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SOUTH DAKOTA 4-H MEMBERS' AND LEADERS' USE OF TWO TYPES OF 4-H MANUALS

BY

BARBARA KAYE FROKE

A thesis submitted in partial fulfillment of the requirements for the degree Master of Science, Major in Journalism, South Dakota State University

1970
This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Science, and is acceptable as meeting the thesis requirements for this degree, but without implying that the conclusions reached by the candidate are necessarily the conclusions of the major department.

/Thesis Advisor / Date

Head, Department of Journalism and Mass Communication
ACKNOWLEDGMENTS

The author expresses appreciation to the Federal Cooperative Extension Service of South Dakota State University for offering her an assistantship which enabled her to pursue graduate study in journalism and for supplying funds for the 4-H publications study. Dr. Mary Frances Lyle, state leader, home economics extension, and Everett Metcalf, extension agricultural editor, were constant sources of encouragement.

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The author is grateful for the computer programming services and the general guidance of Dr. Lee Tucker, experiment station statistician at South Dakota State University.

South Dakota state 4-H staff members Frank Heitland, John Younger, Henrietta Gohring and Mary Ellen Piper provided the author with information, suggestions and encouragement.
The publications study could not have been completed without the cooperation and participation of 34 South Dakota home economics agents and 4-H members and leaders in their counties.

The author extends special thanks to her husband, Bill, for his prevailing patience and helpful advice, and to Mary Ann Sechser, a student at South Dakota State University, for her continual and diligent assistance.

BKF
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CHAPTER I

INTRODUCTION

The Smith-Lever Act of 1914 established the Federal Cooperative Extension Service. The United States Department of Agriculture, the state university and the people in the community cooperatively support the extension activity known as 4-H club work. County extension agents administer the youth program within each county.¹

The 4-H member participates in informal, self-help projects within a group or club atmosphere. Club work supplements school and home activities. Volunteer community adults, aided by members' parents as well as county and state extension staffs, serve as leaders of the 4-H clubs.²


The early history of 4-H club work in the United States has been traced to many communities in many parts of the country. Such specialized groups as corn, pig, home garden or nature study clubs were organized at the beginning of the 20th Century. The official name, 4-H club work, was adopted in 1930 uniting those youth groups whose purposes were the development of youth and the improvement of farm, home and community. The current program also includes urban areas of interest. ³

Isolated cases of club work were reported in South Dakota as early as 1910. W. M. Mair, the first State 4-H Club Leader, began service in 1914. The 1915 enrollment listed 2,568 members. By 1916 nine different types of clubs, namely, corn, potatoes, home garden, pig, poultry, handicraft, canning, clothing and bread, were in operation. Eight county agents supervised the club work of a total of 150 clubs. ⁴

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⁴ John F. Younger, "History of the 4-H Program in South Dakota," Brookings, South Dakota, 1962, pp. 1-2. (Mimeographed.)
Today the Cooperative Extension Service in South Dakota spends between $12,000 and $15,000 annually to publish and reprint information to aid 19,830 young people enrolled in 4-H projects and activities. Each member has 31 agricultural and home economics projects as well as six special program areas from which to build his educational program. Members are assisted by 4,391 leaders, 2,058 project leaders and 3,240 junior leaders in addition to their own families.

The amount of funds devoted to 4-H publications and the number of young people and adults participating in the program warrant a study of the use of published materials by 4-H members and leaders.

The current trend in 4-H publications is toward the use of short leaflets containing guidelines for members to follow in completing their 4-H projects.

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5 According to Everett Metcalf, extension agricultural editor at South Dakota State University, Brookings, South Dakota, 4-H publication expenses fluctuate from year to year. One year several new publications might be printed and the expense will be high; the next year the majority of expense will involve reprinting publications and the expense will be lower.

6 Frank Heitland (personal communication).
This type of publication contains no subject-matter information and costs less to produce than the traditional 10- to 14-page booklets containing both project guidelines and subject-matter information.  

A ready-made field-survey study situation existed in the distribution of project manuals for two major 1968-69 home economics projects in South Dakota. The 6,843 members enrolled in the 4-H Clothing Project used a 14-page project manual containing only suggestions for activities to aid the member in completing the project. The publication was divided into units suggested for three different age groups. The 7,297 members enrolled in the 4-H Foods and Nutrition Project used a 20-page publication that provided both subject-matter information and suggested project activities.

Adult leaders of both projects used manuals which contained suggestions to help the leader guide 4-H members toward project completion. Neither manual contained subject-matter information.

---

7 Heitland.

8 Heitland.
Inasmuch as two basically different types of members' manuals accompanied the two projects, members' relative use of the two kinds of manuals could be compared. The extent to which 4-H leaders use leaders' publications as well as members' publications could also be studied.

Review of Literature

Correspondence with the National 4-H Headquarters, Washington, D. C., and study of the Review of Extension Research revealed four studies related to the use of 4-H members' and leaders' manuals.

A recent unpublished master's thesis surveyed use of a foods bulletin, Snacks and Little Lunches, by Minnesota 4-H members. The study demonstrated a positive relationship between members' completion of their project record and use of the bulletin. Use of the bulletin also correlated positively with attendance at foods project meetings. There was some evidence that greater use was made of the bulletin when the 4-H club had a foods project leader. Finally, the study showed that the presence of a junior project leader produced no significant change in use of the bulletin.9

"Some of the content of current bulletins," wrote Miss Hartung, "is relevant for the needs of one segment of the membership but lacks meaning for others." She questioned ",..., whether the total educational value of the bulletins and the use of Snacks and Little Lunches merit the expense of the present publications' preparation and distribution."\(^{10}\)

In another relevant study, Wilkening, Clark and Landry investigated the influence of a Wisconsin 4-H clothing handbook on knowledge, interest and skills of the 4-H member. The researchers observed that ",..., it is impossible to measure the effect of a particular instructional technique or media in an on-going program, independently of all other influences." However, they did demonstrate a positive relationship between a high interest in clothing and greater knowledge and skill in clothing construction. Respondents listed 4-H circulars and bulletins as important sources of help. Guidance by project and junior leaders reinforced use of the publications. High knowledge and performance in clothing construction correlated positively with use of the 4-H publications. Similarly, use of books or magazines had a positive association with 4-H members' increased knowledge and performance in the clothing project.

