median income was very close to $9,000.

Nearly half (48.5%) of the 237 respondents to the
TABLE 4
ANNUAL FAMILY INCOME OF NEW 4-H LEADERS

\[ n = 221 \]

<table>
<thead>
<tr>
<th>Income</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $3,000</td>
<td>6</td>
<td>2.7</td>
</tr>
<tr>
<td>$3,000 - $5,999</td>
<td>26</td>
<td>11.8</td>
</tr>
<tr>
<td>$6,000 - $8,999</td>
<td>81</td>
<td>36.6</td>
</tr>
<tr>
<td>$9,000 - $11,999</td>
<td>63</td>
<td>28.5</td>
</tr>
<tr>
<td>$12,000 - $14,999</td>
<td>23</td>
<td>10.4</td>
</tr>
<tr>
<td>Over $15,000</td>
<td>22</td>
<td>10.0</td>
</tr>
</tbody>
</table>

question on residence indicated that they lived in a rural area or in a town of less than 10,000, but not on a farm. Table 5 provides the detailed information. The categories used are the same as those used in the 4-H report that each state sent to the Federal Extension Service in 1970.

Nearly half of 235 respondents indicated that they work with no youth group other than 4-H; the precise figure is 47.6% (112). The mean number of other youth groups with which the new leaders work was 0.91. A detailed table is in Appendix C.

Contact between the new leader and Extension was divided into four categories. A total of these for each individual was then calculated. Because no effort was made to weight the responses to each category each kind of
contact is discussed separately in addition to the total contact summation. Detailed frequency tables may be found in Appendix C.

**TABLE 5**

**RESIDENCE OF NEW 4-H LEADERS**

n = 237

<table>
<thead>
<tr>
<th>Residence</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm</td>
<td>91</td>
<td>38.4</td>
</tr>
<tr>
<td>Not on a farm, but in a rural area or in a town of less than 10,000</td>
<td>115</td>
<td>48.5</td>
</tr>
<tr>
<td>In a town or city of 10,000 to 50,000</td>
<td>27</td>
<td>11.4</td>
</tr>
<tr>
<td>In a suburb of a city of over 50,000</td>
<td>4</td>
<td>1.7</td>
</tr>
<tr>
<td>In a city of over 50,000</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Nearly two-thirds (64.3%) of 238 respondents said that no Extension faculty visited in their home in the year preceding their completion of the questionnaire. The mean number of visits by county or area Extension faculty to new leaders' homes was 0.87. More than one-fourth (28.8%) of 236 respondents indicated that they had not visited the county or area Extension office in the past year. Twenty new leaders (8.4%), however, had made ten or more visits each. The mean number of visits was 3.31. The mean number of phone calls to or from the county or area...
Extension office was 3.95. Still seventy (30.9%) of the 233 new leaders who responded to this question went throughout the year with no contact through this method. One leader claimed to have made or received fifty calls. Although the average number of county or area Extension meetings or events attended by new 4-H leaders was 2.96, almost one-fourth (23.5%) of the 234 respondents to this question attended none. When all contacts in these four categories were totaled for each individual, it was found that the average number of contacts for one year was 10.81. Still there were fourteen new leaders (5.9%) who claimed no contact with Extension through these means. A later discussion may partially explain the dearth of contact between new leaders and Extension.

To the question "Are any of your children now (or have they ever been) 4-H members?", 152 (63.3%) of the new leaders answered "yes," while eighty-eight (36.7%) replied "no." Those who did not have children were included in the "no" group.

One hundred, fifty-three leaders (65.1%) of 235 responding to the next question said there were leaders in their club who had more than one year's experience as a 4-H leader. Only eighty-two (34.9%) were in clubs led only by new 4-H leaders. This information raised a question as to its possible relationship to the Extension contact variables. Would it be logical to assume that a
new leader in a club with experienced leaders would have less direct contact with Extension than a leader in a club of only new leaders? Chances are that the new leader cooperating with experienced leaders is considered as an "assistant" leader while the experienced leader assumes the administrative tasks that involve more contact with Extension. The QAMST computer t-test program was utilized to test for differences between the groups. Table 6 summarizes the results, which show that for each kind of contact except meetings, new leaders in clubs led only by new leaders had more Extension contact than the new leaders who were in clubs with experienced leaders. These results thus support an affirmative reply to this paragraph's question. Only those who returned questionnaires were included in this test.

The final question on the questionnaire asked the respondents to indicate, from a list, the "factor most important in your deciding to become a 4-H (leader)?" The results are given in Table 7.

From these data it is apparent that lay people are much more significant as new leader recruiters than are professional Extension faculty and the events and news media they use. Of course, the Extension faculty member may play a highly significant indirect role as he works with 4-H leaders, children and communication media.
TABLE 6
MEANS AND ONE-TAILED t-TEST RESULTS ON EXTENSION CONTACT VARIABLES BY EXPERIENCE OF 4-H CLUB LEADERS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean Number of Contacts</th>
<th>t-value and significance d.f. level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New Leader(s)</td>
<td>New leader with experienced leader(s)</td>
</tr>
<tr>
<td>Home visits</td>
<td>1.26</td>
<td>0.43</td>
</tr>
<tr>
<td>Office visits</td>
<td>4.53</td>
<td>2.88</td>
</tr>
<tr>
<td>Phone calls</td>
<td>6.09</td>
<td>2.35</td>
</tr>
<tr>
<td>Meetings</td>
<td>3.31</td>
<td>2.63</td>
</tr>
<tr>
<td>Total contact</td>
<td>8.78</td>
<td>15.16</td>
</tr>
</tbody>
</table>
### TABLE 7
MOST IMPORTANT FACTOR IN 4-H LEADER'S DECISION TO VOLUNTEER

\( n = 226 \)

<table>
<thead>
<tr>
<th>Deciding Factor</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Another 4-H leader asked you</td>
<td>91</td>
<td>40.3</td>
</tr>
<tr>
<td>You &quot;just knew about 4-H&quot; and wanted to help</td>
<td>45</td>
<td>19.9</td>
</tr>
<tr>
<td>You were asked by a child or children</td>
<td>43</td>
<td>19.0</td>
</tr>
<tr>
<td>A county Extension agent asked you</td>
<td>10</td>
<td>4.4</td>
</tr>
<tr>
<td>Attending a 4-H event convinced you</td>
<td>8</td>
<td>3.5</td>
</tr>
<tr>
<td>A newspaper article convinced you</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>A radio or TV program convinced you</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Other</td>
<td>27</td>
<td>11.9</td>
</tr>
</tbody>
</table>

Seven of the "other" category comments were that the new leader had been a 4-H member, enjoyed it, and wanted to continue to work with 4-H. Three said that their own children were in 4-H and they wanted to help them. Two were asked by other children's parents.

Several leaders volunteered additional comments, the most frequent one being that they had enjoyed 4-H as a child and wanted to remain a part of it. One leader said her group was mentally retarded and she wanted to give them some encouragement. Another thought that 4-H would be a
means by which she could make a worthwhile civic contribution.

Each of the fifty leaders in the telephoned subsample was asked whether he or she planned to be a leader next year. (The calls were made early in October.) Thirty-three of them replied, "yes," eleven said, "no," and six were undecided.

**Summary**

If only measures of central tendency are employed, a description of a new 4-H leader in Ohio in 1970 would show a thirty-three year old married woman who had been a 4-H member and is a high school graduate. She lives in a rural non-farm area and her family income is about $9,000. She works with no other youth groups; if she does, it's probably only one besides 4-H. An Extension agent has not visited in her home, but she has visited his office three times, made or received four phone calls to or from the Extension office, and has attended three county or area Extension meetings or events in the past year. She works in a 4-H club with experienced leaders, and she has children in 4-H. Another 4-H leader recruited her to be a leader. And she plans to continue as a 4-H leader next year.
CHAPTER IV

RESULTS OF TESTING ASSOCIATIONAL HYPOTHESES

This chapter is devoted to a discussion of the second major objective of the study; that is, an exploration of the relationships which may exist between certain characteristics of new 4-H leaders and their knowledge about 4-H and the extent to which desirable practices are performed in their 4-H clubs. This objective is reported before the first one in order to identify those variables which may affect the first objective's hypotheses. The discussion will focus on reporting the results of testing twenty-two of the study's hypotheses. But first, an explanation regarding the scoring of the knowledge and practices instruments is essential.

Scoring of the Knowledge Test

The development of the cognitive knowledge test was described in Chapter I. It was designed to test respondents' knowledge regarding the five correspondence course lessons. The test made up the first section of the questionnaire. Though no mention was made in the
questionnaire that this section was in fact a knowledge test on 4-H, it was necessary to state the instructions in a manner that would elicit "correct" responses that would measure the leader's 4-H knowledge rather than causing responses that would describe the practices carried out by leaders in their 4-H work. In the telephone interviews the respondents in the sub-sample were asked whether they felt they were taking a test while they answered the first section. Seventeen said "yes," nine said "no," and one was uncertain. Thus the researcher concluded that most respondents' replies to this section reflected their knowledge about 4-H rather than being a description of their 4-H experiences.

The same computerized item analysis program of The Ohio State University Center for Measurement and Evaluation utilized in the development of this instrument was again used to score, analyze, and summarize the responses to the 4-H cognitive knowledge test. Multiple responses and a lack of response were counted as wrong answers. Each individual's score was the total number of his correct answers. Scores of the 219 respondents ranged from three to nineteen, and were quite normally distributed about the mean score of 10.47. A more detailed summary of the test results appears in Appendix C.¹

¹The detailed item analysis and key for this instrument is not included in this report, but is available from the researcher to those engaged in similar or follow-up research.
The responses to several questions were of particular interest, and may demonstrate how a test of this nature might be improved and also how the test might identify some educational needs of new 4-H leaders.

To the question, "Which feature is the one that makes 4-H in Ohio most different from other youth organizations?" only thirty-seven percent correctly answered that its source of subject matter was The Ohio State University, while twenty-six percent gave the answer relating to careers, twenty-one percent chose the co-educational feature and thirteen percent thought the nature and conservation aspect was unique. Perhaps new 4-H leaders should be taught more about how 4-H differs from other youth organizations.

The researcher was alarmed to discover that, though thirty-seven percent answered the question describing an autocratic leader "as being very firm, keeping discussion to a minimum, and being a strict disciplinarian," an equal percentage thought this statement described a democratic leader. Is it possible that, when Extension professionals encourage "democratic" adult leadership, a very different message is received by volunteer leaders?

Somewhat contradictory to the above discussion was the response to a question asking respondents to identify the purpose of parliamentary procedure. Ninety percent
correctly responded that it makes it possible for each member to express himself.

The problem created when ambiguous choices are provided to a multiple-choice question was pointed up by a question in which the respondent was to select a term best describing the job of the 4-H leader as he works with 4-H projects. The "correct" response was "teacher," but only twenty-five percent chose this response. On the other hand, forty-four percent said "motivator," and twenty-seven percent checked "leader."

A question on child development demonstrated the value of a trial test. In the final test only eight percent of the respondents chose the correct response indicating that generalizations can be made about certain age groups of children; eighty-two percent chose the distractor "each child is very different from all others." In the trial test the respective percentages were fifteen and eighty-five; this alerted the researcher to the difficulty level of this question, but since it was a good one according to other criteria, it was chosen for the final test.

A final observation relates to choices that involve recall of specific facts. The last three questions in the test were of this nature. One question asked for the required age for International Farm Youth Exchange
delegates. Another asked for identification of a specific publication and the last required choice of a percentage of people affected by dental disease. Only about one-third of the respondents correctly answered these questions, and incorrect responses were fairly well distributed among the distractors.

The writer believes that experience and careful study of the results of an item analysis could be used profitably to develop a reliable and valid test to measure new 4-H leaders' cognitive knowledge about 4-H. The most significant uses of such a test probably would be to evaluate the educational methods used by the Extension teacher and to identify unfulfilled needs of the 4-H leader.

**Scoring of the Practices Instrument**

An earlier discussion described the development of the forced-choice instrument which was designed to determine the extent to which desirable 4-H club practices were being carried out in the 4-H clubs led by leaders in this study.

This instrument constituted Section II of the questionnaire. Instructions for this section attempted to convince respondents that it was essential for them to choose one of the statements in each dyad. In almost all cases
these instructions were followed. In the few cases where both statements were either checked or left blank, one of the statements was randomly (by flip of a coin) chosen as the response by that individual. It was felt that the nature of the instrument ("forced-choice") and the small number of dyads (ten) made this action feasible. A random response would stand an equal chance of inflating or deflating the total score, while no response (or checking both items) would deflate the total score by ten percent for each omission.

Each time that the respondent checked the statement in each pair that was associated more with an "ideal" 4-H club (as determined from juried responses to the development of the instrument) one point was scored. This instrument was also scored, analyzed and summarized by the Ohio State University Center for Measurement and Evaluation item analysis computer program. The results showed a range in scores from two to eight, a mean score of 5.01 and a fairly normal distribution of scores. A more detailed summary of the instrument results are to be found in Appendix C.2

In this summary it was noted that the coefficients of internal consistency were -.146 and -.314, certainly

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2The detailed item analysis and the key to this instrument will be provided by the writer to others engaged in similar or follow-up research.
much lower than a desirable level. These measures of the instrument's reliability were calculated by the Kuder-Richardson Formulas 20 and 21, respectively. Three factors affected these low coefficients. First, the small number of items in the instrument; second, the clustering of the proportions of correct responses around the fifty percent level; and third, the limited range of scores. These results provide the basis for a legitimate challenge to the reliability of the forced-choice instrument; the writer recommends further work on the instrument as well as efforts to test its reliability. Perhaps the Kuder-Richardson formulas are not the best indicators of reliability for an instrument of this nature.

If it is to be used more than once, part of the success of a forced-choice instrument hinges on the need for maintaining the secrecy of the key. Thus an analysis of the responses to this instrument cannot be discussed without jeopardizing this security. It is the observation of the writer, though, that an analysis of responses by his leaders to this instrument could provide valuable information to a professional Extension faculty member.

Results of Testing Hypotheses

The primary reason for discussing the associational hypotheses related to Objective 2 prior to the experimental
ones of Objective 1 is that that order seemed logical from a statistical analysis viewpoint. If, in testing for association between a certain 4-H leader variable and the leader's score on the knowledge test and/or the practices instrument, a significant association should be found, this variable should then be seriously considered as an interacting variable or a covariable in testing the experimental hypotheses. If, on the other hand, such an association were found to be not significant, that variable could be eliminated from consideration in testing the experimental hypotheses.

All hypotheses were tested in the null form, but, in order to avoid redundancy, the null hypothesis is stated only once for each type of hypothesis; i.e., difference, directional difference, relationship, and directional relationship.

Though all calculations were based on the total individual respondents involved, the degrees of freedom for all tests of significance were reduced to the number of different sampling units from which responses were received. For example, though 219 total responses were obtained, only 176 different sampling units were represented.
Hypothesis 3

The hypothesis: Female new 4-H leaders will score higher on a 4-H cognitive test than will males.

The null hypothesis: The mean score on a 4-H cognitive test of females will not differ from the mean score of males.

The findings: The mean knowledge test score for females was 10.72 and for males, 9.75.

The statistical test and results: Because a dichotomous variable was being compared with a variable measured in interval data, the QAWST program referred to earlier was used to calculate a t-test for samples of unequal size. The t value was 2.01 which was significant in a directional test at the .05 level with 175 degrees of freedom.

The conclusion: The null hypothesis was rejected. Females did score significantly higher than males on the 4-H knowledge test.

The QAWST program used to test this hypothesis also tested for differences between the sexes regarding some other variables. Of interest relative to this hypothesis was the finding that male new 4-H leaders had significantly more years of formal schooling (a mean of 12.9 years) than did the females (who had a mean of 11.9 years). No significant differences were found regarding age, various
kinds of Extension contact, the sum of Extension contacts, or the number of quiz sheets returned. Thus years of schooling, and the other variables mentioned above, were ruled out as affecting higher 4-H knowledge scores by women.

Hypothesis 4

The hypothesis: New 4-H leaders with higher levels of educational attainment will score higher on a 4-H cognitive test than will those with lower levels of educational attainment.

The null hypothesis: There will be no relationship between new 4-H leaders' level of educational attainment and their scores on a 4-H cognitive test.

The statistical test and results: Since both variables being considered were measured in interval data, a Pearson product-moment correlation coefficient was deemed appropriate. The U.C.L.A. Health Sciences Computing Facility program BMD 03D was used for this test. The correlation coefficient calculated was .127 which was not significant at the .05 level with 175 degrees of freedom.

In order to check visually for the possibility of curvilinear relationships in the correlational hypotheses,

\[^{3}\text{W. J. Dixon (ed.), BMD Biomedical Computer Programs, No. 2 (Berkeley and Los Angeles: University of California Press, 1968), pp. 60-65.}\]
another program in the same series, BMD 02D\textsuperscript{4} was utilized to plot the variables under consideration. No curvilinear relationships were displayed.

The null hypothesis was accepted. No significant relationship was found to exist between 4-H leaders' educational attainment and their scores on a 4-H cognitive test. It might be noted that, though the relationship was not significant, it was in the predicted direction.

Hypothesis 5

The hypothesis: New 4-H leaders with much Extension program contact will score higher on a 4-H cognitive test than will those with less contact.

As previously noted, data for this hypothesis were obtained by totaling four kinds of contact between the leader and Extension programs. They were home visits by an Extension faculty member, visits by the leader to the county or area Extension office, telephone calls between the leader and the county or area Extension office, and attendance by the leader at a county or area 4-H or other Extension meeting or event. Because no effort was made to weight these contacts, it seemed appropriate to test for relationships between each particular type of contact and test scores, as well as the relationship between

\textsuperscript{4}Ibid., pp. 49-59.
the total Extension contact figures and test scores.

The statistical tests and results: The BMD 03D program was used to calculate correlation coefficients between the various types of contact (and total contact) and test scores. The results are given in Table 8.

TABLE 8
CORRELATION COEFFICIENTS BETWEEN NUMBER OF EXTENSION CONTACTS AND 4-H LEADERS' SCORES ON A 4-H COGNITIVE TEST

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation Coefficient</th>
<th>d.f.</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home visits</td>
<td>.089</td>
<td>175</td>
<td>n.s.</td>
</tr>
<tr>
<td>Office visits</td>
<td>.114</td>
<td>175</td>
<td>n.s.</td>
</tr>
<tr>
<td>Telephone calls</td>
<td>.109</td>
<td>174</td>
<td>n.s.</td>
</tr>
<tr>
<td>Meetings and events</td>
<td>.010</td>
<td>174</td>
<td>n.s.</td>
</tr>
<tr>
<td>Total contacts</td>
<td>.112</td>
<td>175</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

The conclusion: The null hypothesis was accepted. If similar null hypotheses had been stated for the various types of Extension contacts, each would have also been accepted. No significant relationship was found to exist between the number of Extension contacts by new 4-H leaders and their scores on a 4-H knowledge test. As in the discussion of the previous hypothesis, all correlation coefficients were in the hypothesized direction, but none was
strong enough to occur other than by chance one time in twenty.

Hypothesis 6

The hypothesis: New 4-H leaders who were 4-H members will score higher on a 4-H cognitive test than will those who have not been 4-H members.

The findings: New 4-H leaders who had been 4-H members had a mean score of 10.44, while those who had not been 4-H members had a mean score of 10.49.

The statistical test and results: The QAWST program t-test calculated a t value of -0.11, which was not only not significant statistically, but in a direction opposite to that hypothesized.

The conclusion: The null hypothesis was accepted. No significant difference was found in mean test scores according to whether or not the new 4-H leader was a 4-H member.

Hypothesis 7

The hypothesis: There will be an association between family income of new 4-H leaders and scores on a 4-H cognitive test.

The null hypothesis: There will be no difference between mean scores on a cognitive test by new 4-H leaders in various family income groups.
The findings, statistical test and results: A mean score on the knowledge test was calculated using the BMD 01D computer program\(^5\) for individuals in each family income group. These scores were ranked and compared with the income group ranking. A Spearman rank correlation coefficient\(^6\) was calculated as a test of no difference between the rankings of the two groups. Table 9 summarizes the findings.

**TABLE 9**
RANKINGS BY FAMILY INCOME AND MEAN KNOWLEDGE TEST SCORES

<table>
<thead>
<tr>
<th>Income Group</th>
<th>n</th>
<th>Rank</th>
<th>Mean Knowledge Test Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $3,000</td>
<td>5</td>
<td>1</td>
<td>8.40</td>
<td>1</td>
</tr>
<tr>
<td>$3,000 - 5,999</td>
<td>24</td>
<td>2</td>
<td>10.25</td>
<td>3</td>
</tr>
<tr>
<td>$6,000 - 8,999</td>
<td>74</td>
<td>3</td>
<td>10.93</td>
<td>5</td>
</tr>
<tr>
<td>$9,000 - 11,999</td>
<td>61</td>
<td>4</td>
<td>10.11</td>
<td>2</td>
</tr>
<tr>
<td>$12,000 - 14,999</td>
<td>22</td>
<td>5</td>
<td>10.41</td>
<td>4</td>
</tr>
<tr>
<td>$15,000 and over</td>
<td>20</td>
<td>6</td>
<td>11.40</td>
<td>6</td>
</tr>
</tbody>
</table>

The calculated Spearman rank correlation coefficient of .714 was not significant at the .05 level with six pairs of ranks.

\(^5\)Ibid., pp. 42-43.

The conclusion: The null hypothesis was accepted. No association was found between level of family income and scores on a 4-H cognitive test. It should be noted, however, that with only six pairs of ranks a very high correlation coefficient is necessary for statistical significance. A visual inspection of Table 9 and the sign and size of the correlation coefficient show a positive association between income levels and knowledge scores in spite of the lack of statistical significance.

Hypothesis 8

The hypothesis: There will be an association between age of the new 4-H leaders and scores on a 4-H cognitive test.

The null hypothesis: No relationship will exist between age of the new 4-H leaders and scores on a 4-H cognitive test.

The statistical test and results: A correlation coefficient was calculated by the BMD 03D computer program. Its value, -.040, was not statistically significant at the .05 level with 175 degrees of freedom.

The conclusion: The null hypothesis was accepted. No relationship was found to exist between the age of a new 4-H leader and his score on a 4-H knowledge test.
Hypothesis 9

The hypothesis: There will be an association between the number of other youth groups with which the new 4-H leader works and scores on a 4-H cognitive test.

The statistical test and results: The BMD 03D program calculated a correlation coefficient of .012 which was not statistically significant at the .05 level with 174 degrees of freedom.

The conclusion: The null hypothesis was accepted. No relationship was found to exist between the number of other youth groups with which a new 4-H leader worked and his score on a 4-H knowledge test.

Hypothesis 10

The hypothesis: Scores on a 4-H cognitive test will differ in relation to the place of residence of the new 4-H leaders.

The findings: Table 10 summarizes the findings of this hypothesis.
TABLE 10
4-H COGNITIVE TEST SCORES BY PLACE OF RESIDENCE OF THE NEW 4-H LEADER.

<table>
<thead>
<tr>
<th>Residence</th>
<th>n</th>
<th>Mean Test Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm</td>
<td>83</td>
<td>10.43</td>
</tr>
<tr>
<td>Rural non-farm</td>
<td>102</td>
<td>10.47</td>
</tr>
<tr>
<td>Town or city of 10,000 to 50,000</td>
<td>27</td>
<td>11.00</td>
</tr>
<tr>
<td>Suburb of city of more than 50,000</td>
<td>4</td>
<td>9.50</td>
</tr>
</tbody>
</table>

The statistical test and results: A one-way analysis of variance program, BMD OlV, was used to calculate the following ANOVA table:

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>d.f.</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>11.1981</td>
<td>3</td>
<td>3.7327</td>
<td>0.3814</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2074.7830</td>
<td>212</td>
<td>9.7867</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2085.9810</td>
<td>215</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since an F of less than 1 is always not significant, this is true of this analysis.

The conclusion: The null hypothesis was accepted. No differences in mean test scores were found when place of residence was considered.
Hypothesis 11

The hypothesis: There will be a positive association between stable, full staffed Extension faculty situations within counties and scores on a 4-H cognitive test by new 4-H leaders in those counties.

In order to quantify this independent variable, the Extension faculty situation was summarized for each of the sample counties. The county with the largest number of agents and with the greatest stability of the agent situation was ranked first. The county with the fewest agents and/or the greatest change in agent positions was ranked tenth. A table in Appendix C summarizes this process.

Table 11 shows the rankings by mean test scores and faculty stability for the ten sample counties. It provides the basis for the calculation of a Spearman rank correlation coefficient.

The Spearman rank correlation coefficient calculated from these findings was .036, not statistically significant at the .05 level with ten pairs of ranks.

It should be pointed out here that a one-way analysis of variance program, BMD 01V, calculated to explore whether there were significant differences in mean

7Dixon, pp. 486-494.
test scores among counties, resulted in an F value of 1.508, not significant at the .05 level with 9 and 209 degrees of freedom. From this finding, it is apparent that the preceding calculations were perhaps performed redundantly; if no differences existed among counties, further tests for differences were unnecessary.