\(^{10}\) Hartung, pp. 44-45.
Generally, the findings also indicated that the greatest use of printed materials occurred when members had been instructed and encouraged in their use. 11

Other sources which were helpful to 4-H members included family members and such activities as evaluation of project garments and participation in 4-H judging contests. Members referred to the clothing handbook for specific information. The more familiar they were with the circular, the more they consulted it. 12

A third 4-H publications study by W. G. Marders investigated the distribution of clothing, foods and nutrition, and meat-animal project literature. Commenting on the value of 4-H publications, Marders wrote:

Some of the increased efficiency in the direction of 4-H Club work by 4-H advisors presumably is attributable to the literature program. Its development has been costly in time and money, but over-all effectiveness has been and continues to be reflected in an increased 4-H advisor-client ratio. It is apparent that project literature is being used with some degree of effectiveness . . . 13


12 Wilkening, Clark and Landry, pp. 4-5.

The California study analyzed the distribution, possession, use and helpfulness of publications to leaders and members. Distribution systems varied with respect to time of distribution and methods used. Leaders generally had a larger supply of member material than leader material. Members did not receive all of the required materials, but were supplied with some non-required publications in excess of their needs. Marders concluded that varied distribution patterns within and among counties contributed to over-supply. He suggested emphasizing the use of the local-leader system because word-of-mouth was the most effective manner of learning which publications to order. Leaders, more than members, used the project publications. Foods project publications were used more than clothing publications. Publications were of more value to leaders than to members. 14

Finally, in a South Dakota literature study, 4-H leaders compared members' old and new project guides and rated them for use and helpfulness. Information in the guides included guidelines for organizing a club and planning a club program, outlines for club meetings, objectives and requirements for projects, information about projects and ideas for things to make or do.

14 Marders, p. 64.
Leaders expressed opinions on ideas for demonstrations, illustrative talks and judging, guidelines for exhibiting, local club events, leader responsibilities, members' and leaders' responsibilities and other project helps.

Results of the study indicated that all phases of information need to be included in the members' project guides except "local club events." Leaders with more than ten years of experience rated "planning the club program" and "meeting outlines" lower than less experienced leaders. Most leaders rated "project objectives and requirements" and "project information" highly useful and helpful. Eighty per cent of responding leaders preferred that "project ideas or things to make or do," "demonstration and illustrative talk ideas," "exhibit information," and "judging ideas" be included in the members' guides. "Members' and parents' responsibilities" rated higher than "leaders' responsibility."15

Objectives of the Study

The objective of the study was to compare 4-H members' and leaders' use of four 4-H publications.

Although no striking difference exists between the foods and nutrition and clothing leaders' manuals, there is a substantial difference in the basic content of the two members' manuals. Therefore, differences in members' or leaders' use of these two manuals are of importance. Since 4-H leaders use members' manuals in addition to the leaders' manuals intended for their exclusive use, any differences in leaders' and members' use of the members' publications would be of interest.

Substantive and Null Hypotheses

All hypotheses state relationships between the following four 4-H publications: The 4-H Foods and Nutrition Project Members' Guide contains subject-matter information as well as suggested project activities. The 4-H Clothing Project Members' Guide contains only suggested project activities. The 4-H Clothing Project Leaders' Guide has been in circulation longer than the 4-H Foods and Nutrition Leaders' Guide. Otherwise, the leaders' manuals are similar in content.

Members' manuals provide information to aid 4-H members in completing their project, while leaders' manuals provide supplementary information. Club leaders have access to both types of manuals.
Substantive Hypotheses

I. If a 4-H members' manual contains subject-matter information as well as suggested project activities, it will be used by 4-H members more than a members' manual which contains only suggested project activities.

II. If a 4-H members' manual contains subject-matter information as well as suggested project activities, it will be used by 4-H leaders more than a members' manual which contains only suggested project activities.

III. If both 4-H members and leaders are given two 4-H members' manuals, the leaders will make the most use of the members' manuals.

IV. If 4-H leaders are given two 4-H leaders' manuals, they will make more use of that manual which has been in circulation longer.

Null Hypotheses

I. There is no difference in 4-H members' use of a 4-H members' manual which contains subject-matter information as well as suggested project activities and a members' manual which contains only suggested project activities.
II. There is no difference in 4-H leaders' use of a 4-H members' manual which contains subject-matter information as well as suggested project activities and a members' manual which contains only suggested project activities.

III. There is no difference between 4-H members' and leaders' use of 4-H members' manuals.

IV. There is no difference in 4-H leaders' use of two 4-H leaders' manuals although one has been in circulation longer.
CHAPTER II

METHODOLOGY

The 4-H publications study involved two phases: an examination of four 4-H manuals to test their readability qualities for reading ease and human interest and a survey of 4-H members and leaders to study their use of 4-H publications.

Definition of Terms

The following definitions of words and phrases will aid the reader who is not familiar with 4-H club work in South Dakota. Terminology used specifically for this study is also defined.

A 4-H club is a group of young people supervised by one or more adult leaders at the local level and by county extension staff at the county level. Each member and leader is eligible to participate in county and state 4-H programs and activities. South Dakota 4-H clubs have a minimum membership of five.

Club members are boys or girls from 9 to 19 years old who belong to organized 4-H clubs and who are enrolled in one or more 4-H projects.
The 4-H club leaders are adult volunteers who supervise each 4-H club. These leaders supervise club activities and aid the members in completing projects. The 4-H leader is also a liaison between the local club and the county extension staff.

A junior leader is a 4-H member who aids the 4-H leader in such activities as project work, demonstrations and judging. Junior leaders must be at least 12 years old.

Project leaders work extensively with a particular project. A project leader is usually responsible for a project within the 4-H club; however, some project leaders supervise county-wide projects.

Project guides or manuals, written specifically for 4-H members enrolled in a particular project, provide guidelines and suggestions to enable the members to complete their projects. The publications are also used by 4-H club leaders.

Leader guides or manuals, coordinated to the members' project guides, provide information and suggestions to aid the 4-H leader in guiding 4-H members toward project completion.

Project meetings, devoted exclusively to one particular project, assist 4-H members in acquiring the understanding and the skills essential for completing the project.
Project training refers to special time and effort directed by the home economics agent to 4-H leaders and members to help them learn project skills and requirements. Project training also refers to any training the 4-H leader might give to members of a 4-H club on a particular project.