TABLE 11

RANKS OF TEN SAMPLE COUNTIES BY EXTENSION FACULTY STABILITY AND MEAN COGNITIVE TEST SCORES

<table>
<thead>
<tr>
<th>County</th>
<th>Faculty Stability</th>
<th>Mean Test Score</th>
<th>Rank by Test Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>9.3</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>10.8</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>9.6</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>10.1</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>11.6</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>11.4</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>10.9</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>11.2</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>9.6</td>
<td>7</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>9.5</td>
<td>9</td>
</tr>
</tbody>
</table>

The conclusion: The null hypothesis was accepted. There appeared to be no relationship between the stability and size of a county Extension faculty staffing situation.
and the test scores by new 4-H leaders in those counties.

Hypothesis 12

The hypothesis: There will be a positive association between the amount of time devoted to 4-H objectives by Extension faculty within a county and scores on a 4-H cognitive test by new 4-H leaders in that county.

The independent variable in this hypothesis was quantified by summing the manhours devoted to six 4-H related objectives reported by the Extension workers in each of the ten sample counties. These data were obtained from the Ohio State Extension Management Information System.

The findings: The data for this hypothesis are summarized in Table 12.

The statistical test and results: A Pearson product-moment correlation coefficient of .10 was calculated from the data in Table 12. This was not statistically significant at the .05 level with ten pairs of data.

The conclusion: The null hypothesis was accepted. There appeared to be no significant relationship between the amount of time that Extension workers devoted to 4-H and the scores on a knowledge test by new 4-H leaders in their counties.
### TABLE 12

**MANHOURS DEVOTED TO 4-H OBJECTIVES BY EXTENSION FACULTY AND MEAN TEST SCORES BY NEW 4-H LEADERS IN TEN SAMPLE COUNTIES**

<table>
<thead>
<tr>
<th>County</th>
<th>Manhours</th>
<th>Mean Test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1605</td>
<td>9.3</td>
</tr>
<tr>
<td>2</td>
<td>1733</td>
<td>10.8</td>
</tr>
<tr>
<td>3</td>
<td>1955</td>
<td>9.6</td>
</tr>
<tr>
<td>4</td>
<td>2461</td>
<td>10.1</td>
</tr>
<tr>
<td>5</td>
<td>2936</td>
<td>11.6</td>
</tr>
<tr>
<td>6</td>
<td>1063</td>
<td>11.4</td>
</tr>
<tr>
<td>7</td>
<td>2344</td>
<td>10.9</td>
</tr>
<tr>
<td>8</td>
<td>3210</td>
<td>11.2</td>
</tr>
<tr>
<td>9</td>
<td>2293</td>
<td>9.6</td>
</tr>
<tr>
<td>10</td>
<td>2851</td>
<td>9.5</td>
</tr>
</tbody>
</table>

**Hypothesis 13**

The hypothesis: New leaders who score higher on a 4-H cognitive test will lead 4-H clubs in which there will be performance of desirable practices to a greater extent.

The statistical test and results: In this hypothesis each individual's score on the cognitive test was correlated with his score on the forced-choice practices instrument.
Since both scores were measured at the interval level, it was appropriate to use the BMD 03D computer program. The correlation coefficient calculated was -0.065, not significant at the .05 level with 175 degrees of freedom.

The conclusion: The null hypothesis was accepted. No statistical relationship was found to exist between knowledge about 4-H and the extent to which desirable practices were performed in a 4-H club.

Hypothesis 14

The hypothesis: In 4-H clubs led by female new 4-H leaders, there will be performance of desirable practices to a greater extent than in clubs led by males.

The findings: The mean practices score for males was 4.98 and for females, 5.02.

The statistical test and results: A t-test using the QAWST computer program calculated a t value of 0.19, not significant at the .05 level with 175 degrees of freedom.

The conclusion: The null hypothesis was accepted. No significant difference was found to exist between the sexes regarding the extent to which desirable practices were carried out in their 4-H clubs.
Hypothesis 15

The hypothesis: In 4-H clubs led by new leaders with higher levels of educational attainment, there will be performance of desirable practices to a greater extent than in clubs led by leaders with lower levels of educational attainment.

The statistical test and results: The correlation coefficient calculated by the BMD 03D program was -.054, not statistically significant at the .05 level with 174 degrees of freedom.

The conclusion: The null hypothesis was accepted. No relationship was shown to exist between the extent to which desirable practices were carried out in a 4-H club and the educational level of the new leaders of that club.

Hypothesis 16

The hypothesis: In clubs led by new leaders who have had much Extension program contact, there will be performance of desirable practices to a greater extent than in clubs led by leaders with less Extension contact.

As was true in the discussion relating to Hypothesis 5, four types of Extension contact were considered separately in addition to the total for the specific types for each respondent.
The statistical test and results: Correlation coefficients were calculated using the BMD 03D program. They are summarized in Table 13.

**TABLE 13**

**CORRELATION COEFFICIENTS BETWEEN NUMBER OF EXTENSION CONTACTS AND 4-H LEADERS' SCORES ON A 4-H CLUB PRACTICES INSTRUMENT**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation Coefficient</th>
<th>d.f.</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home visits</td>
<td>-.026</td>
<td>175</td>
<td>n.s.</td>
</tr>
<tr>
<td>Office visits</td>
<td>-.024</td>
<td>175</td>
<td>n.s.</td>
</tr>
<tr>
<td>Telephone calls</td>
<td>-.067</td>
<td>174</td>
<td>n.s.</td>
</tr>
<tr>
<td>Meetings and events</td>
<td>.107</td>
<td>174</td>
<td>n.s.</td>
</tr>
<tr>
<td>Total contacts</td>
<td>-.014</td>
<td>175</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

The conclusion: The null hypothesis was accepted. No significant relationship was shown to exist between either total Extension contact or any specific type of Extension contact and the extent to which leaders carried out desirable 4-H club practices.

**Hypothesis 17**

The hypothesis: In clubs led by new leaders who were 4-H members, there will be performance of desirable practices to a greater extent than in clubs led by leaders who were not 4-H members.
The findings: The mean practices score for former 4-H members was 4.99, that for non-members, 5.04.

The statistical test and results: The t value calculated by the QAWST program was -0.25, not statistically significant at the .05 level with 173 degrees of freedom.

The conclusion: The null hypothesis was accepted. No difference in practices scores was shown to exist between leaders who had or had not been 4-H members.

Hypothesis 18

The hypothesis: An association will exist between the level of family income of the new 4-H leader(s) in a club and the extent to which there is performance of desirable practices in the club.

The findings, statistical test and results: As with Hypothesis 7, a mean practices score was calculated by the BMD 01D program for leaders in each income group. These scores were ranked and compared with the income ranking. Table 14 summarizes the findings.

The Spearman rank correlation coefficient calculated from these rankings was .086, not significant at the .05 level with six pairs of ranks.

The conclusion: The null hypothesis was accepted. No association was found to exist between level of family income and 4-H club practices scores.
TABLE 14
RANKINGS BY FAMILY INCOME AND MEAN PRACTICES SCORES

<table>
<thead>
<tr>
<th>Income Group</th>
<th>n</th>
<th>Income Rank</th>
<th>Mean Practices Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $3,000</td>
<td>5</td>
<td>1</td>
<td>5.40</td>
<td>6</td>
</tr>
<tr>
<td>$3,000 - 5,999</td>
<td>24</td>
<td>2</td>
<td>4.50</td>
<td>1</td>
</tr>
<tr>
<td>$6,000 - 8,999</td>
<td>74</td>
<td>3</td>
<td>4.97</td>
<td>2</td>
</tr>
<tr>
<td>$9,000 - 11,999</td>
<td>61</td>
<td>4</td>
<td>5.10</td>
<td>4</td>
</tr>
<tr>
<td>$12,000 - 14,999</td>
<td>22</td>
<td>5</td>
<td>5.09</td>
<td>3</td>
</tr>
<tr>
<td>$15,000 and over</td>
<td>20</td>
<td>6</td>
<td>5.30</td>
<td>5</td>
</tr>
</tbody>
</table>

Hypothesis 19

The hypothesis: An association will exist between age of new leader(s) in a 4-H club and the extent to which there is performance of desirable practices in the club.

The statistical test and results: The BMD 03D calculated correlation coefficient was .043 and was not statistically significant at the .05 level with 175 degrees of freedom.

The conclusion: No association was found to exist between leaders' ages and their scores on the 4-H club practices instrument.
Hypothesis 20

The hypothesis: There will be an association between the number of other youth groups with which the new leader(s) in a club work and the extent to which there is performance of desirable practices in the club.

The statistical test and results: The correlation coefficient calculated from the data for this hypothesis was .072, not statistically significant at the .05 level with 174 degrees of freedom.

The conclusion: The null hypothesis was accepted. No relationship was found to exist between the number of other youth groups with which a new leader worked and his score on a 4-H club practices instrument.

Hypothesis 21

The hypothesis: The extent to which there will be performance of desirable practices in a 4-H club led by a new leader will differ in relation to the place of residence of the leader.

The findings: Table 15 provides a summary of the findings for this hypothesis.

The statistical test and results: The BMD O1V one-way analysis of variance program calculated the following ANOVA table.
The F value, being less than 1, is not statistically significant.

### TABLE 15

**4-H CLUB PRACTICES SCORES BY PLACE OF RESIDENCE OF THE NEW 4-H LEADER**

<table>
<thead>
<tr>
<th>Residence</th>
<th>n</th>
<th>Mean Practices Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm</td>
<td>83</td>
<td>5.05</td>
</tr>
<tr>
<td>Rural non-farm</td>
<td>102</td>
<td>5.07</td>
</tr>
<tr>
<td>Town or city of 10,000 to 50,000</td>
<td>27</td>
<td>4.70</td>
</tr>
<tr>
<td>Suburb of city of more than 50,000</td>
<td>4</td>
<td>5.25</td>
</tr>
</tbody>
</table>

The conclusion: The null hypothesis was accepted. No differences in the extent of performance of desirable club practices were found when place of residence was considered.
Hypothesis 22

The hypothesis: A positive association will exist between a stable, fully staffed Extension faculty situation within a county and the extent to which desirable practices are performed by the clubs led by new leaders in that county.

The quantification of the independent variable in this hypothesis was explained in the discussion of Hypothesis 11.

Before submitting this hypothesis to a statistical test, a one-way analysis of variance test was run using the BMD 01V program to test for differences in mean practices scores among the ten counties. The resulting F value of 0.751 showed no statistical differences among these scores. This result caused further tests for county differences to be somewhat redundant, but since the data were readily available the tests were conducted.

The findings: Table 16 shows the rankings by faculty situation and mean practices scores for the ten sample counties.

The statistical test and results: The Spearman rank correlation coefficient calculated from these ranks was .133, not statistically significant at the .05 level with ten pairs of ranks.
TABLE 16
RANKS OF TEN SAMPLE COUNTIES BY EXTENSION FACULTY STABILITY AND MEAN 4-H CLUB PRACTICES SCORES

<table>
<thead>
<tr>
<th>County</th>
<th>Rank by Faculty Stability</th>
<th>Rank by Practices Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>5.71</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>5.20</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>5.30</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>5.24</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>4.53</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>4.79</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>5.08</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>4.95</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>4.85</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>4.90</td>
</tr>
</tbody>
</table>

The conclusion: The null hypothesis was accepted. No relationship was found between the stability and size of a county Extension faculty staffing situation and the practices scores by new 4-H leaders in those counties.

Hypothesis 23

The hypothesis: A positive association will exist between the amount of time devoted to 4-H objectives by
Extension faculty within a county and the extent to which there is performance of desirable practices in the clubs led by new leaders.

The findings: Discussion under Hypothesis 12 describes the source of the quantification of the independent variable for this hypothesis.

Table 17 summarizes the findings.

**TABLE 17**

MANHOURS DEVOTED TO 4-H OBJECTIVES BY EXTENSION FACULTY AND MEAN CLUB PRACTICES SCORES BY NEW 4-H LEADERS IN TEN SAMPLE COUNTIES

<table>
<thead>
<tr>
<th>County</th>
<th>Manhours</th>
<th>Mean Practices Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1605</td>
<td>5.71</td>
</tr>
<tr>
<td>2</td>
<td>1733</td>
<td>5.20</td>
</tr>
<tr>
<td>3</td>
<td>1955</td>
<td>5.30</td>
</tr>
<tr>
<td>4</td>
<td>2461</td>
<td>5.24</td>
</tr>
<tr>
<td>5</td>
<td>2936</td>
<td>4.53</td>
</tr>
<tr>
<td>6</td>
<td>1063</td>
<td>4.79</td>
</tr>
<tr>
<td>7</td>
<td>2344</td>
<td>5.08</td>
</tr>
<tr>
<td>8</td>
<td>3210</td>
<td>4.95</td>
</tr>
<tr>
<td>9</td>
<td>2293</td>
<td>4.85</td>
</tr>
<tr>
<td>10</td>
<td>2851</td>
<td>4.90</td>
</tr>
</tbody>
</table>
The statistical test and results: A Pearson product-moment correlation coefficient was calculated from these data. It was -.430, not statistically significant at the .05 level with ten pairs of data. As a matter of fact, the result was opposite to the direction predicted.

The conclusion: The null hypothesis was accepted. No relationship appeared to exist between amount of time devoted to 4-H by county Extension workers and the extent to which desirable practices were performed in clubs led by new 4-H leaders in those counties.

Hypothesis 24

The hypothesis: The extent to which there will be performance of desirable practices in a 4-H club will differ between a club led by both new and experienced leaders and in a club led only by new leaders.

The findings: The mean practices score for the 143 respondents who led clubs in cooperation with experienced leaders was 5.10, while the mean practices score for new leaders who led clubs without experienced leader help was 4.73.

The statistical test and results: The t value calculated by the QAWST computer program for these data was 1.84, not significant at the .05 level with 215 degrees of freedom. It might be noted that, had the researcher been willing and able to predict the correct direction of the actual difference in mean scores, this t value would have been statistically significant.
The conclusion: The null hypothesis was accepted. No significant difference in the extent of performance of desirable 4-H club practices was shown to exist between scores by new leaders who worked in cooperation with experienced leaders and new leaders who worked alone or only with other new leaders.

Summary

It is apparent from the results discussed in this chapter that the primary accomplishment of efforts to attain the study's second major objective was to rule out a large number of variables which may have rivaled the correspondence course treatment in affecting the dependent variables.

None of the independent variables discussed was related to the leaders' scores on the practices instrument. The question emerging then is, "If all of these variables are ruled out as possibly affecting differences in 4-H club practices, what variables, then, are related and thus may affect those differences?"

Only one independent variable--sex--was found to be related significantly to new 4-H leaders' knowledge of 4-H. Women scored higher than men. The same question asked in the preceding paragraph can be asked here about 4-H leaders' knowledge.
The ruling out of a large number of rival hypotheses relating to non-manipulatible variables can add credence to any possible significant findings relating to the controlled experiments in this research. Chapter V takes up this discussion.
The primary objective of this research study is discussed in this chapter; that is, to evaluate the effectiveness of the correspondence course for new Ohio 4-H leaders. As was pointed out in Chapter I, the new leaders in the ten sample counties were randomly assigned to either a control group which did not receive the correspondence course or an experimental group which did receive the lessons. No other changes were made in the educational programs ordinarily carried out in the sample counties for new leaders.

This chapter will first report the results of testing two experimental hypotheses, will then report on evaluations as provided in interviews with the county Extension faculty and/or secretaries, and will thirdly review the results of telephone interviews with the subsample of fifty of the new 4-H leaders. Finally, the findings related to evaluations of two pieces of printed materials for 4-H leaders will be discussed.
Results of Testing Hypotheses

A possible threat to the validity of the tests of the experimental hypotheses would have been caused if the two treatment groups returned questionnaires at significantly different rates. Of the 157 individuals in the control group initially, ninety-five or 60.5% returned questionnaires. Of the 201 in the experimental group, 125 or 61.6% responded. A chi-square calculated on the basis of these frequencies resulted in a value of .008, not statistically significant. Thus no significant difference was found between the response rates of the two groups, and they may be assumed to be equivalent in this respect.

But if the experimental and control groups respondents were substantially different in some other respects, the internal validity of the study would be threatened. Table 18 compares the groups on certain variables.

From Table 18 it is apparent that the respondents in the experimental and control groups did not differ substantially in relation to those variables summarized. It might be noted that the difference between the groups on the Extension contact variable was close to being large enough to be statistically different. Perhaps the five cover letters and the five lessons influenced the leaders
in the experimental group to initiate other contacts with Extension faculty.

### TABLE 18

A COMPARISON OF EXPERIMENTAL AND CONTROL GROUP RESPONDENTS ON CERTAIN VARIABLES

<table>
<thead>
<tr>
<th>Variable and Quantification</th>
<th>Experimental Group n=124</th>
<th>Control Group n=95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was leader a 4-H member? - percent &quot;yes&quot;</td>
<td>52.4</td>
<td>54.7</td>
</tr>
<tr>
<td>Sex - percent &quot;male&quot;</td>
<td>24.2</td>
<td>28.4</td>
</tr>
<tr>
<td>Age - mean years&lt;sup&gt;a&lt;/sup&gt;</td>
<td>32.7</td>
<td>32.2</td>
</tr>
<tr>
<td>Education - mean years completed&lt;sup&gt;a&lt;/sup&gt;</td>
<td>12.0</td>
<td>12.4</td>
</tr>
<tr>
<td>Marital status - percent &quot;married&quot;</td>
<td>83.7</td>
<td>86.3</td>
</tr>
<tr>
<td>Income - percent below $9,000</td>
<td>49.6</td>
<td>50.6</td>
</tr>
<tr>
<td>Residence - percent &quot;farm&quot;</td>
<td>39.7</td>
<td>36.8</td>
</tr>
<tr>
<td>Extension contact - mean number&lt;sup&gt;a&lt;/sup&gt;</td>
<td>12.3</td>
<td>9.2</td>
</tr>
<tr>
<td>Leader have children in 4-H? - percent &quot;yes&quot;</td>
<td>65.3</td>
<td>63.2</td>
</tr>
<tr>
<td>Did leader work with experienced leader(s)? - percent &quot;yes&quot;</td>
<td>66.7</td>
<td>64.9</td>
</tr>
</tbody>
</table>

<sup>a</sup>For these variables a t-test was calculated as part of another analysis. No significant differences were found.
Hypothesis 1

The hypothesis: New leaders who participate in the Ohio 4-H correspondence course will score higher on a 4-H cognitive test than will leaders who do not participate in the course.

The findings: The mean knowledge test score of the 124 4-H leader respondents from the experimental group (participants in the correspondence course) was 11.00, while the mean score for the ninety-five from the control group was 9.77.

The statistical test and results: Because sex had been determined as the only assigned variable associated significantly with knowledge scores, it was appropriate to test for interaction between sex and treatment simultaneously with a test for differences between treatment groups. The computer program used for this purpose was developed at The Ohio State University and is called Analysis of Variance for Factorial Design with Unequal Cell Frequencies (AVUHCF). The data for this statistical test are summarized in Table 19.

---

TABLE 19
MEANS OF KNOWLEDGE SCORES BY SEX AND TREATMENT

<table>
<thead>
<tr>
<th>Sex</th>
<th>Experimental</th>
<th>Control</th>
<th>Marginal Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>10.23</td>
<td>9.22</td>
<td>9.75</td>
</tr>
<tr>
<td></td>
<td>n = 30</td>
<td>n = 27</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>11.24</td>
<td>9.99</td>
<td>10.72</td>
</tr>
<tr>
<td></td>
<td>n = 94</td>
<td>n = 68</td>
<td></td>
</tr>
</tbody>
</table>

Marginal Means: 11.00 9.77 10.47

The two-way analysis of variance table calculated from these data follows:

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>d.f.</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>33.8676</td>
<td>1</td>
<td>33.8676</td>
<td>3.6183 n.s.</td>
</tr>
<tr>
<td>Treatment</td>
<td>76.4653</td>
<td>1</td>
<td>76.4653</td>
<td>8.1694 (.005)</td>
</tr>
<tr>
<td>Interaction</td>
<td>0.6402</td>
<td>1</td>
<td>0.6402</td>
<td>0.0684 n.s.</td>
</tr>
<tr>
<td>Error</td>
<td>2012.3984</td>
<td>215</td>
<td>9.3600</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2123.2715</td>
<td>218</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From these F values it can be seen that difference in knowledge score by treatment groups was significant beyond the established decision level of .05. Interaction of sex and treatment was virtually non existent.

A special note must be made regarding the F value
for sex. A value larger than 3.84 would be needed to be significant with one and 215 degrees of freedom. It will be recalled that the initial decision regarding the significance of sex was made as a result of a t value of 2.01 which was just slightly larger than the critical value of 1.98 for a two-tailed test. Differences in computational procedures are obviously the cause of these discrepancies. In any event the prior decision on sex stands, particularly since it was made on the basis of a one-tailed test. (The square root of the calculated F value, 3.6183, is 1.90; a t value of 1.90 would be significant at .05 in a one-tailed test.)

The conclusion: The null hypothesis was rejected. New 4-H leaders who participated in the correspondence course scored significantly higher on a 4-H knowledge test than did non-participants. It was further found that no significant interaction existed between treatment and sex.

This evidence suggests that participation in the correspondence course helped new 4-H leaders to know more about 4-H.

Hypothesis 2

The hypothesis: Four-H clubs led by new 4-H leaders who participate in the Ohio 4-H correspondence course will demonstrate performance of desirable practices to a greater
extent than will clubs led by non-participants.

The findings: The mean practices score for the ninety-five leaders in the control group was 5.14, while the mean score for the 124 respondents in the experimental group was 4.92.

The statistical test and results: The Ohio State University QAWST computer program calculated a t-test for samples of unequal size. The resulting t value was -1.1406, not significant at the .05 level with 174 degrees of freedom. It will be noted that the results were, although not statistically significant, contrary to the predicted direction.

The conclusion: The null hypothesis was accepted. No difference in the extent of performance of desirable club practices was found to exist whether or not the new 4-H club leader participated in the correspondence course.

Although participation in the correspondence course helped new 4-H leaders to learn about 4-H, this knowledge had not been transferred into performance of more desirable club practices.

The Return of Quiz Sheets

Each correspondence course lesson included a one-page quiz sheet of questions relating to that lesson. The leader was encouraged (but not required) to return this
sheet to the county Extension faculty member. Each quiz sheet included a space for the leader to make comments or ask questions. Each faculty member was free to decide the degree to which he would interact with the leaders as a result of the return of the quiz sheets. (This is discussed later.)

A question arose as to whether leaders from the experimental group who answered and returned quiz sheets would score higher on the knowledge test than would those who did not do so. Table 20 shows the lack of return of quiz sheets by the leaders.

TABLE 20

RETURN OF QUIZ SHEETS AND MEAN KNOWLEDGE SCORES

<table>
<thead>
<tr>
<th>Number of Quiz Sheets Returned</th>
<th>n</th>
<th>Mean Knowledge Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>92</td>
<td>10.6</td>
</tr>
<tr>
<td>1</td>
<td>12</td>
<td>10.4</td>
</tr>
<tr>
<td>2 to 4</td>
<td>12</td>
<td>11.9</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>12.8</td>
</tr>
</tbody>
</table>

In order to learn whether the observed differences in mean test scores were due to chance, a one-way analysis of variance test, BMD 01V, was applied to the data. The following ANOVA table resulted.
### Table 1: ANOVA Table for Quiz Sheet Return

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>d.f.</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>49.6354</td>
<td>3</td>
<td>16.5451</td>
<td>1.4635</td>
</tr>
<tr>
<td>Within groups</td>
<td>1356.6120</td>
<td>120</td>
<td>11.3051</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1405.2474</td>
<td>123</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The F ratio is not great enough to be significant at the .05 level with three and 120 degrees of freedom. The differences in mean scores are not large enough to have resulted by chance less than once in twenty times.

Though the scores are not significantly different, it is worthy of note that the eight leaders who returned all five quiz sheets had a mean test score almost one point higher than those who returned two to four sheets, and more than two points higher than those who returned only one quiz sheet. This certainly offers adequate evidence to encourage further exploration.

A report from one of Ohio's ten area 4-H Extension faculty members on his method of using the correspondence course in non-experimental counties further attests to the need for further study regarding teacher-student interaction and return of quiz sheets.¹ In four counties in his area, the county 4-H faculty mailed the first correspondence course lesson to their 140 new 4-H leaders. Each leader was required to return the quiz sheet for that lesson to the area 4-H agent before the second lesson would be mailed.

¹Letter from Rodney Petteys, Washington Court House Area Extension Agent, 4-H, October 27, 1970; and telephone call, November 16, 1970.
be mailed to him or her. The same would be true for subsequent lessons. The area 4-H agent reviewed each quiz sheet returned to him, wrote comments on it and mailed the quiz sheets to the appropriate county 4-H agent for follow-up.

Fifty-one leaders returned the first quiz sheet and thus indicated interest in receiving additional lessons. The following shows the subsequent results:

- 33 returned the second quiz sheet and received the third lesson,
- 25 returned the third quiz sheet and received the fourth lesson,
- 21 returned the fourth quiz sheet and received the fifth lesson,
- 18 returned the fifth and final quiz sheet.

A comparison of these results with those in this study (in which the leaders in the experimental group received all five lessons whether or not they wanted them, were only "encouraged" to return the quiz sheets, and enjoyed virtually no interaction with the teacher) shows eighteen completions from 140 starts contrasted with eight completions from some 200 who began the course.