"Completion of a 4-H project" means to fulfill within one year those requirements established by local 4-H leaders and individual 4-H club members.

"Easy to read and understand" when used on the 4-H publications questionnaires refers to publications that do not seem to be just a mass of print. It is information that one wants to read, and it contains words that are easy to understand.

"Use" question refers to questions appearing on all questionnaires in the 4-H study which quiz the respondents on their knowledge of information contained in the 4-H manuals studied or on their use of the manuals.

Corresponding question or comparable question refers to similar questions appearing on two different questionnaires in the 4-H study. For example, 4-H members answered two questionnaires. One covered the 4-H Foods and Nutrition Project Members' Guide, and another covered the 4-H Clothing Project Members' Guide.
One example of a corresponding question appearing on both questionnaires was: "Do you think the Foods and Nutrition members' guide is easy to read and understand?" and "Do you think the Clothing Project members' guide is easy to read and understand?"

**Readability Tests**

In *The Measurement of Readability*, George Klare, professor of psychology at Ohio University, reviewed and summarized research related to readability and its measurement. He described a readability formula as "... a method of estimating the probable success a reader will have in reading and understanding a piece of writing." It can be assumed, then, that the success 4-H members have in reading and understanding 4-H publications can affect their use of those publications.

All four 4-H publications were tested using two readability formulas: the revised Flesch Reading Ease formula and the Flesch Human Interest formula.

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17 See Appendix C.
The Flesch Reading Ease formula, according to Klare, emphasizes efficiency and simplicity of use and is a reliable test. Klare did not evaluate "human interest" formulas because "... not enough validity studies have used it to make a reliable interpretation possible." Nevertheless, since 4-H publications are designed to interest individual members and leaders, the human interest test was used.

How to Test Readability by Rudolf Flesch was used as a reference in conducting the readability tests. Although sample selection did differ among publications, it was systematic. The differentiation was necessary because of the variance in length of manuals. The 4-H Foods and Nutrition Project Members' Guide was tested by selecting three 200-word samples using every fifth paragraph of every other page of the publication. Three 100-word samples were selected from every fifth paragraph of every other page of the 4-H Clothing Project Members' Guide, 4-H Clothing Project Leaders' Guide and the Foods and Nutrition Leaders' Guide. Because the clothing members' guide contained three units, each suggested for a different age level, each unit was tested separately.

18 Rudolf Flesch, How to Test Readability (New York: Harper and Brothers, 1951), pp. 1-10, 43.
Two 100-word samples were selected from every other paragraph on every other page from each of the units.

Sample Selection

Members and leaders of 4-H clubs in those South Dakota counties which had a home economics agent supervising 4-H projects served as the population for sample selection. If a home economics agent served more than one county, only the county in which she headquartered was eligible for sampling. Counties in which there was no home economics agent were eliminated to reduce any effect that differences in project training of members and leaders might produce on study results. Theoretically at least, club leaders in home economics agent counties have access to more frequent and more individually oriented project training. Conversely, leaders in those counties in which there was no home economics agent receive less frequent and less individualized training from state extension staff members.

Because 70 per cent of all South Dakota 4-H members are 14 years old or younger, the population was limited to those members of that age group.\(^{19}\)

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\(^{19}\) Heitland.
Furthermore, since the study compared the use of the foods and nutrition members' manual with the clothing members' manual, population members necessarily needed to be enrolled in both projects for the 1968-69 4-H enrollment year.

Those 4-H leaders who worked with both the foods and nutrition and clothing projects during the 1968-69 4-H enrollment year were eligible for the sample.

Home economics agents representing 34 counties submitted a list of the total number of 4-H members in their counties who were 14 years old or younger and enrolled in both projects. They provided another list of 4-H leaders who worked with both the foods and nutrition and clothing projects.\(^20\) The 4-H member population totaled 1,890 and the leaders totaled 1,019 (Table 1).

A 20 per cent sample of the member and leader populations was selected in each county, as suggested by Dr. Lee Tucker, experiment station statistician at South Dakota State University. In those counties where a 20 per cent sample produced fewer than the minimum of five members and five leaders, the county sample was increased to that number.

\(^{20}\) See Appendix A.
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<tr>
<td>Roberts</td>
<td>18</td>
<td>5</td>
<td>39</td>
<td>8</td>
</tr>
<tr>
<td>Sanborn</td>
<td>36</td>
<td>7</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Spink</td>
<td>76</td>
<td>15</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>Tripp</td>
<td>52</td>
<td>10</td>
<td>39</td>
<td>8</td>
</tr>
<tr>
<td>Turner</td>
<td>64</td>
<td>13</td>
<td>36</td>
<td>7</td>
</tr>
<tr>
<td>Union</td>
<td>44</td>
<td>9</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Walworth</td>
<td>26</td>
<td>5</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Yankton</td>
<td>44</td>
<td>9</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1890</strong></td>
<td><strong>381</strong></td>
<td><strong>1019</strong></td>
<td><strong>223</strong></td>
</tr>
</tbody>
</table>
Samples for populations of 100 or less were randomly selected from a box containing 100 pieces of numbered paper. Samples for populations over 100 were selected by using a table of random numbers. The completed sample comprised 381 4-H members and 223 4-H leaders from the 34 South Dakota counties (Table 1).

Preparation and Pre-testing of the Questionnaires

Because the total sample of members and leaders numbered 604, a questionnaire survey method was employed instead of an interview technique.

Two questionnaires with corresponding questions were developed to determine 4-H members' attitudes toward and use of the foods and nutrition members' manual and the clothing members' manual. Two similar questionnaires were devised to obtain information about leaders' use of the two members' manuals as well as the two special leaders' manuals coordinated with each project. Henrietta Gohring, Mary Ellen Piper and Frank Heitland, state 4-H club staff members at South Dakota State University, reviewed the questionnaires for clarity and suitability for the age groups being surveyed.


22 See Appendix B.
Eight 4-H leaders and 16 members participated in a pretest of both sets of questionnaires in Britton, South Dakota, on May 27, 1969. A home economics agent who supervised two counties volunteered the leaders and members from Marshall County for the pretest because that county could not participate in the official survey. The pretest respondents helped to determine which questions were hard to understand or ambiguous. In general, they felt that the questions asked were important and relevant. After the pretest all questionnaires were revised.

**Agent Training**

Each of the 34 home economics agents was trained to administer the questionnaire personally. Nearly all of the agents were trained by the writer at two meetings. Several more were trained in the western part of the state by an agent who had previously worked with questionnaires. The agent-administered procedure for presenting questionnaires eliminated two disadvantages of the mail survey: a low per cent of return and a misinterpretation of questions by respondents.

Each home economics agent was supplied with the random name sample from her county together with sufficient copies of the members' and leaders' questionnaires.
An instruction sheet gave suggestions for administering the questionnaire to the sample group, subgroups or to an individual.23

Home economics agents were instructed to read each question aloud to the sample group. Each agent was asked to hold up the manual to which each question referred to prevent misunderstanding on the part of the respondents. Because the members' and leaders' questionnaires were not identical, the agent was instructed to meet separately with each group. In order to encourage candid answers, the agent explained to respondents that their answers were anonymous. The completed questionnaires were immediately and in the presence of the respondents, placed in an envelope addressed to the author and sealed.

Processing of Data

Members' questionnaires suitable for analysis numbered 363 or 95.3 per cent of the sample, whereas leaders' questionnaires returned totaled 204 or 91.5 per cent of the sample. Of the 37 remaining questionnaires, 13 were not returned, 19 were invalidated and 5 were returned too late for use.

23 See Appendix B.
All answers were coded, keypunched and then verified at the South Dakota State University computer center. Other items coded and punched on the computer cards included a questionnaire number and a county number, as well as designations for geographical location, 4-H member or leader, and the foods and nutrition or clothing project.

A second program computed Chi Square tests of statistical significance. Chi Square was used to test the following relationships:

1) members' use of the foods and nutrition members' manual to their use of the clothing members' manual;

2) leaders' use of the foods and nutrition members' manual to their use of the clothing members' manual;

3) members' use of each members' manual to leaders' use of each manual;

4) leaders' use of the foods and nutrition leaders' manual to their use of the clothing leaders' manual.
Limitations of 4-H Study

Limitations of a research problem refer to any aspects of the study which contribute to or cause a lack of control of variance (or dispersion of responses to questions). According to Kerlinger, a good research design will control extraneous variance—that variability of responses caused by the effects of variables that are not being studied. For example, the population for the 4-H study was confined to counties in which a home economics agent was headquartered. Better research control was provided because all responses had the benefit of supervision and training from home economics agents. If 4-H members and leaders in counties in which there was no home economics agent had been used, the variable concerning training of members and leaders might have affected the research results. The 4-H publications study was limited in some aspects both by the design of the research and by the method used to obtain data.

The inherent limitation of the study was that two 4-H projects were used to test the members' and leaders' use of publications. More control could be maintained by introducing two types of manuals to the members and leaders working with one project.

The results of the study could then be definitely attributed to differences in publications. In this 4-H study it is very possible that members' and leaders' attitudes toward and experience in each of the clothing and foods projects affected study results. For example, a 4-H member enrolled in both projects might have a personal preference for clothing. She might then tend to use the clothing members' manual more than the foods and nutrition manual, simply because of her greater interest in the one project. The author believes that if the project factor had been controlled, more significant results would have been obtained in the study.

Although all 4-H publications studied were published within a two-year period, that time spread posed a control problem. The 4-H Food and Nutrition Project Members' Guide was first printed in January, 1966; the 4-H Clothing Project Members' Guide in May, 1967; the 4-H Clothing Project Leaders' Guide in May, 1967; and the 4-H Foods and Nutrition Project Leaders' Guide in May, 1968.

Ideally, all publications studied should have been introduced to 4-H members and leaders at the same time.
Results of the 4-H study must be reviewed with consideration for the fact that 4-H members and leaders have used the foods and nutrition members' manual one year longer than the clothing members' manual. Similarly, 4-H leaders have used the clothing leaders' manual one year longer than the foods and nutrition leaders' manual. Members and leaders will be more familiar with the manual they have used the longest.

Over half, or 55.9 per cent, of the 4-H leaders did not have a copy of the foods and nutrition leaders' manual as compared to 17.6 per cent who did not have a copy of the clothing leaders' manual. Since the foods publication had been available to leaders since May, 1968, a distribution problem existed. That problem should be considered when studying the results of this research.

The 4-H enrollment year is established on a September-to-September basis. The 4-H study, however, really only covered a period of time from September, 1968, to July, 1969, because the questionnaires had to be returned in time for processing of data. Because club activities usually increase during the two-month period before August 4-H Achievement Days and the South Dakota State Fair, a study extending through August and September would, perhaps, produce some differences in responses.
Another situation affecting research results might be the winter weather of 1968-69 in South Dakota. Members and leaders participating in the pre-testing of the questionnaires, as well as some of the 34 home economics agents administering the questionnaires indicated that, in their opinion, 1968-69 was not a typical 4-H year. Heavy snowfall and blizzards cancelled many regular and training 4-H meetings.

The use of a mail questionnaire for gathering data gives the researcher less control over the situation under which respondents answer questions. The author believes that the use of home economics agents to administer the questionnaires did aid in reducing misinterpretation of questions and provided for a high percentage of returned questionnaires. Nevertheless, there was no way to check or clarify any of the responses given. Furthermore, the characteristics of non-respondents is not known.

Open-end questions included in the questionnaires provided respondents with an opportunity to express individual thoughts; however, the answers were too general to be meaningful.
The questionnaires contained two errors which limited the use of responses. "Does your 4-H club have a foods and nutrition project leader in addition to your regular 4-H leader?" was inadvertently omitted from the foods and nutrition members' questionnaire. Thus, there were no responses which could be compared with responses to that question on the clothing members' questionnaire. The following question listed on the leaders' questionnaire was ambiguous: "What kind of 4-H literature do you need as a 4-H leader working with the foods and nutrition (or clothing) project?" The word "need" in the preceding question could have more than one meaning. The author wanted to know which manuals were helpful to 4-H leaders. Some leaders might have interpreted the question as asking them which manuals they had not yet received.
CHAPTER III

FINDINGS

Readability Tests

Each questionnaire answered by 4-H members and leaders asked if the respondent thought that the publication was "easy to read and understand." Leaders and members, in effect, gave their evaluation of the publication's "readability." Table 2 summarizes respondents' answers. Those answers were compared to the scores obtained from applying Flesch's Reading Ease and Human Interest formulas to see if the test results and respondents' evaluation concur.