**Interviews with County Extension Workers**

In mid-September the researcher visited, either in person (four agents were in Columbus for a workshop) or by telephone with a faculty member, a 4-H assistant or
a secretary in each of the ten sample counties. In each case the interview was with a person who had been personally involved in the research project. One purpose of the contacts was to seek approval to telephone a sub-sample of five new leaders and to get telephone numbers for those in the sub-sample. Other purposes will be apparent in the following discussion.

Did the county Extension workers have any evidence that the leaders were aware of being involved in a research project? In no county was the answer to this question "yes." This reply increased the researcher's confidence in ruling out the Hawthorne effect as a threat to the generalizability of the study's findings.

How much interaction took place between the correspondence course "students" and the professional county Extension faculty? Any interaction between teacher and student was stimulated by quiz sheet returns. In five of the ten counties, no interaction whatsoever took place, other than the cover letters that accompanied the lessons. In each county a 4-H assistant or a secretary kept a record of quiz sheet returns. In two of the no-interaction counties the agent apparently did not review the quiz sheets whatsoever. Two agents said each answered one question asked by a leader by phone; five quiz sheets were returned in one of these counties, and twenty-one in the other. In
three counties secretaries recorded the quiz sheets as they were returned, an agent (or 4-H assistant in one county) read the responses and replied to questions by card, letter or personal contact.

It was apparent from these responses that no pre-planned process of interaction with the correspondence course recipients was developed by the Extension faculty. Where there was interaction it was in response to a specific question from a leader. This statement should not be interpreted as a criticism of the Extension faculty in these counties. Correspondence course work was new to them as well as to state Extension 4-H faculty; the essentiality of interaction between teacher and student as a part of the correspondence course method was not mentioned to the county faculty by either the researcher or those who developed the course. In fact, the researcher encouraged agents to handle the materials as they would if no research were being conducted.

How did the county faculty, 4-H assistants, and secretaries evaluate the correspondence course? Did it save them time and effort? Would they suggest it be continued? In general the respondents felt that the correspondence course was of value and should be continued. None felt that it saved any professional time or effort. Two persons thought that all new leaders should receive
the correspondence course; most of the other respondents would favor a more selective use of this teaching method. Several suggested the need to personalize the course, perhaps by visiting with the leader before sending the materials or by combining the correspondence course with a meeting or two for new leaders. In this research project nearly all lessons were mailed to leaders in April, May, and June—busy times for rural residents and parents of school children. Some agents suggested that winter months would be more appropriate. Of course, a strong selling point for the correspondence course method is that it may be mailed at any time of year to a new leader.

**Interviews With Sub-Sample of Leaders**

A sub-sample of ten leaders was drawn at random from each county list of new leaders. In the few cases where more than one name from a sampling unit was drawn, the second name was deleted. Telephone numbers were obtained from the county faculty for each of the eight to ten names remaining. The researcher then telephoned the leaders, in the order in which their names were drawn, until he completed five calls for each county. A schedule of questions was prepared prior to each call. (See Appendix B for an example of how the preparation was done.) The researcher felt that the most economical and efficient
way of conducting telephone interviews to 4-H leaders was to make station-to-station calls in the evening. The cost per call was reduced considerably by waiting until after seven o'clock. Some seventy charged calls were necessary to complete the fifty interviews successfully.

Six of those called indicated that they "really didn't feel that they were still a 4-H leader," and were reluctant to complete the interview. In these cases (all were prior non-respondents) the interviewer asked only if they would be willing to provide the demographic data. No one refused to answer most of the personal questions. As a matter of fact, no one flatly refused to be interviewed. Twenty-nine of the calls were made to respondents; twenty-one to non-respondents. This proportion (fifty-eight percent-forty-two percent) was very close to the over-all response rate of sixty-one percent.

Forty-four interviewees were asked whether they knew, prior to receiving the questionnaire, that they were involved in a research project; all forty-four said, "no." This response further confirms that the Hawthorne effect was not a threat to the validity of this study.

There were two basic kinds of information sought in the telephone interview. One, an evaluation of the correspondence course, and second, some insight into methods used by the leaders to learn about their 4-H leadership roles.
Evaluation of the Correspondence Course

When those in the experimental group were asked to what extent they actually read the lessons, their replies were as follows:

<table>
<thead>
<tr>
<th>Reply</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely</td>
<td>10</td>
<td>35.7</td>
</tr>
<tr>
<td>Most</td>
<td>3</td>
<td>10.7</td>
</tr>
<tr>
<td>About half</td>
<td>9</td>
<td>32.1</td>
</tr>
<tr>
<td>Not much</td>
<td>6</td>
<td>21.5</td>
</tr>
<tr>
<td>Not at all</td>
<td>0</td>
<td>00.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Finally, the experimental group was asked whether they would suggest to their Extension faculty that the correspondence course be continued for next year's new 4-H leaders. Twenty-three said "yes," two said "no," and two were undecided. Several volunteered suggestions. One of those who said "no" thought small afternoon meetings in leaders' homes with the County 4-H Extension faculty would be better; another said she did not like answering the questions. Nine of those replying other than "no" suggested the course be conducted in the fall or winter; another pointed to the need for correspondence between the Extension faculty and the leader.

The interviewer briefly explained the correspondence course to the interviewees who were in the control
group. He then asked them if this sounded like something they would have appreciated receiving. Ten persons said "yes," five were unsure, and one said "no." The negative response was from a leader who planned not to continue as a leader the following year. One leader asked how she could get the course right away. These people were then asked to estimate to what extent they thought they would read the lessons. Their replies were:

<table>
<thead>
<tr>
<th>Reply</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely</td>
<td>11</td>
<td>68.8</td>
</tr>
<tr>
<td>Most</td>
<td>3</td>
<td>18.8</td>
</tr>
<tr>
<td>Half</td>
<td>1</td>
<td>6.2</td>
</tr>
<tr>
<td>Not much</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Not at all</td>
<td>1</td>
<td>6.2</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>100.0</td>
</tr>
</tbody>
</table>

To summarize this evaluation, those who received the correspondence course took notice of it (more than a third read the lessons completely) and found it generally helpful. They suggested it be continued. Those who did not receive the course thought they would like to have had it and they were more optimistic about reading the lessons than were those who actually received them.
Evaluation of Some Sources of Leader Information

At the time of this study the writer was a member of the Ohio state 4-H staff. His major role was to coordinate the development, production and distribution of 4-H printed materials. This interest led to his making some effort to evaluate the leaders' opinions about, and use of, some 4-H publications.

One question centered around the leaders' resourcefulness. Did the leaders (those who returned questionnaires) seek help in completing the test portion of the questionnaire? Of the twenty-nine responding to this question, seventeen said they did try to look up answers. Where did they look? Did knowledge scores vary according to whether the leader sought help or not? Did it make any difference from where help was sought? Table 21 may offer some insight into these questions.

Some observations are worthy of notice. Of those who sought help, all who had participated in the correspondence course sought answers from 4-H materials; of the six control group individuals, three went to 4-H materials and an equal number went to an encyclopedia (obviously control group subjects could not use the correspondence course as reference). Of the seventeen who were in the experimental group, eleven sought help, while only six of the twelve control group people sought help. It appeared
TABLE 21
MEAN KNOWLEDGE SCORES BY WHETHER AND FROM WHAT SOURCE LEADERS SOUGHT HELP IN COMPLETING COGNITIVE TEST

<table>
<thead>
<tr>
<th>Source of help</th>
<th>Leaders Who Sought Help</th>
<th>Leaders Who Did Not Seek Help</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>17</td>
</tr>
<tr>
<td>Mean knowledge score</td>
<td>12.6</td>
<td>9.4</td>
</tr>
<tr>
<td>Encyclopedia</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Advisers' Handbook</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Correspondence Course</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>No help sought</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>n</th>
<th>Mean knowledge score</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>6</td>
<td>13.5</td>
</tr>
<tr>
<td>3</td>
<td>11.7</td>
</tr>
<tr>
<td>5</td>
<td>14.8</td>
</tr>
<tr>
<td>6</td>
<td>10.2</td>
</tr>
<tr>
<td>6</td>
<td>8.7</td>
</tr>
</tbody>
</table>

*Mean scores by treatment: Experimental, (n=17) 12.7; Control, (n=12) 9.3. Grand mean for entire sub-sample: (n=29) 11.3.*
that participation in the correspondence course may have caused those leaders to be more resourceful and aware of sources of help than those leaders who were in the control group.

Mean knowledge test scores reflect logical predictions that would be made regarding these data. The experimental group scored higher than the control group; those who sought help scored higher than those who did not; and those whose reference material was the correspondence course scored highest of all.

The statements in the preceding paragraph were confirmed by statistical tests. The AVUNCF two-way analysis of variance program tested whether differences in mean scores for treatment groups and for resourcefulness groups were significant; it also tested whether there was significant interaction between these two variables. The following ANOVA table resulted:

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>d.f.</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whether help was sought</td>
<td>53.7600</td>
<td>1</td>
<td>53.7600</td>
<td>6.4283 (0.025)</td>
</tr>
<tr>
<td>Treatment</td>
<td>60.3530</td>
<td>1</td>
<td>60.3630</td>
<td>7.2178 (0.025)</td>
</tr>
<tr>
<td>Interaction</td>
<td>11.3601</td>
<td>1</td>
<td>11.3601</td>
<td>1.3584 (n.s.)</td>
</tr>
<tr>
<td>Error</td>
<td>209.0762</td>
<td>25</td>
<td>8.3630</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>334.5593</td>
<td>28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This table shows that those who sought help scored significantly higher on the knowledge test than those who did not. Consistent with the over-all study findings, the correspondence course participants in this sub-sample demonstrated greater knowledge about 4-H than did non-participants. Though there appeared to be some interaction between these variables, it was not to a degree that would be considered greater than by chance.

Among those who did seek help, was there a significant difference in their knowledge scores relative to their source of assistance? The BMD 01V one-way analysis of variance program compared the three groups—those who used an encyclopedia, those who used the Ohio 4-H Advisors' Handbook, and those who went to the correspondence course lessons. From Table 21 it is obvious that interaction between this variable and treatment was not possible. The computer presented this ANOVA table:

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>d.f.</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>79.5269</td>
<td>2</td>
<td>39.7634</td>
<td>4.8680  (.025)</td>
</tr>
<tr>
<td>Within Groups</td>
<td>114.3555</td>
<td>14</td>
<td>8.1682</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>193.8823</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From these results it was concluded that a significant difference was demonstrated between the groups of leaders who used the three resources. Table 21 shows, by mean scores for the groups, that those who sought help from
the correspondence course lessons did best on the knowledge test.

Forty-four responses were obtained to the question "Do you have a copy of the Ohio 4-H Advisors' Handbook?" This publication was mentioned above. It was developed as a basic source of 4-H information for 4-H leaders in Ohio. Included are units on understanding children, working with parents, conducting community service, organizational relationships in 4-H and history of 4-H. County Extension faculty are urged to provide a copy for each 4-H leader. Twenty-eight (63.6%) of the forty-four respondents said they had a copy while sixteen (36.4%) did not. Two of those answering negatively said they had had a copy but no longer did.

When asked how useful this publication was to them as a 4-H leader, this was the result:

<table>
<thead>
<tr>
<th>Usefulness</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very</td>
<td>6</td>
<td>20.0</td>
</tr>
<tr>
<td>Some</td>
<td>14</td>
<td>46.7</td>
</tr>
<tr>
<td>Not much</td>
<td>7</td>
<td>23.3</td>
</tr>
<tr>
<td>Very little</td>
<td>2</td>
<td>6.7</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Two thirds of those who had a copy of the Advisors' Handbook rated its usefulness as being of "some" use or "very useful."
Another basic publication used by 4-H leaders in Ohio is the Ohio 4-H Advisors' Program Book. This publication provides information on planning annual 4-H club programs and individual club meetings. It includes adequate worksheets for planning twelve meetings and for keeping a record of individual member participation. It is suggested that each leader have a copy of this publication, too. Because many new leaders assist experienced leaders, it would be appropriate to predict that new leaders would find this publication less useful than the handbook.

It was a little surprising to find that this publication was in the hands of a greater proportion of the respondents than was the handbook. Thirty-four (77.3%) of the forty-four respondents had a copy of the program book. When asked to rate its usefulness, the following were their responses:

<table>
<thead>
<tr>
<th>Usefulness</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very</td>
<td>6</td>
<td>16.7</td>
</tr>
<tr>
<td>Some</td>
<td>8</td>
<td>22.2</td>
</tr>
<tr>
<td>Not much</td>
<td>9</td>
<td>25.0</td>
</tr>
<tr>
<td>Very little</td>
<td>7</td>
<td>19.4</td>
</tr>
<tr>
<td>None</td>
<td>6</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Whereas the corresponding proportion for the handbook was two-thirds, only two-fifths of those leaders who had
the program book rated its usefulness at or above the "some" category. The prediction above regarding usefulness was confirmed by the new leaders' responses.

A frequent question asked by those involved in the production of 4-H leader materials is, "How much are they actually used?" The thirty-six leaders who said they had had a copy of the program book were asked what proportion of the worksheet pages they actually wrote on. The responses were:

<table>
<thead>
<tr>
<th>Response</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost all</td>
<td>4</td>
<td>11.1</td>
</tr>
<tr>
<td>Most</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>About half</td>
<td>5</td>
<td>13.9</td>
</tr>
<tr>
<td>Very few</td>
<td>7</td>
<td>19.4</td>
</tr>
<tr>
<td>None</td>
<td>17</td>
<td>47.2</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>99.9</td>
</tr>
</tbody>
</table>

Only one-third of the leaders who had a copy of this publication actually used half or more of the worksheets provided in it. Nearly half did not write in it at all.

It would be common sense to assume that a leader who wrote in none of the pages of the Advisors' Program Book would find its usefulness to be slight, and conversely one who used most of the pages would rate its usefulness higher. But, could this be demonstrated from the above data? Table 22 attempts to do so.
TABLE 22

A COMPARISON OF NEW LEADERS' RATING ON USEFULNESS
OF THE OHIO 4-H ADVISORS' PROGRAM BOOK
WITH THE ACTUAL USE THEY MADE OF IT

<table>
<thead>
<tr>
<th>Rating on Usefulness</th>
<th>Proportion Of Pages Written On</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
</tr>
<tr>
<td>Very</td>
<td>1</td>
</tr>
<tr>
<td>Some</td>
<td>1</td>
</tr>
<tr>
<td>Not much</td>
<td>4</td>
</tr>
<tr>
<td>Very little</td>
<td>6</td>
</tr>
<tr>
<td>None</td>
<td>6</td>
</tr>
</tbody>
</table>

From Table 22 it is apparent that there is a positive relationship between the use a leader made of the program book and his opinion as to its usefulness to him. Though these data were not treated statistically, a comparison of the diagonally opposite groups of four cells in each corner shows nineteen cases in the bottom-left (6,0,6,0) and top-right (1,4,2,0) eight cells, while there are only three cases in the opposite top-left (0,0,1,2) and bottom-right (0,0,0,0) eight cells.

Summary

New 4-H leaders who participated in the correspondence course designed for them demonstrated greater
knowledge about 4-H than did non-participants. No difference was shown, however, in the degree to which desirable 4-H club practices were performed in clubs led by leaders who were in the two treatment groups.

It should be noted that participation or non-participation in the correspondence course was the only difference between Extension educational experiences of the experimental group and the control group. Each new 4-H leader in the study had available his or her county's regular Extension educational program--meetings, newsletters, visits, office calls, telephone calls, tours, and other events. The correspondence course thus was an additional method of instruction for those in the experimental group. But it was added for them without their request for it nor their knowledge that another group did not receive it. The researcher believed that evidence furnished by this study showed the correspondence course to be an effective supplement to Extension educational programs for new leaders, and that its efficiency can be improved--primarily by having new leaders select the correspondence instruction from alternative methods and then by planned interaction between the Extension teacher and the new leader student.

Though the evidence was not statistically significant, the writer felt that the higher mean score on the knowledge test by the few leaders who returned all five
quiz sheets should be the basis for further investigation into the effect of interaction between teacher and pupil as an integral, planned component of the correspondence course method. This feeling was confirmed during the interviews with county Extension faculty.

Telephone interviews with a random sub-sample of subjects showed a positive reaction to the correspondence course. A majority of the respondents showed resourcefulness and an awareness of some sources of 4-H information as they completed the test of knowledge in the questionnaire. Their resourcefulness paid off in higher scores; the correspondence course lessons appeared to be the most fruitful source of information.

It was somewhat disappointing to the researcher because of his former work with 4-H publications, to learn that a substantial proportion of the new leaders did not have copies of two of the basic printed circulars for Ohio 4-H leaders. Those who did have copies of both found the Advisors' Handbook to be more useful than the Advisors' Program Book.
CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

One of the major concerns of Cooperative Extension faculty who work with the 4-H program is to satisfy the educational needs of new volunteer 4-H leaders. Extension faculty have always searched for new methods and techniques—particularly to meet the needs of new leaders who are unable or unwilling to attend meetings.

In the autumn of 1969 a correspondence course for new 4-H leaders in Ohio was developed by a committee of area 4-H Extension faculty and Miss Beatrice Cleveland, assistant state leader, 4-H. The availability of this innovative technique that winter made it possible to test its effectiveness experimentally. Seldom has a new Extension method been exposed to the rigors of a carefully controlled experimental design.

The correspondence course included topics which were felt by its designers to meet the most significant needs of new 4-H leaders. The titles of the five lessons were:

You and 4-H—What It's All About
Your Leadership Team, Working With Boys and Girls
Tools and Techniques

Your Club Has Meetings

Program Ideas Add Zip and Zest

Each lesson was printed and illustrated on three or four eight and one-half by eleven-inch pages. Accompanying each lesson was a single page quiz sheet which the new 4-H leader was encouraged to complete and return to his county or area Extension agent.  

Objectives

This study sought to achieve three major objectives. First, to evaluate the effectiveness of the correspondence course by determining whether knowledge about 4-H and desirable practices performed in 4-H clubs would differ between 4-H leaders who participated in the correspondence course and those who did not participate. In addition, personal opinions about the course would be sought from both participants and non-participants.

The second major objective was to explore for relationships which may exist between the leaders' knowledge of 4-H and the performance of desirable practices in their clubs and certain characteristics of the leaders and their counties.

1Copies of the complete course may be obtained from the Ohio state 4-H office, 2120 Pyffe Road, Columbus, Ohio, 43210.
The third objective of the study was to compile and summarize the demographic data obtained from the new 4-H leaders as a means to describe them. These data could possibly be used as a foundation for subsequent longitudinal studies of Ohio 4-H volunteer adult leadership.

**Methodology**

One county was randomly selected from each of Ohio's ten Extension administrative areas. The county faculty and supervisory personnel for these counties agreed to assist with the research. The names of all new 4-H leaders who volunteered in the ten counties between July 1, 1969 and May 1, 1970 were mailed to the researcher who assigned each sampling unit to either the experimental or to the control group. Sampling units were assigned as one means to avoid having the leaders become aware of their involvement in research. New leaders in the same club and new leaders who were married couples were assigned to the same sampling unit.

County Extension faculty were asked to mail the correspondence course lessons, accompanied by their cover letter, at regular intervals, to leaders in the experimental group (and to complete the mailing before July 1, 1970) and to avoid having the control group become aware of the lessons. Later questions by the researcher showed that leaders in neither group knew that they were involved.
in a research project before they received the questionnaire. No other changes were made in educational programs ordinarily conducted in the sample counties for their new 4-H leaders. Subsequent tests showed that the experimental and control groups did not differ significantly in their Extension contacts such as visits by Extension faculty, phone calls or meetings.

A posttest-only control group design was utilized to assure the validity of the study's experimental portion of its first objective. Telephone interviews with a subsample of fifty subjects obtained their opinions about the correspondence course. The analyses pertaining to the second objective utilized the ex post facto (correlational) design, while the third objective was realized through descriptive procedures.

The new leaders' knowledge about 4-H was measured by a twenty-item multiple choice test which was developed by the researcher in cooperation with the author of the correspondence course lessons. A fifty-item test was originally developed and validated for content by Miss Cleveland and other members of the Ohio 4-H staff. A trial of this test was conducted with forty-nine 4-H leaders (from a sample of 120) in two non-experimental counties. The results of an item analysis program of the Ohio State University Center for Measurement and Evaluation applied to these responses were used in reducing the trial test to
the twenty-item final instrument. These twenty items made up the first part of the questionnaire used for data collection. (See Appendix B.) An effort was made to avoid a "test appearance" to this part of the questionnaire. One point was scored for each correct response to a question; the possible range of scores was thus zero to twenty.

A forced-choice instrument was developed by the researcher to quantify the second dependent variable in the study—the extent to which desirable practices were performed in the 4-H clubs of the new leaders. Five state 4-H staff members and Ohio's ten area 4-H Extension agents formed a jury to provide the judgments essential to this instrument's development. The final instrument consisted of ten pairs of statements, each statement being a description of a desirable 4-H club practice or condition. Both statements in each pair were actually carried out in 4-H clubs (according to the jury) to the same degree—they were equally "applicable." One statement in each pair, however, was associated with an "ideal" 4-H club to a greater extent (again according to the jury) than the other statement in the pair. Thus for each "ideal" statement a respondent chose, he scored one point on this instrument. Scores thus could range from zero (less effective) to ten (ideal). This instrument was the second section of the questionnaire. Respondents were asked to be
sure to choose the one statement in each pair that best described their own 4-H club situation.

A series of twelve questions seeking demographic data from respondents made up the third section of the questionnaire. The questionnaire was pre-tested with a small number of non-experimental new 4-H leaders before its final printing.

A total of 360 questionnaires were mailed on July 17, 1970. Follow up letters were sent to non-respondents by most of the ten cooperating agents about August 1; a second questionnaire was mailed to non-respondents as of August 17. On September 21 the 219th, and final, questionnaire was received. This provided a response rate of about sixty-one percent.

Telephone interviews were conducted with a randomly selected sub-sample of fifty of the original list of leaders; twenty-one of these were non-respondents.

All responses were coded and transferred to data processing cards. Most of the statistical analysis was done utilizing appropriate programs available through the Ohio State University Instruction and Research Computer Center. In all tests for statistical significance the decision level was .05. In other words, for a specific result to be considered as statistically significant, its occurrence by chance needed to be calculated as less than one in twenty.
Findings

Although the questionnaire return rate of sixty-one percent was considered as good from lay respondents, it did not provide an adequate basis for generalizing with confidence to the entire group of subjects or to all new 4-H leaders in Ohio from which the subjects were randomly drawn. Were there differences between early and late respondents? Were there differences between respondents and non-respondents?

A series of t-tests were calculated on the variables of age, years of school, number of other youth groups worked with, and total Extension contact by the leader. The first t-tests compared 106 early (before August 4) and 113 late respondents on these variables; no significant differences were found. A second series of t-tests compared the 106 early respondents with the twenty-one non-respondents for whom data were obtained by telephone. Again no significant differences were found.

A series of chi square tests were calculated on the nominally measured variables of whether the leader had been a 4-H member, sex, marital status, whether leader's children were in 4-H, whether the 4-H club was led only by new leaders, and the factor most significant in the leader's decision to be a 4-H leader. As with the t-tests, none of the calculated chi squares was large enough to be significant.
These tests demonstrated that differences, if they existed between the time-of-response groups, were not great enough to occur other than by chance. The conclusion reached was that the groups were enough alike to permit findings based on respondents to be generalized to the entire sample of new 4-H leaders in the ten counties. Random selection of the ten counties made generalization possible to all new 4-H leaders in Ohio in 1969-70.

Objective 1

The first two hypotheses of this study were formulated to test experimentally whether new 4-H leaders' participation in a correspondence course designed for them would result in greater knowledge about 4-H (Hypothesis 1) and/or the performance of desirable practices to a greater extent in the new leaders' 4-H clubs (Hypothesis 2). Table 23 summarizes the results.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Mean Scores</th>
<th>Test Results</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1 - Knowledge</td>
<td>11.00</td>
<td>9.77</td>
<td>$F = 8.17$</td>
</tr>
<tr>
<td>No. 2 - Practices</td>
<td>4.92</td>
<td>5.14</td>
<td>$t = -1.41$</td>
</tr>
</tbody>
</table>
This table shows that participation in the correspondence course caused new 4-H leaders to demonstrate significantly greater knowledge about 4-H than those who did not participate in it. An F test was used in this statistical calculation in order to make it possible to test simultaneously for interaction of sex and treatment while testing for treatment effects. The reason for choosing sex as a variable will be explained later.

Table 23 also shows that performance of desirable practices in the new leaders' 4-H clubs was not affected by participation in the correspondence course. As a matter of fact, the t value, though not statistically significant, was contrary to the hypothesized direction. A low reliability coefficient of -.146 with the Kuder-Richardson Formula 20 calculated from the results of the forced-choice instrument, however, may have jeopardized the value of that instrument as a reliable measure of 4-H club practices.

Opinions of new 4-H leaders about the correspondence course were obtained via the telephone interviews. No reference was made to the correspondence course in the questionnaire or its cover letters. This was necessary to avoid sensitizing respondents to the correspondence course research.