Summary and Interpretation of Test and Question Results

Tables 3 and 4 summarize the results of evaluating the four publications using Flesch's Reading Ease and Human Interest formulas and his interpretation charts. 25

25 See Appendix C.
TABLE 2

REPLIES BY 4-H MEMBERS AND LEADERS TO THE QUESTION: "IS THE MANUAL EASY TO READ AND UNDERSTAND"?

<table>
<thead>
<tr>
<th></th>
<th>4-H Members</th>
<th>4-H Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes %</td>
<td>No %</td>
</tr>
<tr>
<td><strong>Foods Members' Guide</strong></td>
<td>74.7</td>
<td>10.5</td>
</tr>
<tr>
<td><strong>Clothing Members' Guide</strong></td>
<td>70.2</td>
<td>9.6</td>
</tr>
<tr>
<td><strong>Foods Leaders' Guide</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clothing Leaders' Guide</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All publications rated either "interesting" or "highly interesting" after application of the human interest test. All manuals contained many "personal words" and "personal sentences." The pronoun "you" is used extensively, particularly in the text of the 4-H Clothing Project Members' Guide.
TABLE 3
FLESCH HUMAN INTEREST SCORES OF 4-H MEMBERS' AND LEADERS' MANUALS

<table>
<thead>
<tr>
<th></th>
<th>Human Interest Score</th>
<th>Flesch's Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods Members' Guide</td>
<td>27.728</td>
<td>Interesting</td>
</tr>
<tr>
<td>Clothing Members' Guide</td>
<td>42.305</td>
<td>Highly Interesting</td>
</tr>
<tr>
<td>Foods Leaders' Guide</td>
<td>21.895</td>
<td>Interesting</td>
</tr>
<tr>
<td>Clothing Leaders' Guide</td>
<td>29.479</td>
<td>Interesting</td>
</tr>
</tbody>
</table>

The majority of leaders and members thought that the foods and nutrition members' manual was "easy to read and understand." The reading ease test supported their opinion with a score Flesch interprets as "fairly easy." Because the foods publication was not graded for different age levels, the 7th grade-level rating it received is an advantage to the younger 4-H members using it.
<table>
<thead>
<tr>
<th></th>
<th>Reading Ease Score</th>
<th>Flesch's Interpretation</th>
<th>Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods Members' Guide</td>
<td>75.20</td>
<td>Fairly Easy</td>
<td>7</td>
</tr>
<tr>
<td>Clothing Members' Guide</td>
<td>62.679</td>
<td>Standard</td>
<td>8-9</td>
</tr>
<tr>
<td>Clothing Members' Guide Unit I</td>
<td>67.586</td>
<td>Standard</td>
<td>8-9</td>
</tr>
<tr>
<td>Clothing Members' Guide Unit II</td>
<td>66.740</td>
<td>Standard</td>
<td>8-9</td>
</tr>
<tr>
<td>Clothing Members' Guide Unit III</td>
<td>59.812</td>
<td>Fairly Difficult</td>
<td>10-12 High School</td>
</tr>
<tr>
<td>Foods Leaders' Guide</td>
<td>52.188</td>
<td>Fairly Difficult</td>
<td>10-12 High School</td>
</tr>
<tr>
<td>Clothing Leaders' Guide</td>
<td>66.090</td>
<td>Standard</td>
<td>8-9</td>
</tr>
</tbody>
</table>
A majority of 4-H members and leaders believed the clothing members' manual to be "easy to read and understand." The Flesch score interpreted as "standard" indicated that the clothing manual was more difficult to "read and understand" than the foods manual.

Each of the units contained in the clothing members' manual was tested separately for reading ease, and the grade level ratings were compared to the age group for which each unit was written. Unit I, suggested for ages 9 through 12 years, or grades 3 through 6, produced a "standard" reading-ease score which is suitable for the 8th and 9th grades.

The comparison suggests that Unit I could be written for a lower age group. Unit II, suggested for ages 12 through 14 years, or grades 7 through 9, and Unit III, intended for ages 15 through 19 years, or grades 10 through 12, rated scores which suggested that the units were written at a suitable level.

The majority of 4-H leaders could not evaluate the foods and nutrition leaders' manual because they had not received it. However, those leaders evaluating the foods and nutrition leaders' manual indicated that it was "easy to read and understand."
The clothing leaders' manual rated a "standard" reading-ease score and a majority of 4-H leaders were able to read and understand it.

Description of Respondents

Descriptive data obtained by surveying the sample provide information about the distribution of respondents according to geographical location, community size, type of 4-H club, type of 4-H leader, age and years in 4-H (See Tables 5, 6).

The distribution of the 363 4-H members and the 204 leaders according to geographical location and community size was uneven. Those living east of the Missouri River in South Dakota included 88.4 per cent of the members and 87.7 per cent of the leaders. Similarly, 72.4 per cent of the members and 75.5 per cent of the leaders lived in communities under 2,500 population.

Clubs are generally categorized as agricultural, home economics and combination. A combination club emphasizes both agricultural and home economics projects.
TABLE 5

DISTRIBUTION OF 4-H MEMBERS ACCORDING TO FIVE DEMOGRAPHIC CATEGORIES

<table>
<thead>
<tr>
<th>Geographical Location</th>
<th>East River</th>
<th>West River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent</td>
<td>88.4</td>
<td>11.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community Size</th>
<th>Under 2,500</th>
<th>Over 2,500</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent</td>
<td>72.4</td>
<td>26.4</td>
<td>1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of 4-H Club</th>
<th>Agricultural</th>
<th>Home Economics</th>
<th>Combination</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent</td>
<td>0.3</td>
<td>62.3</td>
<td>36.9</td>
<td>0.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>1.9</td>
</tr>
<tr>
<td>10</td>
<td>8.5</td>
</tr>
<tr>
<td>11</td>
<td>15.4</td>
</tr>
<tr>
<td>12</td>
<td>28.7</td>
</tr>
<tr>
<td>13</td>
<td>40.8</td>
</tr>
<tr>
<td>No Answer</td>
<td>4.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of Membership</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.5</td>
</tr>
<tr>
<td>2</td>
<td>24.8</td>
</tr>
<tr>
<td>3</td>
<td>24.2</td>
</tr>
<tr>
<td>4</td>
<td>25.6</td>
</tr>
<tr>
<td>5</td>
<td>11.0</td>
</tr>
<tr>
<td>6</td>
<td>4.1</td>
</tr>
<tr>
<td>No Answer</td>
<td>1.7</td>
</tr>
<tr>
<td>Geographical Location</td>
<td>East River</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Per Cent</td>
<td>87.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community Size</th>
<th>Under 2,500</th>
<th>Over 2,500</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent</td>
<td>75.5</td>
<td>22.1</td>
<td>2.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of 4-H Club</th>
<th>Agricultural</th>
<th>Home Economics</th>
<th>Combination</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent</td>
<td>0.5</td>
<td>56.9</td>
<td>41.7</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Leader</th>
<th>Organizational</th>
<th>Assistant</th>
<th>Foods Project</th>
<th>Clothing Project</th>
<th>Other</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent</td>
<td>56.4</td>
<td>34.3</td>
<td>1.0</td>
<td>3.4</td>
<td>3.4</td>
<td>1.5</td>
</tr>
</tbody>
</table>
## TABLE 6 (continued)