Several methods were employed in the research to avoid the Hawthorne effect and to determine whether those
efforts were successful. Forty-four of the telephone interviewees were asked whether they knew they were involved in a research project prior to receiving the questionnaire; all said they did not. None of the interviewees who had been in the control group indicated that they were aware that a correspondence course existed. County Extension personnel stated that they had no evidence of contamination.

Twenty-eight telephone interviewees who were in the experimental group were asked to what extent they actually read the correspondence course lessons. Twenty-two (78.5\%) said that they read "about half" or more of the materials. When asked to indicate how helpful the course was, nineteen (67.8\%) replied "some" or "very."

Twenty-three of the twenty-seven respondents said they would suggest to their County Extension faculty, if asked, that the correspondence course be continued. Several suggested that the lessons be sent during the fall or winter (most were mailed between March and July in the study).

Sixteen control group subjects were interview respondents. The researcher briefly explained the correspondence course to them and asked if they would have appreciated receiving the lessons. Only one person answered negatively, and that leader had already decided to drop out of 4-H work. When asked to what extent they
would read the lessons if they received them, eleven of the sixteen said "completely."

The attainment of the study's first objective demonstrated that participation in the correspondence course did increase the participants' knowledge of 4-H, but had no effect on the performance of desirable practices in their 4-H clubs. Participants' evaluations of the correspondence course were favorable and they did read the lessons mailed to them; non-participants' anticipation regarding such a course was also positive.

Objective 2

The remaining twenty-two hypotheses of the study were formulated to attain the second major objective which sought to explore, in an ex post facto manner, relationships between certain variables and the new leaders' knowledge about 4-H and the extent to which desirable practices were performed in their 4-H clubs. Table 24 summarizes the results of testing all but two of these hypotheses.

From Table 24 it can be noted that only one cell in the table shows a statistically significant result. Females scored higher on the knowledge test than did males. All other tests of hypotheses resulted in no significant differences or relationships. Since all these hypotheses (except the sex-knowledge one) were ruled out as factors
related to the two dependent variables, they were not considered as possible interacting variables or as covariates when the two experimental hypotheses were analyzed under the discussion of the first objective. Since sex was shown by Table 24 to have been a possible factor affecting knowledge scores, it was analyzed in conjunction with the treatment as discussed earlier. No interaction was shown to exist between sex and treatment effects as related to knowledge.

All but the final two variables in Table 24 will be further discussed later. "County faculty staff situation" was determined on the basis of the number and stability of the faculty situation in each of the sample counties. The first ranked county had two 4-H faculty members for most of the year from July 1, 1969 through June 30, 1970; the last ranked county lacked a 4-H faculty member during that year. Mean scores on the two dependent variables were determined for each sample county and then were ranked from high to low. These two rankings were then compared using the Spearman rank correlation coefficient.

The State Extension Management Information System was the source for data on the number of manhours devoted to 4-H objectives in the sample counties. A Pearson product-moment correlation coefficient was calculated
### TABLE 24

**SUMMARY OF TESTING ASSOCIATIONAL HYPOTHESES**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean Score(^a)</th>
<th>Knowledge Statistical Test and Decision</th>
<th>Practices Statistical Test and Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>10.72</td>
<td>(t = 2.01, (.05))</td>
<td>(t = 0.19, \text{n.s.})</td>
</tr>
<tr>
<td>Male</td>
<td>9.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of School</td>
<td>(r = .127, \text{n.s.})</td>
<td></td>
<td>(r = -.054, \text{n.s.})</td>
</tr>
<tr>
<td>Extension contact</td>
<td>(r = .112, \text{n.s.})</td>
<td></td>
<td>(r = -.014, \text{n.s.})</td>
</tr>
<tr>
<td>Was leader a 4-H'er?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10.44</td>
<td>(t = -0.11, \text{n.s.})</td>
<td>(t = -0.25, \text{n.s.})</td>
</tr>
<tr>
<td>No</td>
<td>10.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family income</td>
<td>(r_s = .714, \text{n.s.})</td>
<td></td>
<td>(r_s = .086, \text{n.s.})</td>
</tr>
<tr>
<td>Age</td>
<td>(r = -.040, \text{n.s.})</td>
<td></td>
<td>(r = .043, \text{n.s.})</td>
</tr>
<tr>
<td>Number of other youth groups worked with</td>
<td>(r = .012, \text{n.s.})</td>
<td></td>
<td>(r = .072, \text{n.s.})</td>
</tr>
<tr>
<td>Place of residence</td>
<td>(F = 0.381, \text{n.s.})</td>
<td></td>
<td>(F = 0.543, \text{n.s.})</td>
</tr>
<tr>
<td>County faculty staff situation</td>
<td>(r_s = .036, \text{n.s.})</td>
<td></td>
<td>(r_s = .133, \text{n.s.})</td>
</tr>
<tr>
<td>County manhours devoted to 4-H</td>
<td>(r = .100, \text{n.s.})</td>
<td></td>
<td>(r = -.430, \text{n.s.})</td>
</tr>
</tbody>
</table>

\(^a\)Where available.
from these data and mean scores on the two dependent variables for each county.

Hypothesis 13 sought to answer the question "Will leaders' knowledge scores be associated positively with their practices scores?" and thus "is there evidence that knowledge may be transferred to practices?" A product-moment correlation coefficient between these two variables of -.065 showed that no significant relationship existed and that the above questions received negative answers.

Finally Hypothesis 24 asked whether 4-H club practices would differ between a club led only by new leaders and a club led by both new and experienced leaders. The mean practices score of respondents who led 4-H clubs in cooperation with experienced leaders was 5.10, while the mean score for those who led clubs alone was 4.73. The t value calculated from these data was 1.84, not statistically significant.

Objective 3

Demographic data obtained from subjects who returned questionnaires and the twenty-one additional respondents as a result of telephone interviews were summarized to attain the third major objective of the study. Each variable is discussed here briefly.
Had the leader been a 4-H member? Yes, 132 (fifty-five percent); no, 108 (forty-five percent).

Sex: Male, sixty-five (twenty-seven percent); female, 175 (seventy-three percent).

Age: Range was from seventeen to sixty with a mean of 33.4; 12.7% were under 21, 43.8% were between thirty-one and forty.

Number of years of formal schooling: Mean was 12.5 years; 135 (57.4%) had completed high school.

Marital status: Thirteen percent (thirty-one) were single, 86.2% (206) were married, 0.8% (two) were divorced, and none were widowed.

Family income: The median was $9,000; six (2.7%) replied "under $3,000" and twenty-two (10.0%) said their income was "over $15,000."

Residence: Nearly half (48.5%) lived in a rural non-farm home; 38.4% lived on farms. None lived in a city of 50,000 or more; in this respect the random sample may have been biased since nearly six percent of Ohio's 4-H members live in cities that large.

Work with other youth groups: Nearly half (47.6%) of the new leaders work with no other youth group. The largest number was six reported by one leader. The average was 0.9.

Extension contact: Table 25 summarizes the four categories of contact with Extension reported.
The large percentage of leaders who had very little direct contact with Extension programs likely was due in part to the fact that many new 4-H leaders begin as an "assistant" to an experienced leader who assumes the task of contacting the Extension office.

Were the leader's children 4-H members? Yes, 152 (63.3%); no, eighty-eight (36.7%).

Were there experienced 4-H leaders in the new leader's club? Yes, 153 (65.1%); no, eighty-two (34.9%).

Most important factor in leader's decision to volunteer: Ninety-one respondents (40.3%) said another 4-H leader asked them. About equal numbers—forty-five (19.9%) and forty-three (19.0%), respectively—said they "just knew about 4-H" or that they were asked by a child.
Only ten persons replied that the deciding factor was a request by an Extension faculty member. Seven who checked the "other" category said they had enjoyed 4-H as a member and wanted to continue to work with it.

The fifty telephoned leaders were asked whether they planned to be a leader the following year. Two-thirds said they did, eleven said "no" and the remaining six were undecided.

Other Findings

An important requirement of a correspondence course is that there be interaction between the teacher and the student. In this research no instructions regarding interaction were given the county Extension agents who mailed the lessons to the new 4-H leaders in the experimental group; they were asked to handle the correspondence course as they would if no research were being conducted. Leaders were encouraged, but not required, to complete and return the quiz sheet accompanying each lesson.

Interviews with county Extension personnel showed that there was very little interaction between faculty and leaders other than the cover letter that accompanied each lesson. Direct, personal contact was virtually non-existent. Only eight of nearly 200 experimental group leaders completed and returned all five quiz sheets.
In order to test statistically whether a difference in knowledge scores was associated with the number of quiz sheets returned, a one-way analysis of variance test was used. It showed that the differences in scores was not significantly different even though the eight who returned all five quiz sheets had a mean knowledge score of 12.8 while those who returned two to four sheets had a mean score of 11.9 and those who returned only one had a mean score of 10.6.

One of the ten area 4-H faculty in Ohio assisted four counties in providing the correspondence course for their new 4-H leaders. He did so independently of this research, and, of course, in non-experimental counties. He required the return of one lesson's quiz sheet before the next lesson was mailed, and he wrote comments on the returned quiz sheets before mailing them back to the leaders. Though his attrition rate was high (about sixty-five percent), his proportion of those completing the course (eighteen of fifty-one who "enrolled") was much higher than was the case in this study where each lesson was mailed on a regular schedule.

County Extension personnel who assisted with the research were asked to help evaluate the correspondence course. Their reactions were positive even though they felt this method saved them neither time nor effort. Most thought the lessons might be provided to a more select
audience—perhaps new leaders who were not able or willing to attend meetings. And several felt that there was a need to personalize the course more.

The twenty-nine leaders in the telephone interview sub-sample who had returned questionnaires were asked whether they sought help in answering the knowledge test questions. If they did seek help, they were asked to recall where they looked. Seventeen said they did seek help. Three went to an encyclopedia, nine went to their Ohio 4-H Advisors' Handbook, and five looked in their correspondence course materials. Twelve did not seek help. Statistical analysis of these findings showed that those who sought help scored significantly higher on the knowledge test than those who were not so resourceful. A significant difference was found to exist in knowledge scores according to the source of help; the correspondence course lessons were the most fruitful source and the encyclopedia the least.

State 4-H Extension faculty have developed a number of pieces of printed material for Ohio's 4-H leaders. Two basic publications that they feel all 4-H leaders should have are the Ohio 4-H Advisors' Handbook and the Ohio 4-H Advisors' Program Book. The telephoned sub-sample was asked about these publications; useable responses were obtained from forty-four leaders.
Twenty-eight (63.6%) of the forty-four had a copy of the handbook. Two-thirds of these twenty-eight said they rated its usefulness as being of "some" use or "very useful."

Thirty-four (77.3%) of the respondents had a copy of the program book; only forty percent rated its usefulness in the "some" or "very" categories. Since the program book included several work sheets for planning annual club programs and specific meetings, it was appropriate to seek information as to the actual use made of the publication. When asked what proportion of the work sheets were actually written on, only one-third of the leaders said they used "about half" or more of the pages.

Conclusions

The following list of conclusions was formulated from the findings of the study.

1. New 4-H leaders in Ohio who participated in a correspondence course designed for them demonstrated greater knowledge about 4-H than did non-participants. The correspondence course was an effective teaching tool.

2. Participation in the correspondence course had no effect on the extent to which desirable practices were performed in the leaders' 4-H clubs. Increased knowledge had not transferred to practices.
3. New 4-H leaders who participate in the correspondence course can be expected to read the lessons and evaluate them favorably. Evidence supporting this conclusion was provided by non-participants who said they would have appreciated receiving the lessons and thought they, too, would read the material.

4. With no specific instructions to Extension faculty regarding the importance, in correspondence instruction, of interaction between them and the participants, such communication can be expected to be at a very minimal level.

5. Both lay leaders and professional Extension faculty recognize that the flexibility of correspondence instruction permits lessons to be sent to a select audience at convenient times, and that there needs to be greater interaction between faculty and leader.

6. Female new 4-H leaders can be expected to demonstrate more knowledge about 4-H than males.

7. Sex of the new leader probably would not be a factor in affecting the extent to which desirable practices are carried out in 4-H clubs.

8. The following factors apparently do not affect either the new leaders' knowledge of 4-H nor the extent of performance of desirable practices in their 4-H clubs:
   a. educational attainment of the leader
   b. extent of contact between the leader and county
or area Extension programs and personnel

c. whether the leader had been a 4-H member
d. family income of the leader
e. age of the leader
f. number of other youth groups with which the
   leader worked
g. leader's place of residence
h. county Extension faculty size and stability
i. time devoted to 4-H by county Extension faculty.

9. Most respondents can be expected to be resourceful as
   they seek answers to questions about 4-H; they appar-
   ently do seek help from available Extension printed
   materials. The 4-H correspondence course lessons
   seemed to be a fruitful source of assistance.

10. New 4-H leaders in Ohio appeared not to utilize
    available printed material to the extent expected
    and desired by Extension faculty.
    A substantial proportion of new 4-H leaders did not
    have copies of two publications deemed by state 4-H
    faculty as essential to 4-H leaders; more than one-
    third did not have the Ohio 4-H Advisors' Handbook,
    and almost one-fourth did not have the Ohio 4-H
    Advisors' Program Book. Those who did have them
    thought they were useful, but the worksheets in the
    program book were actually utilized by a small pro-
    portion of the leaders--only one-third said they used
    half or more of its worksheets.
11. The success of the controlled experimental portion of this study should encourage other researchers to use similar research designs.

12. Instruments to measure 4-H leaders' knowledge and the extent of performance of desirable 4-H club practices were successfully developed, though some question existed regarding the reliability of the practices instrument.

13. A sixty-one percent response rate from the subjects in this study appeared to be adequate to insure adequate representation of the entire population.

Recommendations

The recommendations of this study have been formulated from the findings of the study, from the examination of related research and practices, and from the judgment of the writer.

1. The correspondence course for new 4-H leaders in Ohio should be continued. The following recommendations should improve its effectiveness.

a. County and area Extension faculty should be more selective in offering the course to new leaders. The course should be explained to interested new 4-H leaders as one of several alternative educational methods rather than as an additional method for all new leaders. This should be done soon after the leader volunteers. Each leader should formally decide whether to participate in it.
b. Once the leader "enrolls" for the correspondence course there should be personal follow up and interaction between the Extension faculty and the new leader. The leader should be expected to complete and return the quiz sheets; the faculty should have a planned procedure for follow up upon their return. A telephone call to the leader may be more effective and efficient than a mailed response. If a certain period of time has elapsed since a lesson was mailed, and the leader has not returned its quiz sheet, the faculty should follow up, either by mail or by telephone.

c. The above suggestions should be developed into a set of guidelines for Ohio county and area Extension faculty who are responsible for conducting educational programs for 4-H leaders.

d. The state 4-H staff should prepare a record form for agents' use in administering the course. It should provide columns to record the mailing of lessons, the return of quiz sheets and other communication with the participants.

e. The state 4-H staff should develop and print an attractive certificate denoting successful completion of the correspondence course and distribute it to county and area faculty for their use.
2. Further research should be conducted to test for the influence that interaction between faculty and leader might have on new leaders' knowledge and 4-H club practices.

3. The knowledge test developed in this research should be offered to other researchers for their use in determining new leaders' knowledge of 4-H, or in identifying educational needs of 4-H leaders.

4. Further research is needed to determine whether the practices instrument developed in this study does in fact discriminate between 4-H clubs of differing "qualities." County Extension faculty could rate the quality of the 4-H clubs of respondents included in this study and then comparisons could be made with those leaders' scores on the practices instrument.

5. A more sophisticated practices instrument might be developed using the same "forced-choice" technique employed in this study. Computer scoring and analysis of such an instrument might possibly be used to offer suggestions for improvement to low scoring clubs.

6. In further research where 4-H leaders' knowledge is one variable, sex of the leader should be considered as an independent variable.

7. Longitudinal research should be conducted using the subjects identified in this research. Of particular interest would be studies on leader attrition—
drops out, when and why. Additional data on the subjects would be required—occupation; kind of 4-H club led, its size, age, number of other leaders, number of junior leaders, and so forth.

8. The new leaders from an urban county or two should be asked to provide the same demographic data obtained from leaders in this study in order to determine whether the "rural bias" that resulted from the random selection of sample counties for this study was a threat to the generalizability of the findings.

9. State Extension 4-H workers need to put added effort into seeing that new leaders are furnished with the printed materials available to them. Special emphasis should be devoted to encouraging leaders to actually use the Ohio 4-H Advisors' Program Book.

10. Researchers planning educational studies with lay subjects should endeavor to conduct controlled experiments. Procedures, such as the posttest-only control group design utilized in this research, can be successfully employed with subjects involved in informal educational programs.

11. A summary of this study should be provided to:
   a. each Ohio county and area Extension agent, 4-H
   b. each Ohio state 4-H staff member
   c. each state office of Extension research and staff
development
d. each state 4-H office.
APPENDIX A

THE CORRESPONDENCE COURSE
YOU AND 4-H - WHAT IT'S ALL ABOUT

You are a 4-H advisor. Congratulations for being selected, and for your willingness to serve youth! You will have both responsibilities and opportunities. Boys and girls will look to you as their friend, teacher, guide and helper. Your job will be a challenging and rewarding one. It will take effort and time. You will gain untold satisfactions as you see boys and girls grow and develop.

You may have been a 4-H member yourself, or you may have heard of 4-H only recently. As an advisor you will want to know what 4-H is all about today. Let's look at it.

Definition and Purpose

4-H is a voluntary, educational program designed to meet the needs and interests of boys and girls 10-19 years of age. The emblem is a four leaf clover with an H in each leaf. This symbol is well known, yet it means different things to different people. The letters in the emblem stand for Head, Heart, Hands, and Health — the foundation of all 4-H programs. As an advisor you'll help your members develop —

Head — learning to think, making decisions, understanding the "why's", gaining new and valuable knowledge.

Heart — being concerned with the welfare of others, accepting responsibilities of citizenship, determining values and attitudes by which to live, learning how to work with others.

Hands — learning new skills, perfecting skills already known, developing pride in work, and respect for it.

Health — practicing healthful living, protecting the well being of self and others, making constructive use of leisure time.

All of this together is fourfold development. Each leaf, each H, is vital to every individual. You need to make sure that all four of the H's become equally important to your members.

Membership

All boys and girls who are fourth grade students, or ten years of age or over, but have not passed their 19th birthday are eligible to participate. Youth of all races, places of residence, socio-economic situations, and educational backgrounds are welcome. Each interested boy and girl should have a place. Each should progress at his own rate. Needs and interests of individuals will vary—the same as yours.

What Makes 4-H Different?

4-H is real life experience. It's learning how to do jobs, how to make decisions similar to those that are important in adult life.

4-H can be a family affair. There is a place for others in the family group if they want to participate. Sometimes you can reach, and teach, others (friends, parents, brothers and sisters) through "your" boys and girls.
4-H is adaptable. Programs can and should be "tailor made" to fit any individual, any home, any community. That’s part of the fun. You can help your club “cut and fit” so that everyone gains from the experience.

4-H is decision making. Learning to stand on one’s own feet, learning to work with a group is important to each person. Early practice in making both personal and group decisions builds for the future. You help members find possible answers, you encourage them to explore and decide which they will follow.

4-H provides for ownership. Making, buying, selling are included. Each project “belongs” to the member.

4-H is based on science and fact. The resources of The Ohio State University, our Land-Grant College, are used consistently in developing and carrying out projects and activities.

4-H is a part of the community. A club becomes involved with improving economic and social conditions where the members live. They learn how to be good citizens by taking community responsibility.

4-H is “learning by doing”. It’s an action program. Participants watch others, they study, they experiment, but they “do and practice” themselves. People remember 20% of what they are told, 30% of what they see, 60% of what they see and hear, 70% of what they say, 80% of what they do and think. 4-H offers much doing and thinking!

What Makes 4-H Possible?

4-H is a combination of many things — people, (members, leaders, parents, Extension agents, Extension specialists, others) finances, and community support, to name a few.

Let’s look more closely. 4-H is tax supported. The combined efforts of the county, state, and federal governments have permitted 4-H to develop into a practical, educational program based on everyday living.

Your club, every club member and advisor, is a part of the Cooperative Extension Service of The Ohio State University, the Federal Extension Service, and the United States Department of Agriculture. Your Extension agents are faculty members of the University — you are sometimes referred to as “faculty members without diploma”.

Your county commissioners help support 4-H as they provide office space, secretarial assistance, supplies, and other financial help for your county Cooperative Extension Service office.

Cooperating organizations are the National 4-H Club Foundation in Washington, D.C., and the National 4-H Service Committee in Chicago. Local organizations and groups continually assist with programs.

4-H Reaches Around the World

BUT home is where worthwhile things really happen! Let’s explore that thought a bit.

Over two million boys and girls in the United States belong to 4-H clubs. It goes further. More than 70 countries throughout the world have 4-H type programs. They may be called by different names (4-S in South America, 4-K in Turkey, Young Farmers’ Clubs in England and New Zealand) but they have the same goal — the growth and development of boys and girls to their greatest capacity. You are one of 15,213 advisors guiding 5,646 4-H clubs in Ohio. Over 100,000 Ohio boys and girls are club members. We have many more youth who would like this opportunity.

The Ohio 4-H program is only as good as the combined local clubs. You and your members are the heart of the program. What is done in your local community with your boys and girls and their families determines whether 4-H has meaning and value. You never know the far reaching effects you, one member, one group may have — even around the world. 4-H is like the small stone thrown into a pond. Eventually the impact of that one small object reaches far away shores.

So, What’s It Really All About?

Boys and girls with a desire to “do”, advisors with a desire to guide — those are the two most essential features of 4-H. You’ve said, “Yes, I care about boys and girls, and I want to work with them.” Now, it’s a question of:

“How?”

“What do I do?”

“What "handles" can I use to reach my boys and girls?”
Until the next lesson here are some "think about thoughts" (questions, statements, concerns that you tuck away to pull out and talk over with yourself in spare moments—like when you are waiting on someone, when you are doing routine chores, when you want a change of pace).

Young people are persons, not objects or things. Do I treat them that way?

What do my boys and girls want most?

Leaders are born, not made. Is that what I believe, or not?

I'm a parent so I know all about how they feel and how my relationships with them work. Do I, really?

Each person has a number of people he can trust, people who understand him and care. Does he? And if so, who? Do I?

Assignments: Read pp. 2, 21, 25, 26, 28 "Ohio 4-H Advisor's Handbook" 4-H circular 172 (available from your County Extension Agents) Prepared by Beatrice Cleveland, Assistant State Leader, 4-H 12/69

The Ohio State University Cooperating with the U.S. Department of Agriculture. Cooperative Extension Service, Roy M. Kottman, Director, Columbus, Ohio 43210. Printed and distributed in furtherance of Acts of May 8 and June 30, 1914.
QUIZ SHEET

lesson 1

OHIO 4-H ADVISOR'S CORRESPONDENCE COURSE

You and 4-H — What It's All About

After you have read the lesson, please complete the form and return to:

1. What do you think 4-H can contribute to the boys and girls in your club?

2. What do you hope to gain from this experience?

3. Is 4-H reaching most of the youth in your community? Why or why not?

4. How does Ohio State University fit in the 4-H picture?

5. What other agencies and organizations contribute?

6. Any questions or comments?

Name Address County

The Ohio State University, cooperating with the U. S. Department of Agriculture, Cooperative Extension Service, Ray M. Kottman, director, Columbus, Ohio 43210. Printed and distributed in furtherance of acts of May 8 and June 30, 1914.
LESSON 2

What do 4-H'ers expect from their Club leaders?

This may well be your first question as a part of the leadership team. Ed Pope, Extension specialist in Child Development and Human Relations, Federal Extension Service, reports what kids responded in one state.

"We want a leader we can be proud of." The club leader should be a good example.

"If the leader doesn't have the know-how, he should either be able to find it or have someone else teach it to us." He needs to know what he is teaching.

"We want a leader who is patient with us, someone who is willing to idle his motor when he really feels like stripping his gears!" Leaders need patience—learning is often slow.

"Someone who is fair with us but knows how to control us." A leader must be understanding, one who earns respect and cooperation.

"We love a leader who can laugh with us about funny things that we do, or that just happen." A good sense of humor can replace scolding and harsh words.

"We like leaders who are not 'old fogies' but who keep up with the times. They can explain things on our own level and make it interesting." Leaders should be interesting "today" people.

"We like to have a lot to say about what our club is doing and have our leaders accept suggestions from us. A leader should be a person of whom we are not afraid to ask questions, one who is not in so much of a hurry that he gives us the feeling we're wasting his time." Leaders need to listen, then help individuals.

"A leader should tell us the things we do right, not just the things we do wrong." Giving deserved praise encourages learning.

"When he praises us in front of the club he doesn't compare us to others who aren't doing so well. He helps us see how we have improved over what we did before and where we still could do better." A leader should help members "to make their best better."
"A good leader tries to equalize the load to be carried by members. When we have big jobs like demonstrations, exhibits, big projects he sees that the work is divided equally and helps us get the materials we need. Leaders should "even up the load" fairly and effectively.