**DISTRIBUTION OF 4-H LEADERS ACCORDING TO SIX DEMOGRAPHIC CATEGORIES**

<table>
<thead>
<tr>
<th>Age</th>
<th>18-35</th>
<th>36-50</th>
<th>Over 50</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent</td>
<td>24.0</td>
<td>58.8</td>
<td>16.2</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of Leadership</th>
<th>1</th>
<th>2-4</th>
<th>5-10</th>
<th>11-15</th>
<th>Over 15</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent</td>
<td>11.8</td>
<td>41.2</td>
<td>29.4</td>
<td>11.8</td>
<td>4.4</td>
<td>1.5</td>
</tr>
</tbody>
</table>
A 62.3 majority of the 4-H members said they belonged to home economics clubs, and 56.9 per cent of the leaders indicated they supervised home economics clubs.

Most 4-H members were 12 or 13 years old, and over half of the adult leaders were from 36 to 50 years old. The majority of 4-H members had belonged to a 4-H club for two to four years, and two- to four-year leaders were the largest group of adult experience in 4-H represented. When grouped according to type of leader, the majority of the 4-H leaders classified themselves as organizational leaders. Very few leaders considered themselves project leaders.

Testing of Hypotheses

Use of Null Hypotheses

When examining statistical data, null hypotheses are used as corollaries of substantive hypotheses. According to Kerlinger, "The null hypothesis is a succinct way to express the testing of obtained data against chance expectation. The null hypothesis is the chance expectation." In this study, the Chi Square test of statistical significance was used to test the

26 Kerlinger, pp. 173-75.
null hypotheses. If the relationship expressed by the null hypothesis was not supported, then the substantive hypothesis was said to be upheld.

Procedure for Testing Hypotheses

Members' and leaders' questionnaires contained two basic kinds of questions: descriptive data questions and "use" questions. The "use" questions assume that, if a member or leader knows the information in a publication, she would use that publication.

All hypotheses concern members' or leaders' use of publications. Three "use" questions were selected as indicators of the respondents' use of any manual. The same three questions appeared on all four questionnaires and were used in the Chi Square formula to test the null hypotheses. If Chi Square was significant beyond the .05 level for any two of these three questions, the null hypothesis was rejected and the use of the publication was considered significant.

The first "use" question listed possible sources of help available to 4-H members and leaders while working with a project. Respondents circled any of the listed sources they had found valuable. The foods and nutrition members' manual and the clothing members' manual were listed among the 14 sources on members' questionnaires.
Those two publications, the foods and nutrition leaders' manual, and the clothing leaders' manual were listed among the 12 sources on the leaders' questionnaires.

In the second "use" question, the respondent circled "none of the above" if she thought that none of a list of statements concerned information found in the manual; she did not circle "none of the above" if she thought that some of the statements concerned information found in the manual.

The third "use" question asked respondents if they were aware of any suggestions for 4-H demonstrations listed in the publication. The respondent circled "yes" if she remembered the information, and "no" if she did not. All of the publications contained demonstration suggestions.

The number of members and leaders who did not answer "use" questions two and three seemed unusually large. A 10.7 per cent of the members did not receive the foods and nutrition members' manual, and 15.4 per cent did not receive the clothing members' manual. Similarly, 21.1 per cent of the leaders did not receive the foods and nutrition members' manual, and 13.7 per cent did not receive the clothing members' manual, 55.9 per cent did not receive the foods and nutrition leaders'
manual, and 17.6 per cent did not receive the clothing leaders' manual. Those respondents who did not receive a manual could not answer "use" questions two and three, since they had never read the manual.

Use of Members' Manuals

Table 7 provides percentage data for members' use of the two members' manuals (Hypothesis I). Response to "use" question one suggests that less than half of the members found either manual helpful. Response to "use" question two indicates that more members were familiar with information in the foods and nutrition members' manual than with information in the clothing members' manual. Response to "use" question three supports that trend.

The Chi Square test was used to compare each of the three "use" questions on the foods and nutrition members' questionnaire with the corresponding three questions on the clothing members' questionnaire.

Null Hypothesis I was supported because only one of three tests proved significant (Table 8). Therefore, there is no difference in 4-H members' use of a 4-H members' manual which contains subject-matter information as well as suggested project activities and a members' manual containing only suggested project activities.
TABLE 7

REPLIES BY 4-H MEMBERS TO THREE "USE" QUESTIONS CONCERNING MEMBERS' USE OF TWO MEMBERS' MANUALS

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>Yes %</th>
<th>No %</th>
<th>No Answer %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circled Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helpful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td>49.6</td>
<td>47.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>47.7</td>
<td>49.6</td>
<td>2.8</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knew Information in Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td>74.7</td>
<td>9.1</td>
<td>16.3</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>20.9</td>
<td>58.7</td>
<td>20.4</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knew of Demonstration Suggestions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td>42.7</td>
<td>39.4</td>
<td>17.9</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>35.0</td>
<td>43.3</td>
<td>21.8</td>
</tr>
</tbody>
</table>
TABLE 8

CHI SQUARE SCORES OBTAINED BY COMPARING 4-H MEMBERS' REPLIES TO THREE "USE" QUESTIONS CONCERNING MEMBERS' USE OF TWO MEMBERS' MANUALS

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Circled Guide Helpful</td>
<td>Knew Information in Guide</td>
<td>Knew of Demonstration Suggestions</td>
</tr>
<tr>
<td>1</td>
<td>0.31921 ***</td>
<td>23.54933</td>
<td>3.09850</td>
</tr>
</tbody>
</table>

*** p<0.001

Note. The degree of freedom for all three scores is one.