"We like to be with a leader who is a happy person. He doesn't have to be laughing all the time, but we know by the things he says and does that he is interested in lots of things, us included. He helps us to be happy, too." Leaders must be "alive" persons who are interested in kids.

Your Leadership Team—Who and What?

You've probably wondered about the terms "advisor" and "leader." Actually they mean the same—almost! "4-H Advisor" is an Ohio term, used by only a few other states. Most states call you leaders. The Ohio philosophy recognizes that you are assuming leadership responsibilities all the time, AND it also emphasizes that you "advise" much of the time. As you "advise", you pass along leadership responsibilities to members when you think they are able to handle them.

We've talked about what 4-H'ers expect from you. Now let's check back a bit and see who makes up your leadership team. You're not alone, you know—unless you want to be. Other people would like to help so give them a chance. There is no one set plan that is guaranteed to work BUT there are numerous combinations. Your leadership team will depend upon the number of members, the kinds of projects, the variety of experiences your members want to pursue, your abilities and interests; and those of other advisors.

Let's take a look around the bases at this team.

It shows possible positions that could be covered by different people. You will want a brief close-up view of each position.

The Organization Leader lets boys and girls and parents know about 4-H, helps them plan their program, assists in setting up the club and keeping it going, works with officers, members, and other leaders in gaining what they want from 4-H.

Project Leaders are teachers of a specific subject matter area. They present a variety of information and methods for the education of members. They help members learn skills and make decisions based on scientific information.

Activity Leaders work with members and committees on related programs such as health, safety, community service, camping, tours, recreation and other "fun and learning" experiences.

One meeting leaders are people who have special skills or abilities which they are willing to share with club members. They are highly specialized in a single area, and can teach a lot in a single meeting.

Junior Leaders are older club members, 14 years of age and over, who want to learn how to be effective leaders themselves. We say 4-H is learning by doing. Junior leaders have their chances, too. They will want to talk over possibilities with you, then decide on several definite jobs that are theirs—with your counsel and guidance. Here's your chance to help someone else gain a portion of the leadership ability you have.
NOW, how about a look inside that team. There is another group:

Club Officers are 4-H'ers selected by all the members to assume jobs in helping the club run smoothly. The officers can be an important part of the team IF those of you on the bases help them know what and how to do. It’s like planning, figuring out the system, practicing and then letting them take over the playing during the game (the club meeting). You will find that teaching members can be loads of fun.

One more view — see those people on the sidelines? We’d better let them pass in review.

Member committees can do much of the planning and action part of your club program. They are inexperienced. They will need ideas, know how, and assistance.

Parents usually care about their kids, even if they don’t admit it out loud. They provide tremendous support and encouragement ... if they understand what’s going on. Why don’t you get to know them, then try to figure out what each can contribute for the good of all in the club? Advisors tell us that time spent this way can pay big dividends later.

County Extension Agents are close at hand, ready to lend assistance when needed. You may have to clue them in, ask questions, request specific help. They are teachers just like you. They’ve had more experience with all of 4-H, with subject matter and leadership techniques. They want to help but sometimes you have to tell them how.

For more details on specific jobs of the members of your leadership team read pages 4 and 5, 8 and 9, 16 and 17 of “The Ohio 4-H Advisors’ Handbook”.

Working with Boys and Girls — How???

That “How??? is a bigger challenge than it is a question. It’s also exciting, fun, makes the whole thing worthwhile.

Understand them

It is the foundation of your job. Research tells us that all youth, regardless of age, have some definite needs that must be fulfilled if they are to progress to the greatest of their potential.

Know the basic needs of youth

1. Belonging — being accepted, feeling a part of the group builds security and the desire to participate.

2. Independence — they want to stand on their own feet, to make decisions, to do things. They also want the security of a helping hand close by, just in case they need to “catch hold”. You can provide both the chances for freedom and the back up help.

3. Affection and recognition — they need to feel wanted, well liked, loved if they are to be free to operate. Praise for a job well done can inspire further effort.

4. Achievement and success — each member must “have his day”, must have the knowledge that he’s accomplished something worthwhile, something he set out to do. Being successful builds self confidence, challenges new goals.

Help your members attain these needs

1. Know them personally. Find out all you can about them. Let them know you’re interested. Listen to what’s important to them.

2. Create an atmosphere where they can know and like each other.

3. Provide opportunities for them to gain confidence in themselves.

4. Encourage them to respect the ideas and actions of others.

5. Promote thinking and decision making. You can help them think of all the possible answers. Then give them a chance to figure out and try the one they decide is best. But don’t go away too far, they may need you!
6. See that each member has opportunities provided for attaining his basic needs. Now and then check each member against the four basic needs. See who is short, where he needs help, and try to "bridge the gap".

Recognize differences according to age and "tailor" your leadership to fit your group.

We know that 10-year-olds are different from 13-year-olds in many ways. Physical development, what they like to do, how they behave with others are examples.

In 4-H, club members are thought of as being in three different groups:

- Junior members — 10-12 years, fourth to seventh grades
- Intermediate members — 12-14 years, sixth to ninth grades
- Advanced members — 15-19 years, tenth grade and above

To learn to work best with each group you'll want to study pages 13, 14, and 15 in your "Ohio 4-H Advisors' Handbook," and page 4, "Ohio 4-H Advisors' Program Book."

Be a democratic leader. You should learn how a democratic leader works in contrast to autocratic and laissez-faire leaders. Here is a brief summary.

Autocratic Leader (BOSS)

As leader of the group, you are polite but firm in telling them what they are to do. Do not explain the total purpose of the job or all the resources at the disposal of the group. Tell them only as much as you think they must know to do what you expect done. Do not encourage others to contribute ideas. Don't try to develop teamwork. Deal with each individual separately.

Remember, you are the leader. It is you alone who is really responsible for what is done.

Laissez-faire Leader

(HANDS OFF)

As leader of the group, you give complete freedom for anybody to do the job in any way, as long as they don't just quit and leave. Do not explain the total purpose of the job or all the resources they could use. Make a short explanation, then tell them it's up to them to work it out for themselves. Let each person contribute ideas, and convince the others if he can. Don't try to build up teamwork. Retreat from any responsibility for the group.

Remember, it's their job, not yours, leave it up to them.

In which group do you think the most growth of individuals and positive group action will take place?

Which kind of a leader do you want to be?

Democratic Leader

As leader of the group you try to see that the group as a whole makes many of the decisions about what is to be done. Explain the purpose of the job and see that the group understands what resources are available. Encourage members to contribute ideas. Help keep group discussion going so they can weigh the different suggestions that members make. Try to develop teamwork so that the members work together smoothly. Don't expect them to check with you on every detail.

Remember, this is the job of all the group, including you. As one member of the group, your special job is to help the group make decisions about what to do and how to do it.

"Think About Thoughts"

"Tools and Techniques" are coming up as your next lesson. Why don't you roll these "think about thoughts" around until then?

Actions speak louder than words. Which do you count on most?

Life does not consist of everyone living in his own little corner. There needs to be contact between people, not merely bodies pushing one another through a revolving door, but mental and spiritual exchange of ideas.

Leaders don't have to know everything. They just have to be one step above each boy and girl they are leading. Is that possible?

Being a part of a leadership team, rather than a "lone" promotes more personal growth of individuals — and it's easier, too. Or does it? And is it? To know is to understand. Do we? Either one?

Assignments: Read pp. 3, 4, 5, 8, 9, 13, 14, 15, 16, 17 "Ohio 4-H Advisors' Handbook" — 4-H circular 172 (copy sent with Lesson 1) Read page 4 "Ohio 4-H Advisors' Program Book" — 4-H circular 229 (copy enclosed)

Prepared by Beatrice Cleveland, Assistant State Leader, 4-H 12/69
1. Now that you know what some 4-H'ers expect of their leaders, what do you think is your greatest leadership strength? What do you think you need to work on most? How will you go about it?

2. Do you see any advantages in having organization, project, and activity leaders instead of just one person doing all three jobs? Please explain.

3. How can you involve parents in your club's program?

4. What can County Extension Agents do that would be of the greatest help to you?

5. Name the four basic needs of youth:
   1. 
   2. 
   3. 
   4. 
   Select one, then explain how you hope to help your club members attain it.

6. Any questions or comments?

Name ___________________ Address ___________________ County ___________________
LESSON 3

4-H advisors are teachers. As a teacher we have need for materials, information, and methods to help boys and girls grow. Let's look at the tools and techniques available for our use.

TOOLS

The 4-H Project

A project is a real-life, adult like experience in a subject matter area of interest to a member. Each boy and girl carries one or more projects. Examples include clothing, woodworking, small animal care, gardening, home improvement, foods and nutrition, automotive, electricity, earning and using money, livestock, conservation, management, all kinds of self, home, and community betterment programs.

You'll want to know the answers to some questions about projects.

1. Why projects, how do members benefit by taking them?

Projects provide opportunities for members to gain scientific information and knowledge which they immediately use for a worthwhile purpose.

They help members learn and develop useful skills that can be applied to everyday living. Members learn to make decisions through project work. They are exposed to many opportunities, much information, a variety of methods, all of which will work. They learn to weigh facts, then decide their own course of action.

Projects provide opportunities for boys and girls to cooperate and work together. Several members taking the same project may compare notes, study together, share ideas and methods, help each other.

Projects provide the satisfaction of ownership. A project "belongs" to the member, it's his to care for, to manage, to make a success or failure.

Members have gradual learning experiences through projects. They start where they are; their information and skills expand gradually; they are challenged to "go beyond" themselves. Learning becomes exciting and fun. It provides building stones to greater futures.

2. How does a member decide which project to take?

There are over 130 different projects in Ohio 4-H. Your club members have probably already narrowed these down. Here are some ideas that may guide you as you help members decide on exactly "which project will I take this year?"

The member's interest is vital. It has to be something he wants to do, something that he can have fun doing, something that is exciting and appealing to him.

Available individual and home resources are important too. Some projects require more money than others; some take space, equipment, and materials to carry out. Some require home cooperation. You'll want to "check out" projects being considered to see that each member has a chance for success.
A leader, who has some project "know how" and is willing to help the member learn and develop project skills is another "must". The leader doesn't have to know everything, but should know enough to "stay ahead" of the member as both learn.

Learning and doing can be more fun if it's a group activity. Encourage several members to decide on the same project so they can learn together. Teaching can be more fun and easier too (maybe even a little more effective) when several members are working together.

Read pages 6 and 7 of the "Ohio 4-H Advisors' Handbook" for more information.

3. How do you work with your members and their projects?

As a project leader you will teach in a specific project area where you have special interest and ability.

You will use the project to give members all kinds of self-improvement experiences. Explaining, speaking, telling about, showing how, demonstrating, seeing, touring, exploring, planning—with the project as the center of interest and activity—helps members become more self-reliant, capable, and willing to take responsibility.

The Club Group

The club group itself is a valuable tool that deserves care and understanding. In Lesson 2 we talked about working with boys and girls. You may want to review that section as you think about the club group being a tool at your disposal. Like other tools you can either let the group stand still, be idle or you can apply effort that makes them sharp, active, vibrant. Work and Ideas are necessary if your group is to grow and move. When they progress, so do you.

The Community

The whole community can be one of your tools. The homes of your members are a part of that community. So are the churches, schools, organizations, libraries, centers of trade, people. Look around, you'll find lots of resources at your finger tips in agencies, offices, industries, and everywhere. The community can provide practice fields for your members to learn how to be responsible citizens.

There are many tools available to you BUT you have to recognize them, then devise ways of putting them to work. That's where the techniques come in. What are the possibilities?

TECHNIQUES

The term "techniques" refers to methods that can be used in teaching. Somehow, each teacher must inspire his students so that they want to learn. Motivation can come only from within a person but the teacher can "trigger" action. A variety of teaching methods used well stimulates interest and imagination, keeps things moving, holds attention, and creates a positive attitude towards learning. Here are methods of teaching that you'll want to include as you work with your club members.

Showing How and Telling Why (Demonstrations and Illustrated Talks)

"Seeing is believing!" When a process is seen step by step and explained as it goes, a person not only believes, he can also master that process himself (with practice).

Take every opportunity you can to "show and tell" as you help your club members develop skills in project work, club programs, and community living. "Words in Action" (copy enclosed) is a guide for members as they prepare demonstrations and illustrated talks. Use it as your guide too, when you develop this particular teaching technique.

Discussion

Much learning can take place when people talk things over, provided there is a purpose and plan to the talk. In many cases, persons in a group respond back and forth with the teacher only, not among themselves. This is fine for giving out information, directing questions and answers, but it doesn't provide any exchange of ideas or learning from each other.
In discussion, the leader should get things going, keep conversation on the subject, and make sure that everyone has a chance to speak. Talk goes back and forth, in and out, around and about, sparking a new concept, confirming an established idea, seeking expression and having a chain reaction that keeps changing. You can "set the stage" for discussion by helping to provide a relaxed atmosphere, a friendly feeling, stating clear procedures and a common purpose, opening and closing on time, keeping the topic open but on the move. Free discussion can be exciting and stimulating. Why don't you try it?—then perfect your skill of leadership with this teaching method.

Workshops or Workdays

Some jobs take a concentrated time for doing. Members don't want to take materials out just to put them away. Now and then you and your members may have to master some complicated teaching and learning. A workshop provides opportunity for you to show the steps in doing a job—and for the members to perform the same job with your guidance. There is enough time to learn how. Because it's a "doing" activity, it's fun. The same is true for a workday. You may mix in some recreation for variation and relaxation, with time to come back to the job and try again.

Tours

Being "where the action is" adds excitement to the learning process. Have your club members help figure out where they can go to observe activities that are related to what they are trying to learn.

For example, members taking foods and nutrition projects may tour a super market, a restaurant, a food processing plant, or a hospital where dietitians are at work. They can study all sorts of food and nutrition practices in everyday life. There are many related businesses, industries and individual workers ready and willing to share knowledge and practices. It's there for the asking—so make use of tour opportunities.

Visual Aids

Many materials are available to help you teach your boys and girls. Some time these materials are so common that we overlook them. Let's review them briefly.

A chalkboard or newsprint pad gives you a chance to emphasize important points before your group.

Books, magazines, bulletins can help members "see" ideas and techniques. They convey feelings and thoughts in a way that everyone can understand.

Charts help tell a story for easier remembering. Pictures, models, and objects can do the same.

Films (both slides and movies) add variety to learning. They provide enjoyment as well as information. Interest must be captured if learning is to take place.

Exhibits are other "seeing" ways of learning. Again, when we can use several senses we learn more easily and willingly.

Record Keeping

The project book itself is a teaching and learning tool. Encourage your members to use it as a work book, one to which they can refer for information and in which they can record what they have done. We learn by experience. A record now can become a pattern for the next step.

Judging

Judging is the process of measuring quality in comparison with an established standard. When several members are taking the same project you can help them do group judging. Place all the projects where the members can see them. Help them look the projects over, discuss good points, and those that need improvement.

It's a learning activity. Members learn to recognize quality; they set standards, sharpen their judgment. They strive "to make their best better" as a result.

Member Evaluation

How much has each member progressed? What success did he have in accomplishing what he set out to do? What did he do well, what might be improved? How well did he do in relation to his ability and what he had to work with? These are questions that you'll want to talk over with each member in relation to project learning, club participation and personal growth. It's a matter of "where do I stand and how can I make my present best even better, next time?" Your praise and encouragement can move mountains toward further achievement.
Other Methods

You probably have some of your own methods that work best for you. Look around for other new, unique ideas that you can use.

Read pages 10, 11, 12, 20 and 21 of "The Ohio 4-H Advisors' Handbook" for additional information.

We have talked about Tools and Techniques you can use. Now it's up to you to "plan your work and work your plan". Just knowing what tools and techniques are possible won't help a bit unless you decide what needs to be done and how you're going to do it. Next time we will try to fit all this together when "Your Club Has Meetings" and you begin using your "Ohio 4-H Advisors' Program book" as a work book.

(See pp. 6 and 7, 8 and 9, 13, 15, 16 through 27).

Right now, here are some additional

Think About Thoughts

1. The 4-H project is a tool for giving boys and girls a variety of experiences and opportunities. It is not the end product in itself. Is there a difference?

2. It's not what we know, but what we believe that determines what we do. How do your attitudes and beliefs stack up in action?

3. Generally speaking, there are several good ways of doing most jobs. Are your members having a chance to try them all, not just one?

Assignments:

Read pp. 6, 7, 10, 11, 12, 20 and 21, "The Ohio 4-H Advisors' Handbook", 4-H Circular 172.

Read "Words in Action" 4-H Circular 213 (copy enclosed)

Look over the workbook section of "The Ohio 4-H Advisor's Program Book" 4-H Circular 229, pp. 6 and 7, 8 and 9, 13, 15, 16 through 27.

Prepared by Beatrice Cleveland, Assistant State Leader, 4-H 12/69

The Ohio State University Cooperating with the U.S. Department of Agriculture. Cooperative Extension Service, Roy M. Kottman, Director, Columbus, Ohio 43210. Printed and distributed in furtherance of Acts of May 8 and June 30, 1914.
Lesson 3

Tools and Techniques

After you have read the lesson, please complete the form and return to:

1. What does the word "teach" mean to you?

2. Do you agree or disagree with the statement, "Talking is not teaching and listening is not learning"?

3. We place much emphasis on the project in 4-H. Why do you think we should or should not?

4. How can you use your community as a teaching tool?

5. What three techniques look to you like your best teaching methods? Explain why—and how you plan to use them.

6. Any comments or questions?

Name
Address
County

The Ohio State University, cooperating with the U. S. Department of Agriculture, Cooperative Extension Service. Roy M. Kofman, director, Columbus, Ohio 43210. Printed and distributed in furtherance of acts of May 8 and June 30, 1914.
4-H Clubs use the meeting as a basis for group activity and learning. If you are a new advisor cooperating with experienced advisors they will help you understand how meetings work. If you are a new advisor working with some "old hand" Junior Leaders and members they will help clue you in. If you are a new advisor with a new club you’re in for many interesting experiences as all of you “learn by doing.”

In any case you’ll want to do the best job you can in helping your club members. “The 4-H Advisors’ Program Book” is chock-full of information, ideas, methods concerning club meetings. You are a busy person. Items listed there will not be repeated here; so, for better club meetings, please read pp. 10 and 11, 12, and 14 of “The 4-H Advisor’s Program Book.”

Here are some additional suggestions to make your club meetings more productive and fun for everyone (you included.)

Start at the Beginning—Read the Signs

Know your 4-H group

How many persons want to be in your club? Who are they and where do they come from? (Boys and/or girls? What ages? Where do they live? What are their homes like?) Why do they want to be in 4-H? What are they interested in—individually and as a group? As you talk with them and learn to know them, what do you think they need most?

Write your members’ names on the “Club Roll,” p. 26, “The 4-H Advisors’ Program Book. On pages 27 and 29 you can add comments and notes that will be of assistance as you work with individual members later. A running account of participation, experiences, assignments will help “even up” opportunities in “making the best better” for every single member of your club.

Look for additional help.

Listen to suggestions.

You’ve already learned about “Your Leadership Team, Working With Boys and Girls” in Lesson 2. Now you’ll want to apply all that and determine who will make up your club team.

What about parents? Are some of them interested enough to give you a hand? What are their talents? Where would they “fit” best? Are there other people in the community who might be willing to share their time—and who have a way with kids? What about older 4-H’ers (liked by your club members) who would make good Junior Leaders? It’s amazing how many people are willing to help sometimes, especially if there is a specific “something” that they can do.

Don’t forget about experienced advisors who are close by. They may not be able to help directly with your meetings but their “know-how” can save you lots of time and effort. You might attend one or two of their meetings to learn “tools and techniques” which they have found effective.
Contact your county extension agents

The 4-H agent (if your county has one) has the greatest 4-H program responsibility. Your home economics and agricultural agents are also interested and willing to give all the assistance they can.

Call and arrange a time when you can talk with one of them about your club, and the 4-H program in your county. They have ideas, know-how, resource materials that they will gladly share. They are just like you though—busy people doing many worthwhile jobs. A scheduled time for getting questions asked and answered will help both of you—and your 4-H club!

Set the Stage for Teaching and Learning

Your 4-H'ers want to be active and take part in their club's program. You can help them by checking out the following essentials:

1. A pleasant meeting place
   Light and air are important; so is arrangement. Each person should have a spot where he can see and hear every person during group discussion. If project work is to be done, if recreation is to be enjoyed, space and facilities must be available.
   Members' homes may work out fine for meeting places. The chance to be a host or hostess gives new experiences. Parents learn about 4-H this way, too. A central meeting place may have merit. Where you meet isn't nearly as important as whether it's "right" for your group.

2. A comfortable atmosphere
   Everyone feels best and gains most when he's at ease. Each person needs a chance to know all the others, to talk together. You can help create a positive situation where members feel free to "join in." Welcoming and listening to all ideas and thoughts expressed will bring greater response.

3. A feeling of belonging and acceptance
   Each person wants to be an active part of a group but sometimes he needs help. Figure out ways to involve individuals, learn their strengths and weaknesses, then provide a chance for each to be successful before the whole group. Here's where you can inspire others to try new things, to work cooperatively, and to care about group members.

4. An advisor or leader who has planned ahead and is prepared to lead or withdraw
   You need to know why the group is meeting, what they hope to accomplish, how it's going to be done.

Some props are helpful. A table and chairs for officers give them support and confidence. Work space during project work makes learning easier. A flip chart or a small blackboard may be good for recording "thinking" or in showing how and telling why.

Your job is to guide the group in the right direction. Let ideas and experiences of members have an important place. Sometimes you'll be leading, sometimes they will have the leadership jobs. You will have to know your group and be sensitive to them if your club moves in a "growing" direction.

Read page 3 "The 4-H Advisors' Program Book" for more specific guides.

Have Members—Do Meet!

Your club is all set to go. You have members ready for the first sign of action. Don't keep them waiting too long—do meet! "But what will I do with them—all at the same time, and with so much enthusiasm?" may be your first reaction.

A review of pp. 3, 4, 5, 10, 11, and 12 "The 4-H Advisors' Program Book" will give you a "handle" for starting.

Take a look at one picture of a 4-H Meeting.

The pattern of your meeting is up to your group. They may want recreation first (everyone's on time that way) or they may want it last (save the most fun for last.) The suggestion above is for a two hour meeting. Your group may want to vary that from time to time. Including all three parts (business, project work, recreation and social activities) is important. Each contributes a different kind of learning to those participating. Sometimes your members may want to "mix things up." Perhaps an outing, a picnic, a special fun activity will take one entire meeting. They may "make up" project work by having an all day workshop at a later date. A longer business meeting one time may let other "specialized" parts fit in another. It's the balance that counts. You and your members can work that out during your club season. There is no certain set pattern for every meeting.

As your club members and you gain experience you may want to add other educational and service programs now and then—but don't rush it. You don't have to do everything the first year!
Let's talk a bit about the various parts of a 4-H meeting and what goes on in each:

**Business Session—15-20 minutes**

The business session can be democracy in action. Members learn how to express themselves in a group, to listen to views of others, to take individual responsibility in reaching a decision, and to abide by majority rule. Your agenda may include:

1. Call to order
2. Club songs, Pledge, Creed (See pp. 27 and 28 "The 4-H Advisors' Handbook") The Pledge of Allegiance, other opening thoughts.
3. Roll call—answering in any way that the group decides.
4. Minutes of the previous meeting
5. Committee reports
6. Old business
7. New business
8. Adjournment

Your first meetings may be informal with various members doing various jobs. As your members gain experience they may want to elect officers and begin to follow parliamentary procedure.

**Project Work—10-60 minutes**

Project work may include actual “doing” of the project by the members with guidance and instruction from project leaders (you, if that is one of your responsibilities). Here’s the place for demonstrations, illustrated talks, discussions, working on project books, all sorts of activities that result in project learning.

In the last lesson, “Tools and Techniques,” you learned about helping members with project selection, teaching and learning methods that are effective in project work. “Learning by doing” is one of 4-H’s unique strengths, so is the project. Use your ingenuity and creativity in making this section of your meeting one that is packed with interest and action as members learn.

**Recreation and Social Activities—30-45 minutes**

A variety of fun activities adds enthusiasm and enjoyment to your meetings. Some clubs have a different recreation committee for each meeting. Some elect recreation leaders for the year. Having someone responsible for the job each time makes it go smoother and makes it more fun.

Possible activities include: small group games, charades, relays, active sports, quiet games, puzzles, folk games, party for parents, picnics, hikes, swimming parties, talent numbers, singing.

Refreshments can be a part of the recreation and social activities now and then if desired. Keep them simple, eye appealing, nutritious, easy to prepare, serve and clean up. Committees of different members may assume responsibility for this at different times.

**Other Educational and Service Programs**

When the club is first starting you will want to concentrate on the three parts just reviewed. As you and your group learn more about 4-H you may want to expand your interests and go beyond the basics of business, project work, and recreation and social activities.

Ideas for other educational and service programs are numerous. Possibilities include the areas of health, safety, citizenship, community service, international understanding—you’ll think of others. We’ll discuss suggestions and possibilities in our next, and final lesson.

**Plan Ahead**

Knowing where you want to go and what you want to accomplish, then setting up a plan of action to attain your goals can save time, make for greater progress, and be more fun. Sometimes that’s hard in the very beginning. Until you and your club members learn to know each other and how to work together you may find that taking one meeting at a time is better.
Think About Thoughts

1. "It was a good meeting. I talked and took part." Does the second help to make the first?