Table 9 provides percentage data for leaders' use of the two members' manuals (Hypothesis II). Response to "use" question one suggests that most leaders found both manuals helpful. Response to "use" question two indicates that more leaders were familiar with information found in the foods and nutrition members' manual than with information in the clothing members' manual. In response to "use" question three, nearly half of the leaders knew that demonstration suggestions could be found in either manual.
TABLE 9
REPLIES BY 4-H LEADERS TO THREE "USE" QUESTIONS CONCERNING LEADERS' USE OF TWO MEMBERS' MANUALS

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>Yes %</th>
<th>No %</th>
<th>No Answer %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circled Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helpful Foods Guide</td>
<td>63.2</td>
<td>28.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>62.3</td>
<td>34.3</td>
<td>3.4</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knew Information in Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td>75.5</td>
<td>0.5</td>
<td>24.0</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>23.5</td>
<td>52.5</td>
<td>24.0</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knew of Demonstration Suggestions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td>47.6</td>
<td>19.6</td>
<td>32.8</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>49.0</td>
<td>23.5</td>
<td>27.5</td>
</tr>
</tbody>
</table>
The Chi Square test was used to compare each of the three "use" questions on the foods and nutrition leaders' questionnaire with the corresponding three questions on the clothing leaders' questionnaire.

Null Hypothesis II was supported because only one of three tests proved significant (Table 10). Therefore, there is no difference in 4-H leaders' use of a 4-H members' manual which contains subject-matter information as well as suggested project activities and a members' manual which contains only suggested project activities.

**TABLE 10**

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circled Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helpful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knew Information in Guide</td>
<td>0.74363</td>
<td>9.64015</td>
<td>0.34892</td>
</tr>
<tr>
<td>Knew of Demonstration Suggestions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** The degree of freedom for all three scores is one.
Table 11 provides percentage data for leaders' and members' use of the two members' manuals (Hypothesis III). Response to "use" question one suggests that less than half of the 4-H members found either the foods and nutrition or the clothing members' manuals helpful. Over half of the leaders found both manuals helpful. Response to "use" question two indicates that both members and leaders were familiar with information found in the foods and nutrition members' manual. Conversely, neither members nor leaders were conversant with the information in the clothing members' manual.

In response to "use" question three, fewer than half of the members and leaders knew that demonstration suggestions could be found in the foods and nutrition members' manual. Nearly half of the leaders knew that demonstration suggestions could be found in the clothing members' manual; fewer members were aware of that information.

The Chi Square test was used to compare each of the three "use" questions on the foods and nutrition members' questionnaire with the corresponding three questions on the foods and nutrition leaders'
TABLE 11

REPLIES BY 4-H MEMBERS AND LEADERS TO THREE "USE" QUESTIONS CONCERNING MEMBERS' AND LEADERS' USE OF TWO MEMBERS' MANUALS

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>Yes %</th>
<th>No %</th>
<th>No Answer %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cirled Guide Helpful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members</td>
<td>49.6</td>
<td>47.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Leaders</td>
<td>63.2</td>
<td>28.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members</td>
<td>47.7</td>
<td>49.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Leaders</td>
<td>62.3</td>
<td>34.3</td>
<td>3.4</td>
</tr>
<tr>
<td>2 Knew Information in Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members</td>
<td>74.7</td>
<td>9.1</td>
<td>16.3</td>
</tr>
<tr>
<td>Leaders</td>
<td>75.5</td>
<td>0.5</td>
<td>24.0</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members</td>
<td>20.9</td>
<td>58.7</td>
<td>20.4</td>
</tr>
<tr>
<td>Leaders</td>
<td>23.5</td>
<td>52.5</td>
<td>24.0</td>
</tr>
</tbody>
</table>
### TABLE 11 (continued)

REPLIES BY 4-H MEMBERS AND LEADERS TO THREE "USE" QUESTIONS CONCERNING MEMBERS' AND LEADERS' USE OF TWO MEMBERS' MANUALS

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>Yes %</th>
<th>No %</th>
<th>No Answer %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knew of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suggestions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members</td>
<td>42.7</td>
<td>39.4</td>
<td>17.9</td>
</tr>
<tr>
<td>Leaders</td>
<td>47.6</td>
<td>19.6</td>
<td>32.8</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members</td>
<td>35.0</td>
<td>43.3</td>
<td>21.8</td>
</tr>
<tr>
<td>Leaders</td>
<td>49.0</td>
<td>23.5</td>
<td>27.5</td>
</tr>
</tbody>
</table>

questionnaire. The same comparison was made of responses to "use" questions on the members' and leaders' clothing questionnaires.

Null Hypothesis III was rejected because all three tests proved significant (Table 12). Therefore, the following substantive hypothesis was upheld: If both 4-H members and leaders are given two 4-H members' manuals the leaders will make the most use of the members' manuals.
TABLE 12

CHI SQUARE SCORES OBTAINED BY COMPARING 4-H MEMBERS' AND LEADERS' REPLIES TO THREE "USE" QUESTIONS CONCERNING MEMBERS' AND LEADERS' USE OF TWO MEMBERS' MANUALS

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>1 Circled Guide Helpful</th>
<th>2 Knew Information in Guide</th>
<th>3 Knew of Demonstration Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members' &amp; Leaders' Use of Foods Guide</td>
<td>***15.29815</td>
<td>***15.60308</td>
<td>***13.59579</td>
</tr>
<tr>
<td>Members' &amp; Leaders' Use of Clothing Guide</td>
<td>***12.18644</td>
<td>***22.10564</td>
<td>***20.37173</td>
</tr>
</tbody>
</table>

*** p<.001

Note. The degree of freedom for all scores is one.