2. "All work and no play makes Jack a dull boy" is an often repeated saying. Yet some advisors indicate their members want to work but never play at meetings. Do they? Do you? Who decides?

3. "Love things, use people" was advanced recently as a current trend. Do we? Is that good?

4. You may have heard two points of view: 1) a long term former 4-H member makes the best 4-H advisor because he "knows the ropes." 2) a non-4-H member advisor is best because he’s more flexible and willing to look at new ideas. What’s your opinion?

5. "Not failure, but low aim, is crime."—Lowell. What do you say? And think?

Assignments:
Read pp. 26, 27, 29, 30, 31, 12, 14, 5, 6 and 7, 8 and 9, 13, 15 through 25—"Ohio 4-H Advisors Program Book" 4-H Circular 229.
QUIZ SHEET

Lesson 4

Your Club Has Meetings

After you have read the lesson, please complete the form and return to:

1. You've probably heard “You can lead a horse to water but you can't make him drink.” As an advisor, what can you do to cause members to learn from, not just attend meetings?

2. What parts of a meeting do you think are most important in 4-H? Why?

3. List three ways in which you can set the stage for helping 4-Hers learn at meetings.
   1. 
   2. 
   3. 

4. Whom will you involve and how much planning ahead do you feel is worthwhile? Explain.

5. Who are the two people you'll go to first when you want help as an advisor?
   1. 
   2. 
   Why?

6. Any comments or questions?

Name ______________________ Address ______________________ County __________
We have been talking about and working with basics of the 4-H Club program. This lesson takes you beyond the essentials as you consider additional programs, member opportunities, new concepts. You and your club members will decide whether you want to include these ideas for immediate use or tuck them away in your minds for future reference.

Ideas expressed here make up a cafeteria line. You have a chance to look over what's available, to select what you want for a balanced program. Don't forget that the attractiveness of the product, not just the "goodness" of it, determines how much it's enjoyed and relished. Individual items are more fun and lively if they are "dressed up," appealing to the senses. Let's review the 4-H Program Idea Cafeteria Line.

The 4th H is Health

Sometimes Health seems like the forgotten H. Most clubs work hard to develop the Head, Heart, and Hands; but Health, well, that's taken for granted. All kids have it, everyone says.

Think about this definition: "Health is the crown worn by a well person but seen only by those who do not have it." It's like money in the bank, pure gold BUT not readily recognized. So it's stored outside and permitted to erode, be used up, wasted. Eventually, it is gone and people wonder—"What happened to that person he always seemed so well?"

The 4th H can be a vibrant, living leaf. It takes enthusiasm, creativity, your belief in its importance transformed into action by your members.

Did you know?

—Half the boys and girls under 15 have never been to a dentist.
—Dental disease is the most widespread disease in the United States today, affecting 96% of the people.
—On the average, each of us uses 100 gallons of water per day.
—It takes 80 gallons of water to produce one kilowatt of electricity; 1300 gallons to produce one pound of meat.
—If pollution is not curbed, we could run out of water.

—You are what you eat. Selecting the "right" (basic four) foods will affect everything you do—and the way you appear to others.

Many other topics are suggested in "Programs in Health", 4-H circular 245. Individual leaflets are designed to capture the interest and attention of members.

President John F. Kennedy in 1963 presented a challenge to youth. He said, "America's bright future will become a reality only if each of you is willing to work for those qualities of strength, stamina, and energy which are keys to human progress... Each of you must accept—now and for the rest of your lives—responsibility for your own fitness in the great national effort to build a stronger and more vigorous America."

The President's Council on Physical Fitness has published and made available from the Superintendent of Documents, Washington, D.C. 20402:

"Vim" (a complete exercise plan for girls 12 to 18)
"Vigor" (a complete exercise plan for boys 12 to 18)
Both are great! 4-H'ers in clubs and camps have been enthusiastic in their response. Physical fitness, good nutrition, rest, exercise can be exciting when action enters in.

Your community has many health resources: doctors, dentists, nurses, hospitals, clinics to name a few. Visits, tours, speakers, surveys, campaigns, work experiences can be invigorating. Help your club members "dream up" health activities that will inspire them to capture a crown for themselves.
Safety First

That's a snappy slogan, one that is not taken seriously by many people. Have you read a newspaper lately? Has a friend or neighbor (or maybe even a member of your family) been written up as a casualty? Keep a score on the fatal accidents reported for just one week. It can scare you! Here are a few facts to ponder.

Each year in Ohio:
—There are about 2,500 fatalities and 115,000 injuries on the highways.
—Nearly 250 residents lose their lives in about 21,800 fires. (That's not counting injury or financial loss.)
—About 1300 people die, 200,000 are injured in home accidents.
—Nearly 170 people drown.
—And then there are other accident areas like recreation (with farm ponds, bicycles, camping, horses, outdoor cookery) or power machinery (with power mowers, tractors, and hedge clippers).

Does all that sound like "Safety First" to you? "Safety Programs for 4-H Clubs, 4-H circular 221 has lots of action ideas, so does "Speak Up for Safety," 4-H circular 203. Film strips, slide sets, movies (catchy, attractive ones) can be arranged.

Would your club members respond to a hazard hunt, an auto safety check campaign, a bicycle check-up station, a boating demonstration, a safety talk contest? Let them do some "mind stretching" on other safety ideas. If they decide to work on saving lives through safety they can involve the whole community. "Safety First" has action, fun, worth. Make it more than just a slogan.

Community Concerns

You and your members are citizens of a community. Social responsibility is of increasing importance in today's world. What one person does affects the lives of others. More people living closer together require greater cooperation in community action, if the welfare of the total group is considered.

Look around! Figure out the most important concerns in your community, then get to work and move them! Here are some "starters":
—A small percentage of eligible voters are voting. How can your club help inform and encourage them to use their citizenship rights?
—The number of auto accidents is alarming, the most ever. How can your club increase driver awareness?
—Juvenile delinquency is on the upward swing. Can you analyze why, and figure out what could improve youth's position?

Rural Urban Exchange

Many town and urban youth have never lived for even two days in a rural non-farm or rural home. The same is true the other way around. They may have visited a farm or urban home, but living as part of a family is different. Look for a 4-H club whose members have different home backgrounds. Try an exchange. Arrange for each of your
club members to have a "buddy" in the other club. The "buddy" system can work. Members of both clubs and their parents may have a picnic together, then divide by buddies and live with each other several days, maybe a week, sharing life just as it is. Lasting individual and family friendships can result—but even more important, urban-rural understanding can be started, and what a fun way to do it!

See Ohio First, then the USA

Other exchanges can be arranged between your club and clubs in other counties or in other states. 4-H can be magic in meeting new people, making new friends. You and your members may have friends or relatives in other places who would like to cooperate. Think about it!

International Farm Youth Exchange

Remember how you used to throw a pebble in the creek and then watch the circle expand to far away shores? That's how it is when you start expanding friendships. How about including another country, another continent?

Host families (those willing to accept a person 20 to 30 years of age from another country as a family member) are always needed. So are sponsoring groups. Your club can be the sponsor, one of your members may be part of the IFYE family. For two or three weeks all of you can learn first hand about another country, another culture. You can stay at home and see the world match by if you are willing to share. Your members can be future IFYE delegates going to host families in other lands. You may want to have an Ohio IFYE tell you about his experiences. Contact your county Extension agents for more details.

4-H Teen Caravan

Another chance for world friendships—this time for older 4-H'ers—17 to 19 years of age on a "pay your own as you go" basis. It provides an inside picture instead of a "tourist view" of another country. Again contact your county Extension agents for more information.

Other "Learning To Know You" Methods

Establishing pen pals through IFYE's and organizations, working out people-to-people programs with 4-H-like clubs in other places, working through CARE, having social functions with other youth groups, participating in area, county, and state events and programs are all ways of expanding your circle of friends. Friendships are there for the asking, sometimes we aren't willing to take that first giant step. Why don't you work on it?

Camping

Have your club members ever gone camping overnight as a group? It's great fun—and such a learning experience! There's opportunity galore for planning, action, management, real living, fun. Everyone gets involved! Ohio has many state parks. You can travel light with sleeping bags and limited equipment. Camping takes "Leader courage" but dividends are high. Be daring, for your kids' benefit.

Exhibits and Shows

Fairs and shows give 4-H'ers a chance for participation. Demonstrations, exhibits, style revues, judging and showmanship contests, food shows, decora are just a few. Not every member is "ready" for this kind of competition so don't force, but do encourage. Let the hesitant ones view it from a distance, eventually they may want in.

Local achievement meetings can be rewarding for all your members. It's showing accomplishment at home, on a non-competitive basis (not nearly as threatening to the shy kids). Yours could be in connection with a church program, a PTA, a civic organization. Your members may prefer a family night, a neighborhood party, a garage show.

Whatever the event, it is a chance for kids to show and tell others what they have done. Page 2 of "The 4-H Advisors' Program Book" will give help in planning.

National 4-H Club Week in early October provides national emphasis for 4-H. This can be a time for your club to make an exhibit explaining 4-H to all your community.

Recognition and Opportunities

Each of us wants success. Recognition for a job well done becomes incentive for future effort. Be sure you "keep in touch" with your members by giving them praise when it's deserved. Look beyond the fences of your own homes and immediate community for additional opportunity. Sometimes it only knocks once, so be ready to open the door.

New experiences and recognition are available in your county, others are on the basis of your area, then especially exciting ones are on a state and national basis. Read pages...
22 and 23, "The 4-H Advisors' Handbook" for ideas. Please note that good things are not limited to members. Additional experiences and recognition are waiting for you too—so move out!

Nothing ventured, nothing gained is true. It's when you try that you grow. Here is another way of saying it.

"Your task? To build a better world," God said.

I answered, "How? The world is such a large, vast place, so complicated now. And I so small and useless, there's nothing I can do."

And God in all his wisdom said, "Just build a better you."

You will see growth in your club and members as you continue to lead and advise. So have fun, learn, and feel refreshed because of the contribution you are making to the lives of others.

Statistics show that more people are killed on highways than in some of our wars. Whose job is it to prevent this? What have you done to help?

—Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime. Are your club members going to live for a day or for a lifetime?

Think About Thoughts

-It's been said that youth are spendthrifts of health and strength because there is so much. Are they? Can you help them become "savers" as well as "spenders"?

-A Chinese proverb: "I am old, nothing interests me now; moreover, I am not very intelligent, and my ideas have never traveled farther than my feet. I know only my forest to which I always come back."

You ask me, "What is the supreme happiness here below?"

"It is listening to the song of a girl and boy as they go on down the road after having asked me the way."

Assignments:

Read pages 18 and 19, 22 and 23, "The 4-H Advisors' Handbook."

References:

(Available from your county Extension office)

"Programs in Health"—4-H circular 245
"Safety Programs for 4-H Clubs"—4-H circular 221
"Speak Up for Safety"—4-H circular 203
"Sodas Waste Disposal"—4-H circular 283
"Ohio 4-H Award Opportunities"


"Vim" (a complete exercise plan for girls 12 to 18)
"Vigor" (a complete exercise plan for boys 12 to 18)

Prepared by Beatrice Cleveland, Assistant State Leader, 4-H

3/70—7.5¢

QUIZ SHEET

Lesson 5
New Advisors' Correspondence Course

Program Ideas Add Zip and Zest

After you have studied the lesson, please complete the form and return to

1. Which do you think is the most important in the lives of boys and girls, health or safety? Why?

2. List three suggestions you have for making either health or safety dynamic to your club members.
   1)
   2)
   3)

3. What are three major community concerns that you think your club could work on? What methods would you use?

4. What can you do to help your members broaden their contacts with people beyond their present circle of friends and acquaintances?

5. What are the greatest challenges you see in being a 4-H advisor? How do you feel about serving in this capacity?

6. Any questions or comments?

Name ____________________________ Address ____________________________ County ____________________________

3/70—7SM
February 11, 1970

No: Area Extension Agents, 4-H
Selected County Extension Agents, Chairman and 4-H

Dear Co-Workers:

A research study to explore the educational effectiveness of the newly-developed correspondence course for beginning 4-H advisors is being undertaken by Dick Young. He has selected a stratified random sample of one county in each Extension area. The following are the counties that were drawn:

Adams         Licking
Ashland       Mercer
Ashtabula     Muskingum
Henry         Preble
Lawrence      Sandusky

In order to conduct this research, close cooperation will be required between Mr. Young and area and county agents involved. He has assured us that he will keep to a minimum the controls that area and county staff workers will be required to invoke. A draft of his proposal is enclosed to give you more details on the study. Of course it will be necessary for Mr. Young to communicate in much more detail with the agents who will be directly involved in handling the experimental materials.

We had an opportunity to visit with area supervisors this week about this study. May we assume that each of you will be willing to work with Mr. Young? Please let us know at once if there is some reason why you would be unable to help.

Very truly yours,

Ohio L. Musgrave
Associate Director

Enc: proposal

cc: Area Supervisors
    Al Gehres
    Clarence J. Cunningham
To: Area Extension Agents, 4-H
County Extension Agents, 4-H, in the following counties:

<table>
<thead>
<tr>
<th>County</th>
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<tbody>
<tr>
<td>Adams</td>
<td>Licking</td>
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<td>Preble</td>
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<tr>
<td>Lawrence</td>
<td>Sandusky</td>
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</table>

A day or two ago you received a letter from Dr. Musgrave in which he introduced the fact that I am initiating a research project and asked for your help.

I certainly hope that each of you will be able to assist with the research I am undertaking. I know that some of your counties have no 4-H agent and some are in the midst of agent changes. But these situations are part of the "real-life" encountered when truly random selections are made.

One of my goals will be to avoid asking you for a great deal of extra work. But obviously if research is to be meaningful, certain controls and procedures must be carefully followed.

Initially I'd like to ask the following:

1. Do not change any existing plans for advisor education between now and your county fair time, except that if any type of correspondence course was planned, please cancel those plans.

2. Do not send the new state-wide correspondence course, "Focus of Leadership," to any of your new advisors until I have assigned each advisor to one of the sub-groups as described in my proposal.

3. Please do not send the Focus on Leadership lessons to other advisors. We want to avoid "contaminating" our control group by having them see "everyone else" as getting something that they are not. In this way if there are questions, we can say that a few advisors are getting the lessons as a trial.

4. Please send me, as soon as you can, a list of your new advisors. A "new advisor" is one who has volunteered since July 1, 1969. Use the enclosed form. You will want to keep a copy, and you may want to send a copy to your area (or county) 4-H agent.

(I understand that in some cases the area agent may administer the lessons and in others it will be the county agent. Please tell me who will do it in your area.)
5. Add to your list additional new advisors, in the order in which they volunteer. I'll provide more details later on how we'll assign these people to the two sub-groups.

I expect that area and county agents will cooperate closely. For example, in most cases the area 4-H agent has a supply of the lessons. If the county agent is to send the lessons in the sample counties, he'll need to get a supply of the lessons from the area agent or from the 4-H office. Also, for the first lesson, each advisor must have a copy of the Advisor's Handbook (4-H Cir. 172); for the second lesson, the Advisor's Program Book (4-H Cir. 229); and for lesson three, Words in Action (4-H Cir. 213). You will need to be sure that these materials accompany the lessons -- or if the advisor already has them, that your cover letter calls their attention to that fact.

In some plans already being made, the advisor is required to return the quiz sheet from one lesson before the second is sent. Though I hope advisors will be encouraged to return these (you can enclose franked envelopes for this purpose; and you'll keep a record of the returns), I prefer that each advisor in the experimental group receive all five lessons -- perhaps at one or two-week intervals.

Do most of you have almost all your new advisors signed up by May 1? If so, this might be an appropriate cut-off date which will still allow us to get all five lessons to the advisors well before July 1.

I certainly will appreciate your help with this study. It should provide a great deal of information to help us test the effectiveness of one teaching technique.

Please send me your current list of new advisors soon. We'd like to get underway as soon as we can.

Many thanks.

Richard E. Young

RE: 9 new advisor forms
Encs: to county agents -- 9 new advisor forms
   copy of each lesson

to area agents -- 1 form for listing new advisors
NEW ADVISORS -- 1959-70

<table>
<thead>
<tr>
<th>No.</th>
<th>Name and Address (complete)</th>
<th>Related-ness</th>
<th>Date Lessons Sent</th>
<th>Date Quizzes Rec'd</th>
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<tbody>
<tr>
<td></td>
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<td>1 2 3 4 5</td>
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<td>1 2 3 4 5</td>
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</table>

1. No special order required for initial list sent in, but after that, list advisors in the order in which they volunteer. Assign consecutive numbers to advisors as they are listed.

2. In cases where a married couple are both new advisors, or when there is more than one new advisor in a club, special treatment will be needed in sampling. Record as the following example: suppose advisors numbered 7 and 8 are married to each other. Put "7" in this column for advisor No. 7, and "8" in the column for advisor No. 8. Use a similar procedure for advisors who are in the same club.

3. You may want to fill in all dates when the first lesson is sent to remind you when to send the other lessons, then circle or cross out the date when the lesson is actually sent.
To: Agents Assisting With Research On New Advisor Correspondence Course

I certainly do appreciate your willingness to help with this research.

Thanks for sending me your current list of new advisors. You will note that I've marked up the list.

The advisors for which the right hand columns are crossed out are in the "control" group. THEY ARE NOT TO GET THE LESSONS.

All other advisors on the list make up the "experimental" group. They must be the only 4-H advisors in your county to receive the lessons between now and the time that the research is finished - we hope by July 15.

Do not be concerned about different numbers that I have added along the left side. They are my codes for sampling units. As you add advisors, continue your numbering in the left hand column.

You may begin to mail the lessons (one at a time, please) when you're ready. I assume that will be soon. You probably will want to determine a regular timing for mailing - one a week, or one every two weeks, for example. I have enclosed possible material for cover letters for the five lessons. Rod Petteway prepared the originals from which these were adapted. I want the cover letters to be on your letterhead since we hope the advisors will not be aware that they are part of a research project, if that's possible.

We recognize that some advisors will learn that not everyone is getting this material. If this happens we hope that you will respond with something like, "We wanted to try some new materials with some of our new advisors." But please don't let anyone in the control group talk you into giving them the lessons. What do we do about the new advisors who have volunteered since you made up the enclosed list? Add their names to the list - in the order in which they volunteer. When you have added a few, send the list to me again. I'll assign the advisors to the two groups and get the list back to you right away. I'd suggest that you send your updated list to me at least once a month. This way the experimental group advisors can start to receive the lessons soon after they volunteer. Don't forget to check the "Relatedness" column if appropriate (same club or married).

What about the "quiz sheet" with each lesson? Note that the suggested cover letter encourages the lesson reader to complete each one and return it to you. (You should enclose an addressed franked envelope with each lesson). As you receive those from the advisors, check the appropriate column on the advisor list sheet. I'll leave to you how you handle the questions, comments and answers on the quiz sheets. I recognize that some of you are short-handed and just cannot follow up each of these individually. I do hope you'll have time to glance over them though. I'm not certain exactly how I plan to use the quiz sheets in my...
research, but I do want you to keep them for me, and to keep a record of their return to you. Would you also be alert for comments that you may hear from advisors about the correspondence course. Those comments may help us evaluate the over-all attitude of advisors toward the lessons.

There is something that I am certain about. That is that your secretaries are going to be highly involved in the mechanics of this research. Will you please express my gratitude to them.

Richard E. Young
Associate State Leader, 4-H

REY:tm
Enc.: Suggested cover letters.

cc: Area Supervisors
Area 4-H Agents
Dear 4-H Advisor:

We believe that 4-H advisors are people who appreciate the opportunity to obtain assistance in becoming more effective in helping today's youth. This belief leads us to think that we have something to offer which you will enjoy.

This letter announces a New Advisors' Correspondence Course. It's entirely new and we think all advisors will enjoy it; but, more importantly, we believe it will help you become more effective in your important role of serving our youth. The course consists of five lessons which you can study at the time of your choosing. Your participation is completely optional; but we do encourage you to study these lessons. The first one is enclosed. The other four will be sent to you, one at a time, during the next few weeks.

You will note that each lesson includes a quiz sheet. And a postage-free envelope is also enclosed, though it is not required, we encourage you to answer the questions, make comments, or ask questions on the sheet and return it to us. This will help us to meet your needs more adequately.

The lessons to come are:

Lesson 2 - Your Leadership Team, Working with Boys and Girls. Needs of youth and how to meet them, responsibilities of advisors (organization, project, and activity leaders), parents, and Extension Agents.

Lesson 3 - Tools and Techniques. The project, demonstrations, tours, exhibits, and other resource materials.

Lesson 4 - Your Club Has Meetings. The club and how it operates, meetings (what, how, responsibilities, plan for action). A "what to do now" approach.

Lesson 5 - Program Ideas Add Life and Fun. Community service, beautification, health, safety, other educational and fun activities.

The 4-H Advisor's Handbook referred to in this lesson is one of the books in the packet of materials all main advisors received when they volunteered. (A copy is enclosed for all co-advisors.)

We sincerely hope that you find this approach to enhancing our 4-H program beneficial and enjoyable.

Sincerely,

Lester Barnhart
County Extension Agent, 4-H
Lesson Two

Dear 4-H Advisor:

We certainly hope that you found the first of the correspondence course lessons to be interesting and helpful.

The second lesson is enclosed for your study and consideration. This lesson concentrates on the leadership aspects of 4-H work, and understanding boys and girls and how to work with them. Both of these subjects are relevant to you in your vital leadership role.

Inasmuch as 4-H work exists solely because of the needs of our youth, the information presented on understanding and working with boys and girls is extremely important. In many respects, reading the information on this subject in your Advisor's Handbook and the enclosed lesson is much like re-reading any good book -- each time you read it you discover information which you overlooked before.

The information presented in this lesson relates beautifully with the words written by the Chinese poet, Wei.

"I am old. Nothing interests me now. Moreover, I am not very intelligent, and my ideas have never traveled farther than my feet. I know only my forest to which I always come back. You ask me, what is the supreme happiness here below? It is listening to the song of a little girl as she goes down the road after having asked me the way."

May this lesson help you to gain some of this "supreme happiness here below", which can only come from listening to the song of a little girl as she goes down the road after having asked you the way.

The 4-H Advisor's program book referred to in this lesson is one of the books in the packet of materials all main advisors received. (A copy is enclosed for all co-advisors.)

Remember that we invite you to complete and return the question sheet. Use the enclosed envelope.

Sincerely,

Lester Barnhart
Lester Barnhart
County Extension Agent, 4-H
Lesson Three

Dear 4-H Advisor:

Enclosed is the third lesson of the New Advisors' Correspondence Course. As an advisor, one of your primary roles is that of being a teacher. This lesson should be most helpful, since it involves a study of teaching methods.

One of the greatest strengths of 4-H work has always been its use of "learning by doing". As you study this lesson, please note how this is accomplished in the teaching methods which are included. Also, note the number of "learning by doing" methods which 4-H has used since its very beginning, which have been adopted by our schools in recent years. Team teaching is one idea which 4-H pioneered.

Our youth have clearly told us that they like to be involved, and our results demonstrate the effectiveness of involving them in the learning experience. Since members "learn by doing," let's provide them with every opportunity "to do". Whenever you recognize a task which must be done, ask yourself the question, "Is this something the member can do, or is this something which I must do?" An advisor who continually asks himself this question will certainly contribute to the growth and development of his members.

At this point in time, you are possibly asking yourself the question, "Can I do everything that is expected of me?" Maybe the following statement will best help you answer this question.

"I am only one, but still I am one. I cannot do everything, but still I can do something. And because I cannot do everything, I will not refuse to do the something I can do."

Doing that "something" as a 4-H advisor will bring your many satisfying rewards.

Words in Action is referred to in this lesson. One copy was included in the April advisor Insight for main advisors. (A copy is enclosed for all co-advisors.)

We remind you again to complete and return the question sheet. We encourage you to do so.

Sincerely,

Lester Barnhart
County Extension Agent, 4-H
Lesson Four

Dear 4-H Advisor:

You have now reached Lesson Four of the New Advisor Correspondence Course. Only one lesson remains until you have completed the course.

"Your Club Has Meetings," is the title of this lesson, and certainly this isn't a new discovery for you. Hopefully, this "what to do now" approach to 4-H Club meetings will be helpful.

Your club meetings, just like your teaching methods, involve members in "learning by doing." The 4-H Club meeting is democracy in action, where members learn to make decisions and work together cooperatively. It can be said without reservation that successful 4-H clubs have successful meetings. Following the guides suggested in this lesson, and those found in your handbook and program book, will certainly contribute to meeting success.

Success is seldom obtained without problems on the way. The tremendous asset of 4-H advisors is that they accept problems as challenges. We Extension Agents are interested in your having success, because your success means worthwhile experiences for your club members. Feel free to bring your problems to us so that we might assist you in meeting your "challenges." One of our responsibilities is to help you and your members, and we welcome the opportunity to do so. A telephone call or a visit to our office will help us to become another member of your leadership team.

Sincerely,

Lester Barnhart

Lester Barnhart
County Extension Agent, 4-H
Lesson Five

Dear 4-H Advisor:

It has been said that a 4-H advisor can be likened to the old lamplighter -- you can tell where he has been by the lights he has lighted. Your "growing" Club members are "glowing" examples of where you have been. You are providing them with valuable experiences which are contributing to their total growth and development.

The enclosed lesson will certainly help you in determining additional experiences which will aid in this growth and development of your club members. This development will result from a well-rounded program which includes learning experiences in each of the areas of head, heart, hands, and health.

This lesson completes your participating in the New Advisor's Correspondence Course. Your participation is an indication of your desire to be an effective youth leader, and you are to be commended for this. You are undoubtedly the kind of advisor who always asks the question, "What is good for the boy or girl?" whenever you need to make a decision regarding a member or your club as a whole. The most successful advisors are those who are boy-and-girl-oriented.

We certainly wish you every success in your endeavors, and hope you are highly rewarded for your contributions to the development of our most important resource -- our youth.

Sincerely,

Lester Barnhart
County Extension Agent, 4-H

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Let's set May 1 as a cut-off date for sending me a list of your new 4-H advisors for my research project. The purpose for a cut-off date is to insure that the experimental "treatment" can be completed by July 1. The "treatment", you'll recall, is to send correspondence course lessons, at periodic intervals, to an "experimental" group of your new advisors, and allow them the opportunity to respond by returning the answer sheet for each lesson.

This does not mean that you should stop recruiting new advisors, of course. It's just that those who begin as advisors after May 1 will not participate in the research. Remember, too, to send the lessons only to those designated to get them on the lists I return to you. Don't send lessons to any other advisors in your county.

Thanks again for your help.

Richard E. Young
Associate State Leader, 4-H

R.E.Y. tm
June 18, 1970

Re: Research Progress

I certainly do appreciate your cooperation with the study on the new advisor's correspondence course.

I had hoped to be able to send questionnaires on about July 1 to all the advisors whose names you gave me. Now it looks like it will be closer to July 15.

Am I correct in assuming that by that date all the advisors who were to get the lessons will have received them, and that they will have had an opportunity to return the quiz sheet with each lesson? If there is any problem with this, please let me know right away.

Are you keeping a record of the quiz sheets that each advisor returns? I hope so.

I'll be in touch with you again later.

Richard E. Young
Associate State Leader, 4-H

cc: Area 4-H Agents
    Area Supervisors
May 25, 1970

"RESEARCH QUIZ"

Dear 4-H Advisor:

Would you be willing to assist with a research study being done to improve 4-H advisor educational efforts in Ohio? Your help is very important to this research.

Please follow the instructions on the enclosed quiz form. When you have completed the quiz, put it in the enclosed stamped envelope and drop it in the mail.

Note that you need to give your name only if you want the scored quiz sheet returned to you. Only you and the researcher at Ohio State will have access to the results of the quiz.

Thank you very much.

Sincerely,

Jim Mabry
County Extension Agent, 4-H
OHIO 4-H ADVISOR RESEARCH QUIZ

Circle the number of the one best answer for each question.
Then please answer the questions on the last page.

1. In Ohio, 4-H club work was founded in 1902 by
   1. Liberty Hyde Bailey
   2. A. B. Graham
   3. W. B. Palmer
   4. Alfred E. Newman

2. County Extension agents are
   1. employed by the County Farm Bureau
   2. employed by the county in which they work
   3. faculty members of The Ohio State University
   4. federal government agents

3. Four-H club work is financially supported by
   1. county, state and federal taxes, plus individuals and businesses
   2. state and federal taxes only
   3. county and state taxes only
   4. contributions from individuals and businesses only

4. Four-H, or 4-H-like, programs are found
   1. only in the United States
   2. only in the United States and Canada
   3. in 15 countries in the Western Hemisphere
   4. in some 70 countries throughout the world

5. Four-H members take part in experiences which are
   1. real-life
   2. designed to take up members' spare time
   3. very much the same for each member
   4. determined by the state 4-H staff

6. Each Ohio 4-H club
   1. is required to have at least six meetings
   2. is governed by rules made in Columbus, Ohio
   3. is governed by rules made in its county Extension office
   4. may adapt its activities to the local situation

7. The National 4-H Club Foundation
   1. publishes the National 4-H News magazine
   2. maintains the National 4-H Center in Washington, D. C.
   3. coordinates the national 4-H awards program
   4. is located in Chicago, Illinois

(over, please)
8. Which of the following causes a person to remember most?
   1. seeing
   2. doing and thinking
   3. seeing and hearing
   4. saying

9. Which of the following features is the one that makes 4-H in Ohio most different from other youth organizations?
   1. it teaches members to appreciate nature and conservation
   2. it is co-educational (both boys and girls belong)
   3. its source of subject matter is The Ohio State University
   4. it provides members an opportunity to explore careers

10. Which of the following is the requirement for beginning membership in 4-H in Ohio?
    1. nine years old
    2. ten years old
    3. nine years old or in third grade
    4. ten years old or in fourth grade

11. Which of the following statements regarding parent cooperation is most accurate?
    1. parents will cooperate if they are asked to help even though they have not been informed about 4-H
    2. parents will help if they are well informed about 4-H and then are asked for help
    3. parents who are well informed about 4-H will volunteer to help; they do not need to be asked
    4. parent help is so hard to get that the effort to get it is wasted

12. What kind of a leader is described as being very firm, keeping discussion to a minimum, and being a strict disciplinarian?
    1. democratic
    2. laissiez-faire
    3. autocratic
    4. militant

13. Which of those statements best expresses the most common expectation that youth have of their adult leaders?
    1. a leader is expected to be serious
    2. a leader is expected to use harsh words
    3. a leader is expected to be strict
    4. a leader is expected to have a good sense of humor

14. Which of those statements best describes an effective youth leader?
    1. he sets a good example
    2. because he is older, members will accept what he says
    3. he reserves praise for those who do the very best jobs
    4. when a discussion lags, he is quick to speak up with correct answers
15. Which kind of leadership style is demonstrated by a leader who starts members on a program and then allows the members complete freedom to plan and carry it out?
   1. democratic
   2. laissez-faire
   3. autocratic
   4. militant

16. The Activity Leader in a 4-H club
   1. is in charge of keeping club going
   2. teaches a 4-H project
   3. is 14 to 19 years old
   4. helps members plan and conduct health, safety, community service, and recreation programs

17. Which statement is most true?
   1. All children are pretty much alike
   2. Each child is very different from all others
   3. Children 9 to 12 years old are enough alike to make general statements about them
   4. Boys and girls mature at very nearly the same rate

18. Which of those leadership situations would likely be most effective in a club of 20 members and 3 leaders?
   1. Each leader be prepared to perform any leadership job needed
   2. One advisor take on organizational jobs, one the activity jobs, and one the leadership for project teaching
   3. Have junior leaders help
   4. Each advisor lead the club for 1/3 of the year

19. In developing 4-H club programs, 4-H advisors should
   1. Seek the help of as many community resources as possible
   2. Rely primarily on resources within the club
   3. Rely on community leaders to volunteer their help
   4. Ask the county Extension agents to attend several meetings

20. Membership in a 4-H club helps members to
   1. Gain the proper education
   2. Receive good moral guidance
   3. Meet their need to be accepted as part of a group
   4. Have a good social outlet

21. Which of these four terms best describes the job of the advisor as he works with 4-H projects?
   1. Teacher
   2. Motivator
   3. Judge
   4. Leader
22. In selecting a project, the decision should be made by
   1. the 4-H advisor
   2. the member
   3. the member's parents
   4. all of those

23. Which of the following is the least important reason for 4-H members participating in a project?
   1. he gains knowledge which can be immediately used
   2. he adds to his chances of receiving a state or national award
   3. he develops skills which he can apply to everyday living
   4. he gains experience in working cooperatively with others

24. A leader or member who is making or doing something while explaining why he does it, is using which of these methods?
   1. a workshop
   2. a discussion
   3. a demonstration
   4. judging

25. The process of measuring quality in comparison with an established standard is
   1. judging
   2. member evaluation
   3. workshop
   4. exhibit

26. If an adviser's teaching objective is to have members understand the marketing of milk, the most effective technique to use would be
   1. demonstration
   2. discussion
   3. tour
   4. workshop

27. If an adviser's teaching objective is to have members learn to reach group decisions, the most effective technique to use would be
   1. record keeping
   2. group discussion
   3. workshop
   4. judging

28. Charts, posters and films are examples of which type of resource?
   1. record keeping
   2. bibliographical
   3. demonstrational
   4. visual aids
29. The circular that provides the most help to members and advisors who plan to give demonstrations and illustrated talks is
   1. the member's project book
   2. the leader's guide for the project
   3. "Words in Action"
   4. "4-H Advisors' Handbook"

30. A list of 4-H teaching resources would include
   1. 4-H club groups
   2. communities
   3. neither of these
   4. both of these

31. The place of printed material that provides the best help to Ohio 4-H advisors in planning 4-H club meetings is
   1. "4-H Advisors' Program Book"
   2. "Ohio 4-H Projects"
   3. "Ohio 4-H Advisors' Handbook"
   4. "Words In Action"

32. The time devoted to one part of a 4-H meeting will tend to vary more than time devoted to the other three parts. Which part is this?
   1. business session
   2. project work
   3. recreation and social activities
   4. other educational and service programs

33. Which portion of a club meeting is most important?
   1. business session
   2. project work
   3. recreation and social activities
   4. other educational and service programs

34. To which portion of most 4-H club meetings is the least amount of time usually devoted?
   1. business session
   2. project work
   3. recreation and social activities
   4. other educational and service programs

35. In a new 4-H club of young members the advisor's leadership style should be
   1. democratic
   2. laissez-faire
   3. autocratic
   4. militant

(over, please)
36. Probably the best place for the advisor during the 4-H club meeting is
1. at the front of the group, but not with the officers
2. seated with the officers and next to the president
3. seated toward the back of the group
4. outside the meeting room

37. At the first meeting of a new club
1. officers should be elected
2. members should get acquainted with each other and with 4-H
3. the advisor can ensure that later meetings will be governed by strict parliamentary procedure
4. the advisor should outline the plan for the rest of the club's meetings

38. The planning of a club's annual program should
1. be done by the second meeting
2. involve each member
3. always be done by a committee
4. be done by the advisor in a new club

39. Parliamentary procedure is used in a group to
1. ensure strict discipline
2. guarantee short meetings
3. make it possible for each member to express himself
4. aid inexperienced officers

40. Other educational and service programs
1. should be part of every club meeting
2. should be limited to 45 minutes at a meeting
3. includes the business session of a meeting
4. probably would not be a part of the first meeting of a new club

41. The circular "Programs in Health" is available from
1. the county Extension office
2. the President's Council of Physical Fitness
3. the U.S.D.A.
4. the County Health Department

42. Health is
1. of little concern to 4-H clubs because 4-H age children are generally very healthy
2. the least important of the four H's
3. the most important of the four H's
4. valued most by those who do not have it
43. The age for delegates to other countries in the IFYE (International Farm Youth Exchange) Program is
   1. 17 - 25
   2. 20 - 25
   3. 20 - 25
   4. 18 - 23

44. The IFYE Program is financially supported by
   1. the National 4-H Club Foundation and local groups
   2. local groups and businesses
   3. the participants
   4. state and federal taxes

45. Individual 4-H project exhibits should be
   1. prepared by each member for each project he takes
   2. displayed at the county fair only
   3. prepared by each member who is ready for this competition
   4. limited to the local community

46. 4-H Toon Caravan is a foreign exchange program for 17 to 19 year old 4-H'ers. It is financially supported by
   1. the National 4-H Club Foundation and local groups
   2. local groups and businesses
   3. the participants
   4. state and federal taxes

47. A 4-H advisor's highest rewards are
   1. certificates for each year's service
   2. thank you's from members and parents
   3. pins for multiples of 5 years of service
   4. annual county recognition programs or banquets

48. A guide to safety activities in 4-H clubs is:
   1. "Words In Action"
   2. "Check Up For Safety"
   3. "Speak For Safety"
   4. "Safety Programs for 4-H Clubs"

49. About how many lives are lost in Ohio traffic each year?
   1. 1000
   2. 1750
   3. 2500
   4. 3250

50. About what percent of the people in the U.S. are affected by dental disease?
   1. 50%
   2. 75%
   3. 85%
   4. 95%

(Please answer questions on other side)
Please answer the following questions.

Your sex: ____ male; ____ female

Were you ever a 4-H member? ____ yes; ____ no

How long have you been a 4-H advisor?

_____ This is my first year

_____ Two to five years

_____ More than five years

Have you received any of the new Ohio 4-H advisor correspondence course lessons? (They are titled "Focus on Leadership") ____ yes; ____ no

If the answer to the previous question is "yes", how many of the lessons have you received? (There are five altogether) ____

If you would like to have this quiz returned to you after it is scored, write your name and address here:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

THANK YOU VERY MUCH
TABLE 26
SUMMARY OF ITEM ANALYSIS ON 50-ITEM TRIAL TEST

\( n = 49 \)

<table>
<thead>
<tr>
<th>Item</th>
<th>Relative Difficulty</th>
<th>Phi Coefficient</th>
<th>Point Biserial Correlation Coefficient</th>
<th>Discrimination Index</th>
<th>Efficiency</th>
<th>Item for Final Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.143</td>
<td>0.284 (.001)</td>
<td>0.464</td>
<td>63.6</td>
<td>100.0</td>
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<tr>
<td>2</td>
<td>0.371</td>
<td>0.400 (.01)</td>
<td>0.377</td>
<td>40.2</td>
<td>22.5</td>
<td>*</td>
</tr>
<tr>
<td>3</td>
<td>0.266</td>
<td>0.307 (.001)</td>
<td>0.396</td>
<td>46.2</td>
<td>73.5</td>
<td>*</td>
</tr>
<tr>
<td>4</td>
<td>0.061</td>
<td>0.588 (.01)</td>
<td>0.429</td>
<td>27.3</td>
<td>100.0</td>
<td>*</td>
</tr>
<tr>
<td>5</td>
<td>0.061</td>
<td>0.339</td>
<td>0.329</td>
<td>9.1</td>
<td>100.0</td>
<td>*</td>
</tr>
<tr>
<td>6</td>
<td>0.388</td>
<td>0.707 (.001)</td>
<td>0.316</td>
<td>46.2</td>
<td>73.5</td>
<td>*</td>
</tr>
<tr>
<td>7</td>
<td>0.265</td>
<td>0.588 (.01)</td>
<td>0.420</td>
<td>37.9</td>
<td>53.2</td>
<td>*</td>
</tr>
<tr>
<td>8</td>
<td>0.061</td>
<td>0.339</td>
<td>0.379</td>
<td>9.1</td>
<td>100.0</td>
<td>*</td>
</tr>
<tr>
<td>9</td>
<td>0.633</td>
<td>0.600 (.01)</td>
<td>0.389</td>
<td>40.2</td>
<td>22.5</td>
<td>*</td>
</tr>
<tr>
<td>10</td>
<td>0.469</td>
<td>0.324</td>
<td>0.247</td>
<td>23.2</td>
<td>24.1</td>
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<tr>
<td>11</td>
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<td>58.5</td>
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<tr>
<td>12</td>
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<td>74.2</td>
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<tr>
<td>13</td>
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<td>0.661 (.001)</td>
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<td>64.4</td>
<td>79.4</td>
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<tr>
<td>14</td>
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</tr>
<tr>
<td>15</td>
<td>0.592</td>
<td>0.770 (.001)</td>
<td>0.378</td>
<td>56.1</td>
<td>62.7</td>
<td>*</td>
</tr>
<tr>
<td>16</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.0</td>
<td>0.00</td>
<td>*</td>
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<tr>
<td>17</td>
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<td>0.707 (.001)</td>
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<td>41.1</td>
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<tr>
<td>18</td>
<td>0.408</td>
<td>0.780 (.001)</td>
<td>0.177</td>
<td>55.8</td>
<td>61.0</td>
<td>*</td>
</tr>
<tr>
<td>19</td>
<td>0.204</td>
<td>0.827 (.001)</td>
<td>0.266</td>
<td>54.5</td>
<td>100.0</td>
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</tr>
<tr>
<td>20</td>
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<td>0.339</td>
<td>0.250</td>
<td>19.7</td>
<td>37.1</td>
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<tr>
<td>21</td>
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<tr>
<td>22</td>
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<tr>
<td>23</td>
<td>0.184</td>
<td>0.760 (.001)</td>
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<tr>
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<td>0.480</td>
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<tr>
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<tr>
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<tr>
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<td>38</td>
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<tr>
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<tr>
<td>43</td>
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<td>0.685 (.001)</td>
<td>0.463</td>
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<tr>
<td>45</td>
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<td>-4.3</td>
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<tr>
<td>47</td>
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<td>0.383</td>
<td>0.345</td>
<td>18.9</td>
<td>53.2</td>
<td>*</td>
</tr>
<tr>
<td>48</td>
<td>0.367</td>
<td>0.827 (.001)</td>
<td>0.640</td>
<td>54.5</td>
<td>100.0</td>
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<td>49</td>
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<td>20.9</td>
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<td>0.161</td>
<td>32.6</td>
<td>64.2</td>
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</tbody>
</table>

a( ) = Level of significance

bRatio of obtained discrimination index to maximum discrimination index which hypothetically could be expected.
KNOWLEDGE TRIAL TEST

SUMMARY STATISTICS

TOTAL TEST STATISTICS — TEST DISTRIBUTION

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>NUMBER OF STUDENTS TAKING TEST</td>
<td>40</td>
</tr>
<tr>
<td>NUMBER OF ITEMS IN TEST</td>
<td>50</td>
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</table>

<p>| | |</p>
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<th></th>
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<tbody>
<tr>
<td>MEAN TEST SCORE</td>
<td>32.32</td>
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<td>STANDARD DEVIATION</td>
<td>6.32</td>
</tr>
<tr>
<td>SKEWNESS</td>
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</tr>
<tr>
<td>KURTOSIS</td>
<td>-0.57</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>44</td>
</tr>
<tr>
<td>RANGE</td>
<td>25</td>
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<tr>
<td>MINIMUM</td>
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GROUP STATISTICS

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RELIABILITY ESTIMATES

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<td>Kuder-Richardson 21</td>
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ITEM ANALYSIS

ITEM DIFFICULTY DISTRIBUTION

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<th>RANGE</th>
<th>NUMBER</th>
<th>PERCENTAGE</th>
<th>RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OF ITEMS</td>
<td>OF ITEMS</td>
<td>.81-.90</td>
<td>3</td>
<td>6</td>
<td>.81-.90</td>
</tr>
<tr>
<td>.91-.95</td>
<td>6</td>
<td>12</td>
<td>.91-.95</td>
<td>5</td>
<td>10</td>
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<tr>
<td>.96-1.00</td>
<td>9</td>
<td>18</td>
<td>.96-1.00</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>.91-.40</td>
<td>13</td>
<td>26</td>
<td>.91-.40</td>
<td>9</td>
<td>18</td>
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<tr>
<td>.91-.20</td>
<td>19</td>
<td>38</td>
<td>.91-.20</td>
<td>18</td>
<td>36</td>
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</table>

MEAN ITEM DIFFICULTY = .353

ITEM DISCRIMINATION DISTRIBUTION

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<th>RANGE</th>
<th>NUMBER</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OF ITEMS</td>
<td>OF ITEMS</td>
<td>.30-.00</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

MEAN ITEM DISCRIMINATION = .334
Area Extension Agents, 4-H
State 4-H Staff

As I progress with my research on the new advisors' correspondence course, I find that I need some expert assistance. Now I ask you — from whom should I seek it? Why you, of course! You people really are the most knowledgeable group in the state regarding 4-H work. So, won't you please participate as a member of a jury of experts for me?

My purpose in this procedure is to develop a list of "4-H club practices" that are associated with successful 4-H clubs. You can help me do that. On the enclosed sheets is a list of some practices that I think of as "desirable" in a 4-H club. Here is what I ask you to do:

First, place in front of you the list headed "IDEAL 4-H CLUB". Get in mind a 4-H club that you feel is as near to your concept of "ideal" as possible. An actual club would be preferable to have in mind, but a hypothetical one is o.k., too. Your task is to indicate, for each practice, the extent to which it is carried out in the ideal 4-H club you're thinking about. The numerals to the left of each statement represent a continuum from very little or very seldom (1) to very much or very often (5). Circle the appropriate numeral for each statement.

Second, set aside the "IDEAL" list, and put in front of you the list headed "INEFFECTIVE 4-H CLUB". Get in mind a 4-H club that you feel is the least effective you can think of. Again having a real club in mind is preferable, but an imagined one is all right. Now, by circling the appropriate numeral to the left of each statement, indicate the extent to which that particular practice is carried out in the ineffective club you are thinking about. Remember that "1" is the "very little or very seldom" end of the continuum, and "5" is the opposite end — "very much or very often". Please do not refer back to the "IDEAL" sheet as you complete this one.

Next, return both sheets to me as soon as possible.
And finally, please accept my sincere thanks.

Richard E. Young
Associate State Leader, 4-H

REy:tm
Enc.: 2
### 4-H Club Practices Evaluation

The table below lists various practices carried out in the club, along with the extent to which each practice was carried out:

<table>
<thead>
<tr>
<th>Extent to which practice is carried out in club</th>
<th>Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>little</td>
<td>1</td>
</tr>
<tr>
<td>little</td>
<td>2</td>
</tr>
<tr>
<td>little</td>
<td>3</td>
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<td>little</td>
<td>4</td>
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<td>18</td>
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<tr>
<td>little</td>
<td>19</td>
</tr>
<tr>
<td>little</td>
<td>20</td>
</tr>
<tr>
<td>Extent to which practice is carried out in club</td>
<td>Practice</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
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<td>much</td>
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<td>31</td>
<td>79</td>
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<tr>
<td>32</td>
<td>90</td>
</tr>
</tbody>
</table>
July 23, 1970

Dear 4-H Advisor:

You have been selected, from all new 4-H advisors in Ohio, to aid in an Ohio State University research project. Its purpose is to gather information to help improve educational programs for advisors like you. Only you can furnish the needed information. You can do so by completing the enclosed questionnaire and returning it in the stamped envelope which is provided.

It will take you no more than 20 minutes to complete the questionnaire. The first part will help program planners to decide what kinds of knowledge 4-H advisors already have, and with what information they need more help. The second part is a way to learn more about what actually takes place in 4-H clubs. And the third part will help to describe new advisors in Ohio.

Your replies to the questions will be confidential. The code number at the top right corner of the first page makes it unnecessary for you to have your name appear on the questionnaire. Only the graduate student researcher has access to the code.

Your assistance in this research will be very valuable. The results should be important to educational programs for future new 4-H advisors in Ohio.

Please accept our thanks, not only for completing the questionnaire, but also for your willingness to help young people develop through 4-H.

Sincerely yours,

Roy M. Kottman
Director
QUESTIONNAIRE FOR NEW 4-H ADVISORS

SECTION I

For each of the following items, please check (✓) the one choice which you feel most correctly completes the statement or answers the question. If you are not sure, make the best guess you can.

1. In Ohio, 4-H club work was founded in 1902 by
   1. Liberty Hyde Bailey
   2. W. B. Palmer
   3. A. B. Graham
   4. Alfred E. Newman

2. Four-H club work is financially supported by
   1. state and federal taxes only
   2. county and state taxes only
   3. county, state, and federal taxes, plus individuals and businesses
   4. contributions from individuals and businesses only

3. The National 4-H Club Foundation
   1. maintains the National 4-H Center in Washington, D.C.
   2. publishes the National 4-H News magazine
   3. coordinates the national 4-H award programs
   4. is located in Chicago, Illinois

4. Which of the following features is the one that makes 4-H in Ohio most different from other youth organizations?
   1. It teaches members to appreciate nature and conservation
   2. It is coeducational (both boys and girls belong)
   3. Its source of subject matter is The Ohio State University
   4. It provides members an opportunity to explore careers

5. What kind of a leader is described as being very firm, keeping discussion to a minimum, and being a strict disciplinarian?
   1. democratic
   2. laissez-faire
   3. militant
   4. autocratic

6. Which of these statements best expresses the most common expectation that youth have of their adult leaders?
   1. a leader is expected to be serious
   2. a leader is expected to have a good sense of humor
   3. a leader is expected to use harsh words
   4. a leader is expected to be strict

(over please)
7. Which of these statements is most true?
   1. All children are pretty much alike
   2. Each child is very different from all others
   3. Children nine to twelve years old are enough alike to make general statements about them
   4. Boys and girls mature at very nearly the same rate

8. In developing 4-H club programs, 4-H advisors should
   1. rely primarily on resources within the club
   2. rely on community leaders to volunteer their help
   3. ask the county Extension agents to attend several meetings
   4. seek the help of as many community resources as possible

9. Which of these four terms best describes the job of the advisor as he works with 4-H projects?
   1. motivator
   2. teacher
   3. leader
   4. judge

10. In selecting a project, the decision should be made by
    1. the 4-H advisor
    2. the 4-H member
    3. the member’s parents
    4. all of these

11. Which of the following is the least important reason for 4-H members to participate in a project?
    1. He adds to his chances of receiving a state or national award
    2. He gains knowledge which can be immediately used
    3. He develops skills which he can apply to everyday living
    4. He gains experience in working co-operatively with others

12. A list of 4-H teaching resources would include
    1. 4-H club groups
    2. communities
    3. neither of these
    4. both of these

13. The time devoted to one part of a 4-H meeting will tend to vary more than time devoted to the other three parts. Which part is this?
    1. Other educational and service programs
    2. Business session
    3. Project work
    4. Recreation and social activities
14. To which portion of most 4-H club meetings is the least amount of time usually devoted?
   - 1. project work
   - 2. recreation and social activities
   - 3. business session
   - 4. other educational and service programs

15. The planning of a club's annual program should
   - 1. be done by the second meeting
   - 2. involve each member
   - 3. always be done by a committee
   - 4. be done by the advisor in a new club

16. Parliamentary procedure is used in a group to
   - 1. insure strict discipline
   - 2. guarantee short meetings
   - 3. make it possible for each member to express himself
   - 4. aid inexperienced advisors

17. Health is
   - 1. of little concern to 4-H clubs because 4-H age children are generally very healthy
   - 2. the least important of the four H's
   - 3. valued most by those who do not have it
   - 4. the most important of the four H's

18. The age for delegates to other counties in the IFYE (International Farm Youth Exchange) Program is
   - 1. 17 - 25
   - 2. 20 - 25
   - 3. 20 - 30
   - 4. 18 - 23

19. A guide to safety activities in 4-H clubs is
   - 1. "Words In Action"
   - 2. "Safety Programs for 4-H Clubs"
   - 3. "Check Up For Safety"
   - 4. "Speak For Safety"

20. About what percent of the people in the U. S. are affected by dental disease?
   - 1. 85%
   - 2. 95%
   - 3. 50%
   - 4. 75%

(over please)
SECTION II

In this section please check ( ) the number of the one statement in each pair of statements which best describes the actual situation in your 4-H club.

In some cases you may find it to be very difficult to compare the two statements. But it is VERY IMPORTANT THAT YOU DO MAKE A DECISION FOR EACH PAIR.

--- 1 ---

1. An advisor helped each member to evaluate his or her 4-H experience.
2. Nearly all club meetings included recreation, business, and project instruction.

--- 2 ---

1. The club advisor(s) telephoned the county Extension office for help.
2. The club advisor(s) used (that is, actually wrote in) the Advisors' Program Book

--- 3 ---

1. The club advisor(s) gave demonstrations.
2. The club had an active program committee.

--- 4 ---

1. The club meeting places were satisfactory.
2. Members gave demonstrations.

--- 5 ---

1. The club advisor(s) submitted reports to the county office on time.
2. Outside resource people helped the club.

--- 6 ---

1. Members' parents co-operated well with the club.
2. The club carried out some safety activity(ies).

--- 7 ---

1. The club advisor(s) helped members with project work outside regular club meetings.
2. Members' parents were well informed about club activities.

--- 8 ---

1. At least 90 percent of the members completed (or will complete) their projects.
2. Club meetings were planned at least a meeting in advance.
1. An advisor saw each member's project work.
2. Club officers conducted business meetings well.

--- 10 ---

1. The club performed some community service activity.
2. Some club members took part in county or area events.

SECTION III

Please fill in blanks or check ( ) the correct answer for each item.

1. Were you ever a 4-H member?
   - 1. Yes
   - 2. No

2. What is your sex?
   - 1. Male
   - 2. Female

3. What was your age on July 1, 1970?

4. How many years of formal schooling have you completed? (For example, a high school graduate with one year of college would answer "13").

5. What is your marital status? (check one)
   - 1. Single
   - 2. Married
   - 3. Widowed
   - 4. Divorced

6. What is the annual income of your family?
   - 1. Under $3,000
   - 2. Between $3,000 and $5,999
   - 3. Between $6,000 and $8,999
   - 4. Between $9,000 and $11,999
   - 5. Between $12,000 and $14,999
   - 6. Over $15,000

7. Which of the following best describes where you live?
   - 1. On a farm
   - 2. Not on a farm but in a rural area or in a town of less than 10,000
   - 3. In a town or city of 10,000 to 50,000
   - 4. In a suburb of a city of over 50,000
   - 5. In a city of over 50,000

(over please)
8. How many youth groups, in addition to 4-H, do you regularly help with? Examples would be school band boosters, church youth group, scouts, etc. ____________

9. Please estimate, as closely as you can, an answer for each of the following questions:
   1. How many times did an Extension Agent visit your home in the past year? ____________
   2. How many visits did you make to your county or area Extension office in the past year? ____________
   3. How many phone calls to and from your county or area Extension office have you made or received in the past year? ____________
   4. How many county and area 4-H and other Extension meetings and events have you attended in the past year? ____________

10. Are any of your children now (or have they ever been) 4-H members?
    1. Yes
    2. No
    3. I have no children

11. Are there any advisors in your club who have been advisors for more than one year?
    1. Yes
    2. No

12. Which one of the following factors was the most important in your deciding to be a 4-H advisor? (Check /) only one)
    1. Another 4-H advisor asked you
    2. You were asked by a child or children (could be your own)
    3. A county Extension agent asked you
    4. You "just knew about 4-H" and wanted to help
    5. A newspaper article convinced you
    6. A radio or TV program convinced you
    7. Attending a 4-H event convinced you
    8. Other (describe) ____________

Thank you for your help.

Please return to:
STAFF DEVELOPMENT AND PROGRAM ANALYSIS
THE OHIO STATE UNIVERSITY
2120 FYFFE ROAD
COLUMBUS, OHIO 43210
Dear 4-H Advisor:

Recently you received a letter dated July 23 and signed by Roy M. Kottman, Director of the Ohio Cooperative Extension Service, along with a questionnaire. If you haven't already returned the questionnaire, it would be very helpful if you would take a few minutes and do so at your earliest convenience. Your reply to the questions will be confidential and again I would like to stress, as was stressed in the original letter, the importance of returning the questionnaire since your assistance is very valuable in this research. In the long run, the results will be important to educational programs for future 4-H advisors in Ohio.

I appreciate very much the time you have given and want to thank you for completing the questionnaire and for the leadership you are providing the young people through 4-H.

Yours truly,

Francis H. Junis
County Extension Agent
4-H
August 14, 1970

Dear 4-H Advisor:

About four weeks ago we asked for your help with a 4-H research project. As of this date our records show that we have not had a reply from you. So we'll try again.

We recognize that this is a very busy time of year for 4-H advisors, so we're not surprised that some did not get around to completing the questionnaire. Won't you please take a few minutes now to do so. Then place it in the enclosed stamped envelope and return it for tabulation.

Once again we remind you that your answers are strictly confidential. The code number on the first page insures that just one person, the graduate student doing the research, knows who responds. And as soon as he checks the questionnaire as returned, no further personal identity will be used in the analysis of the information.

Only about one-tenth of the new 4-H advisors in Ohio are being asked to complete this questionnaire, so you can see how essential it is that we get as many returns as possible.

Your valuable help is really appreciated.

Sincerely,

Roy M. Kottman
Director

RMX:tm

College of Agriculture and Home Economics of the Ohio State University and the United States Department of Agriculture Cooperating
SCHEDULE FOR ADVISOR INTERVIEWS

(If advisor is respondent, have his questionnaire in hand; if respondent, have interview questions in hand.)

1. Intro self. Calling from Columbus. Thank for response or regret non-response. We need some additional information. Would you be willing to take five or ten minutes to answer a few questions?

2. Did you know, before you got the green questionnaire, that you were involved in a research project? ___ If yes, how did you find out?

3. Every new 4-H advisor, in his or her first year, learns quite a lot about leading a group of 4-H members. What was the main way through which you learned some of these things?
   other advisors, letters from agents, meetings, printed materials, other

4. Do you have a copy of the Ohio 4-H Advisors' Handbook? ___
   How useful was it to you?
   very, some, don't know, not much, very little, none

5. Do you have a copy of the Ohio 4-H Advisors' Program Book? ___
   How useful was it?
   very, some, don't know, not much, very little, none
   How many of the blank pages did you write on?
   most, about half, very few, none

6. IF RESPONDENT
   The first section of the questionnaire, you may recall, was like a multiple-choice test. We'd be interested in how you went about answering that section.
   Did you feel like you were taking a test, and that you should not seek help in finding any of the answers? __
   Did you seek help in finding any of the answers? ________ Do you remember where you looked or who you asked? __________

7. IF EXPERIMENTAL (respondent or not)
   I believe that, sometime last spring, you received from __________ a correspondence course for new 4-H advisors. It consisted of a series of five lessons, each with a quiz sheet that you could complete and return.
   You probably got the lessons at weekly intervals. We'd be interested in your evaluation of the course.
   a. To what extent did you actually read the lessons?
      completely, most, about half, not much, not at all
   b. How helpful was the course to you?
      very, some, no opinion, not much, very little, none
   c. Would you suggest that Extension agents continue to provide the correspondence course to new 4-H advisors next year? _______
8. IF CONTROL (respondent or not)
The state 4-H staff has developed a correspondence course for new
4-H advisors. It consists of five lessons on topics that they
feel are important to new advisors. Each lesson is 3 or 4 pages
long and includes a quiz sheet that can be completed and returned
to your county agent. Lessons are usually mailed one a week.
a. Does this sound like something you would have appreciated
getting this last year?
b. If you had gotten the lessons last winter or spring, to what
extent do you think you would have read them?
completely, most, half, not much, not at all

9. IF NON-RESPONDENT
Even though you did not return the questionnaire, I wonder if
you would be willing to give me the personal information that
we asked for?
All the information is very important to the research, and it
will be held confidential, but even so, there may be a question
or two that you’d rather not answer. That’s all right; just
tell me you’d rather not answer.

10. One final question. As of now, do you think you will be a
4-H advisor next year? ______

THANK YOU VERY MUCH. I CERTAINLY APPRECIATE YOUR HELP.
### TABLE 28

**MEMBER STATUS**

<table>
<thead>
<tr>
<th>Was Leader a 4-H Member?</th>
<th>Early</th>
<th>Late</th>
<th>Non-</th>
<th>Σ</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>58</td>
<td>59</td>
<td>15</td>
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<td>No</td>
<td>48</td>
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<td><strong>Σ</strong></td>
<td>106</td>
<td>113</td>
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<td>240-ΣΣ</td>
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\[
x^2 = 2.582, \text{ n.s. @}.05 \text{ w}/2 \text{ d.f.}
\]

### TABLE 29

**SEX**

<table>
<thead>
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<th>Sex</th>
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<th>Late</th>
<th>Non-</th>
<th>Σ</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>27</td>
<td>30</td>
<td>3</td>
<td>65</td>
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<tr>
<td>Female</td>
<td>79</td>
<td>83</td>
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<td><strong>Σ</strong></td>
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\[
x^2 = 1.425, \text{ n.s. @}.05 \text{ w}/2 \text{ d.f.}
\]
### TABLE 30
**MARITAL STATUS**

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<th>Early</th>
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<th>Σ</th>
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<tbody>
<tr>
<td>Single</td>
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<td>16</td>
<td>1</td>
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<td>Married or divorced</td>
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<td>96</td>
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Σ = 106 112 21 239-ΣΣ

\[ x^2 = 1.462, \text{n.s.} @ .05 \text{ w/} 2 \text{ d.f.} \]

### TABLE 31
**CHILDREN IN 4-H?**

<table>
<thead>
<tr>
<th>Children in 4-H?</th>
<th>Early</th>
<th>Late</th>
<th>Non-</th>
<th>Σ</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>64</td>
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<td>No</td>
<td>42</td>
<td>36</td>
<td>10</td>
<td>88</td>
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</table>

Σ = 106 113 21 240-ΣΣ

\[ x^2_2 = 2.585, \text{n.s.} @ .05 \text{ w/} 2 \text{ d.f.} \]
### TABLE 32

**WHETHER CLUB HAD ONLY NEW LEADERS**

<table>
<thead>
<tr>
<th>Situation</th>
<th>Early</th>
<th>Late</th>
<th>Non-</th>
<th>Σ</th>
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</thead>
<tbody>
<tr>
<td>Experienced and New</td>
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<td>10</td>
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<td>New only</td>
<td>41</td>
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<td>106</td>
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\[ x^2 = 2.656, \text{n.s.} @ .05 \text{ w/2 d.f.} \]

### TABLE 33

**FACTOR MOST SIGNIFICANT IN DECISION TO BE A LEADER**

<table>
<thead>
<tr>
<th>Factor</th>
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<th>Response</th>
<th>Late</th>
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<tbody>
<tr>
<td>Another leader asked</td>
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<td>Asked by a child</td>
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<td>24</td>
<td>3</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Just knew about 4-II</td>
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<td>45</td>
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<tr>
<td>Other reasons</td>
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</table>

\[ x^2 = 1.559, \text{n.s.} @ .05 \text{ w/6 d.f.} \]
TABLES OF DEMOGRAPHIC DATA RESPONSES

TABLE 34

AGE

n = 236, $\bar{X} = 33.4$

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<th>n</th>
<th>%</th>
<th>Age</th>
<th>n</th>
<th>%</th>
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<td>9</td>
<td>3.8</td>
</tr>
<tr>
<td>25</td>
<td>3</td>
<td>1.2</td>
<td>36</td>
<td>8</td>
<td>3.3</td>
<td>47</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>26</td>
<td>2</td>
<td>0.8</td>
<td>37</td>
<td>4</td>
<td>1.7</td>
<td>48</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>27</td>
<td>10</td>
<td>4.2</td>
<td>38</td>
<td>12</td>
<td>5.1</td>
<td>49</td>
<td>3</td>
<td>1.2</td>
</tr>
</tbody>
</table>

TABLE 35

YEARS OF SCHOOL

n = 235; $\bar{X} = 12.5$

<table>
<thead>
<tr>
<th>Years</th>
<th>n</th>
<th>%</th>
<th>Years</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>5</td>
<td>2.1</td>
<td>15</td>
<td>7</td>
<td>3.0</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>2.6</td>
<td>16</td>
<td>12</td>
<td>5.1</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>4.2</td>
<td>17</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td>11</td>
<td>7</td>
<td>3.0</td>
<td>18</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>12</td>
<td>135</td>
<td>57.4</td>
<td>19</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>13</td>
<td>25</td>
<td>10.6</td>
<td>20</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>14</td>
<td>20</td>
<td>8.5</td>
<td>21</td>
<td>1</td>
<td>0.4</td>
</tr>
</tbody>
</table>
**TABLE 36**

**NUMBER OF OTHER YOUTH GROUPS WORKED WITH**

\[ n = 235; \bar{x} = 0.91 \]

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>%</th>
<th>Groups</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>112</td>
<td>47.6</td>
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<td>6</td>
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</tr>
<tr>
<td>1</td>
<td>70</td>
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<td>5</td>
<td>3</td>
<td>1.3</td>
</tr>
<tr>
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<td>23</td>
<td>11.9</td>
<td>6</td>
<td>1</td>
<td>.4</td>
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<tr>
<td>3</td>
<td>15</td>
<td>6.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 37**

**HOME VISITS**

\[ n = 238; \bar{x} = 0.87 \]

<table>
<thead>
<tr>
<th>Visits</th>
<th>n</th>
<th>%</th>
<th>Visits</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>153</td>
<td>64.3</td>
<td>5</td>
<td>4</td>
<td>1.7</td>
</tr>
<tr>
<td>1</td>
<td>35</td>
<td>14.7</td>
<td>6</td>
<td>3</td>
<td>1.3</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>9.2</td>
<td>7</td>
<td>0</td>
<td>.0</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>4.2</td>
<td>8</td>
<td>2</td>
<td>.8</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>2.9</td>
<td>9</td>
<td>2</td>
<td>.8</td>
</tr>
</tbody>
</table>

**TABLE 38**

**OFFICE VISITS**

\[ n = 236; \bar{x} = 3.31 \]

<table>
<thead>
<tr>
<th>Visits</th>
<th>n</th>
<th>%</th>
<th>Visits</th>
<th>n</th>
<th>%</th>
<th>Visits</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>68</td>
<td>28.8</td>
<td>6</td>
<td>12</td>
<td>5.1</td>
<td>15</td>
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<td>1.7</td>
</tr>
<tr>
<td>1</td>
<td>33</td>
<td>14.0</td>
<td>7</td>
<td>2</td>
<td>.8</td>
<td>18</td>
<td>1</td>
<td>.4</td>
</tr>
<tr>
<td>2</td>
<td>29</td>
<td>12.3</td>
<td>8</td>
<td>4</td>
<td>1.7</td>
<td>20</td>
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<td>1.2</td>
</tr>
<tr>
<td>3</td>
<td>26</td>
<td>11.0</td>
<td>9</td>
<td>2</td>
<td>.8</td>
<td>25</td>
<td>1</td>
<td>.4</td>
</tr>
<tr>
<td>4</td>
<td>33</td>
<td>14.0</td>
<td>10</td>
<td>4</td>
<td>1.7</td>
<td>35</td>
<td>1</td>
<td>.4</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
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<td>12</td>
<td>6</td>
<td>2.6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 39

**PHONE CALLS**

\[ n = 233; \bar{x} = 3.95 \]

<table>
<thead>
<tr>
<th>Calls</th>
<th>n</th>
<th>%</th>
<th>Calls</th>
<th>n</th>
<th>%</th>
<th>Calls</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>72</td>
<td>30.9</td>
<td>6</td>
<td>16</td>
<td>6.9</td>
<td>15</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>1</td>
<td>23</td>
<td>9.9</td>
<td>7</td>
<td>4</td>
<td>1.7</td>
<td>20</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>2</td>
<td>26</td>
<td>11.2</td>
<td>8</td>
<td>6</td>
<td>2.6</td>
<td>25</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>6.0</td>
<td>9</td>
<td>1</td>
<td>0.4</td>
<td>30</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>10.3</td>
<td>10</td>
<td>11</td>
<td>4.7</td>
<td>40</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>5</td>
<td>18</td>
<td>7.7</td>
<td>12</td>
<td>11</td>
<td>4.7</td>
<td>50</td>
<td>1</td>
<td>0.4</td>
</tr>
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</table>

### TABLE 40

**MEETINGS AND EVENTS**

\[ n = 234; \bar{x} = 2.96 \]

<table>
<thead>
<tr>
<th>Mtgs.</th>
<th>n</th>
<th>%</th>
<th>Mtgs.</th>
<th>n</th>
<th>%</th>
<th>Mtgs.</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>55</td>
<td>23.5</td>
<td>6</td>
<td>13</td>
<td>5.6</td>
<td>12</td>
<td>6</td>
<td>2.6</td>
</tr>
<tr>
<td>1</td>
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<td>7</td>
<td>4</td>
<td>1.7</td>
<td>15</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>2</td>
<td>43</td>
<td>18.4</td>
<td>8</td>
<td>2</td>
<td>0.8</td>
<td>16</td>
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<td>0.4</td>
</tr>
<tr>
<td>3</td>
<td>22</td>
<td>9.4</td>
<td>10</td>
<td>5</td>
<td>2.1</td>
<td>25</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>7.3</td>
<td>11</td>
<td>2</td>
<td>0.8</td>
<td>25</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>5</td>
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<td>5.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 41

**TOTAL EXTENSION CONTACTS**

\[ n = 238; \bar{x} = 10.81 \]

<table>
<thead>
<tr>
<th>Contacts</th>
<th>n</th>
<th>%</th>
<th>Contacts</th>
<th>n</th>
<th>%</th>
<th>Contacts</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>14</td>
<td>5.9</td>
<td>13</td>
<td>7</td>
<td>2.9</td>
<td>27</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>1</td>
<td>22</td>
<td>9.2</td>
<td>14</td>
<td>6</td>
<td>2.5</td>
<td>28</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>9.2</td>
<td>15</td>
<td>6</td>
<td>2.5</td>
<td>32</td>
<td>3</td>
<td>1.3</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>3.8</td>
<td>16</td>
<td>3</td>
<td>1.3</td>
<td>34</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>2.5</td>
<td>17</td>
<td>8</td>
<td>3.4</td>
<td>35</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
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<td>11</td>
<td>4.6</td>
<td>18</td>
<td>7</td>
<td>2.9</td>
<td>39</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>6</td>
<td>16</td>
<td>6.7</td>
<td>19</td>
<td>5</td>
<td>2.1</td>
<td>41</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
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<td>12</td>
<td>5.0</td>
<td>20</td>
<td>3</td>
<td>1.3</td>
<td>44</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>8</td>
<td>15</td>
<td>6.3</td>
<td>21</td>
<td>4</td>
<td>1.7</td>
<td>47</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>4.2</td>
<td>22</td>
<td>3</td>
<td>1.3</td>
<td>55</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>4.2</td>
<td>23</td>
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<td>0.4</td>
<td>64</td>
<td>1</td>
<td>0.4</td>
</tr>
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<td>11</td>
<td>11</td>
<td>4.6</td>
<td>24</td>
<td>3</td>
<td>1.3</td>
<td>74</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>2.5</td>
<td>25</td>
<td>2</td>
<td>0.8</td>
<td>81</td>
<td>1</td>
<td>0.4</td>
</tr>
</tbody>
</table>
**TOTAL TEST STATISTICS — TEST DISTRIBUTION**

- Number of Students Taking Test: 219
- Number of Items in Test: 20
- Mean Test Score: 10.47
- Median: 10
- Mode: 10
- Maximum: 19
- Minimum: 3
- Range: 16

**GROUP STATISTICS**

<table>
<thead>
<tr>
<th>Percent</th>
<th>Number</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.00</td>
<td>10.466</td>
</tr>
<tr>
<td>Upper</td>
<td>24.66</td>
<td>14.519</td>
</tr>
<tr>
<td>Lower</td>
<td>26.48</td>
<td>6.655</td>
</tr>
</tbody>
</table>

**RELIABILITY ESTIMATES**

- Kuder-Richardson 20 = 0.632
- Kuder-Richardson 21 = 0.512

**ITEM ANALYSIS**

**ITEM DIFFICULTY DISTRIBUTION**

<table>
<thead>
<tr>
<th>Range</th>
<th>Number of Items</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>.81-1.00</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>.61-.80</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>.41-.60</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>.21-.40</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>.00-.20</td>
<td>2</td>
<td>10</td>
</tr>
</tbody>
</table>

Mean Item Difficulty = .477

**ITEM DISCRIMINATION DISTRIBUTION**

<table>
<thead>
<tr>
<th>Range</th>
<th>Number of Items</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>.81-1.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.61-.80</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>.41-.60</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>.21-.40</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>.00-.20</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Below .00</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Mean Item Discrimination = .393
**TOTAL TEST STATISTICS — TEST DISTRIBUTION**

- Number of students taking test = 219
- Number of items in test = 10

<table>
<thead>
<tr>
<th>Mean Test Score</th>
<th>5.01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>5</td>
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<tr>
<td>Mode</td>
<td>5</td>
</tr>
<tr>
<td>Maximum</td>
<td>8</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.40</td>
</tr>
<tr>
<td>skewness</td>
<td>0.03</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.48</td>
</tr>
<tr>
<td>Range</td>
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</tbody>
</table>

**GROUP STATISTICS**

<table>
<thead>
<tr>
<th>Percent Students</th>
<th>Number Students</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.00</td>
<td>219</td>
</tr>
<tr>
<td>Upper</td>
<td>37.44</td>
<td>82</td>
</tr>
<tr>
<td>Lower</td>
<td>35.62</td>
<td>78</td>
</tr>
</tbody>
</table>

**RELIABILITY ESTIMATES**

- Kuder-Richardson 20 = -0.146
- Kuder-Richardson 21 = -0.314

**ITEM ANALYSIS**

### Item Difficulty Distribution

<table>
<thead>
<tr>
<th>Range</th>
<th>Number of Items</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>.00-.20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>.21-.40</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>.41-.60</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>.61-.80</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>.81-1.00</td>
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<td>0</td>
</tr>
</tbody>
</table>

**Mean Item Difficulty = .499**

### Item Discrimination Distribution

<table>
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<tr>
<th>Range</th>
<th>Number of Items</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>.00-.20</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Below .00</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Mean Item Discrimination = .299**
<table>
<thead>
<tr>
<th>County</th>
<th>Agent Positions</th>
<th>No. of Secretaries</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stable Stable</td>
<td>July-Aug. only</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Stable Change</td>
<td>Stable</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Stable Stable</td>
<td>Stable</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Stable Stable</td>
<td>Stable</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Stable Stable</td>
<td>Change; no agt.</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Stable Stable</td>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Stable Change; no agt.</td>
<td>Agent resigned in June</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>for 5 mo.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Stable Stable</td>
<td>2nd 4-H agent for 9 months</td>
<td>2-1/2</td>
</tr>
<tr>
<td>9</td>
<td>Stable Stable</td>
<td>Stable</td>
<td>1-1/2</td>
</tr>
<tr>
<td>10</td>
<td>Stable Stable</td>
<td>July-Mar. only</td>
<td>2</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY

Books


Articles


Bulletins


Reports


Computer Programs


Golhar, M. B. Analysis of Variance for Factorial Design with Unequal Cell Frequencies. Instruction and Research Center, The Ohio State University, 1970.

Golhar, M. B. Questionnaire Analysis, Weighted Scoring and t-tests. Instruction and Research Center, The Ohio State University, 1970.

Unpublished Material


Other Sources