Use of Leaders' Manuals

Table 13 provides percentage data for leaders' use of the two leaders' manuals (Hypothesis IV). Although response to "use" question one suggests that over half of the leaders did not consider either manual helpful to them, they did consider the clothing leaders' manual more helpful than the foods and nutrition leaders' manual. Response to "use" question two indicates that
### TABLE 13

REPLIES BY 4-H LEADERS TO THREE "USE" QUESTIONS CONCERNING LEADERS' USE OF TWO LEADERS' MANUALS

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>Yes %</th>
<th>No %</th>
<th>No Answer %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Circl ed Guide Helpful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td>28.4</td>
<td>63.7</td>
<td>7.8</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>44.6</td>
<td>52.0</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>2</strong> Knew Information in Guide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td>23.0</td>
<td>2.0</td>
<td>75.0</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>62.3</td>
<td>3.4</td>
<td>34.3</td>
</tr>
<tr>
<td><strong>3</strong> Knew of Demonstration Suggestions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods Guide</td>
<td>25.0</td>
<td>4.9</td>
<td>70.1</td>
</tr>
<tr>
<td>Clothing Guide</td>
<td>45.6</td>
<td>11.8</td>
<td>42.6</td>
</tr>
</tbody>
</table>
more than half of the leaders were familiar with information found in the clothing leaders' manual. More leaders were familiar with information in the foods and nutrition leaders' manual than were not. In response to "use" question three, more leaders knew that demonstration suggestions could be found in the manuals than did not know.

The Chi Square test was used to compare each of the three "use" questions on the foods and nutrition leaders' questionnaire with the corresponding three questions on the clothing leaders' questionnaire.

Null Hypothesis IV was supported because only one of three tests proved significant (Table 14). Therefore, there is no difference in 4-H leaders' use of two 4-H leaders' manuals although one has been in circulation longer.
### TABLE 14

CHI SQUARE SCORES OBTAINED BY COMPARING 4-H LEADERS' REPLIES TO THREE "USE" QUESTIONS CONCERNING LEADERS' USE OF TWO LEADERS' MANUALS

<table>
<thead>
<tr>
<th>&quot;Use&quot; Questions</th>
<th>1 Circled Guide Helpful</th>
<th>2 Knew Information in Guide</th>
<th>3 Knew of Demonstration Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>** p &lt; 0.01</td>
<td>**9.54423</td>
<td>0.45317</td>
<td>0.44031</td>
</tr>
</tbody>
</table>

Note. The degree of freedom for all three scores is one.
CHAPTER IV

SUMMARY AND CONCLUSIONS

Summary

The 4-H publications study attempted to survey members' and leaders' use of four 4-H publications. Members' and leaders' use of two types of members' manuals for two 4-H projects was studied as well as leaders' use of two similar leaders' manuals.

Questionnaires concerning use of publications for two home economics projects were administered to a 20 per cent random sample of 381 members and 223 leaders from 34 South Dakota counties in which a home economics agent was headquartered. Home economics agents administered the questionnaire to reduce the disadvantages of the mail survey technique.

The questionnaires of 363 members and 204 leaders were accepted for analysis. The Chi Square formula was used to test all hypotheses.

Conclusions

All results of the 4-H publications study must be viewed with consideration for the limitations of the
research problem. The inherent limitation of the study was in its basic design. Because two projects (foods and nutrition and clothing) were used to test members' and leaders' use of two project publications, it is possible that the project factor affected study results.

Although all publications studied were published within a two-year period, that time spread posed a control problem. All publications should have been introduced to sample members at the same time. In one case, distribution of the publications presented a problem. Over half, or 55.9 per cent of the leaders, had not received the foods and nutrition leaders' manual and therefore, could not have used the manual.

Readability Tests

All four 4-H publications were tested using the revised Flesch Reading Ease formula and the Flesch Human Interest formula. Also, each questionnaire asked respondents if they thought that the publication was "easy to read and understand."

Generally, both members and leaders indicated that the members' manuals were "easy to read and understand." The foods and nutrition members' manual rated
"fairly easy" and "interesting" Flesch scores while the clothing members' manual rated "standard" and "highly interesting" scores.

Leaders indicated that they preferred leaders' manuals with a reading level suitable for the 8th and 9th grades. The foods and nutrition leaders' manual rated "fairly difficult" and "interesting" Flesch scores. The clothing leaders' manual was rated as "standard" and "interesting" and 63.7 per cent of the leaders thought that it was "easy to read and understand."

Reading Ease tests of each separate unit of the clothing members' manual suggested that Unit I should be written for a lower age group, but that Unit II and Unit III were written at suitable grade levels.

Testing of Hypotheses

All hypotheses concerned members' or leaders' use of 4-H publications. Three "use" questions found on all questionnaires were selected as indicators of respondents' use of a particular manual. The Chi Square formula was used to test all null hypotheses. If statistical testing using the three "use" questions
produced significance in two out of three cases, the null hypothesis was rejected and the use of the publication was considered significant.

The number of members and leaders who did not answer "use" questions two and three seemed unusually large. A percentage of respondents who did not receive each manual was partially responsible. Those respondents who did not receive a manual could not answer "use" questions two and three, since they had never read the manual.

**Hypotheses**

Substantive Hypothesis I asserted that if a 4-H members' manual contains subject-matter information as well as suggested project activities, it will be used by 4-H members more than a members' manual which contains only suggested project activities. The Chi Square formula was used to test Null Hypothesis I stating that there is no difference in 4-H members' use of the two members' manuals. The null hypothesis was supported.

Substantive Hypothesis II asserted that if a 4-H members' manual contains subject-matter information as well as suggested project activities, it will be used by 4-H leaders more than a members' manual which contains only suggested project activities. The Chi Square
formula was used to test Null Hypothesis II stating that there is no difference in 4-H leaders' use of the two members' manuals. The null hypothesis was supported.

Substantive Hypothesis III asserted that if both 4-H members and leaders are given two 4-H members' manuals, the leaders will make the most use of the members' manuals. The Chi Square formula was used to test Null Hypothesis III stating that there is no difference between 4-H members' and leaders' use of the two members' manuals. The null hypothesis was rejected and the substantive hypothesis upheld.

Substantive Hypothesis IV asserted that if 4-H leaders are given two 4-H leaders' manuals, they will make more use of that manual which has been in circulation the longest. The Chi Square formula was used to test Null Hypothesis IV stating that there is no difference in 4-H leaders' use of the two leaders' manuals. The null hypothesis was supported.

**Suggestions for Further Study**

The author believes that future studies should be more carefully controlled. A carefully designed study would produce definite results which could be used to develop future publications. In future research
concerning the effectiveness of one type of manual over another, only one project should be used and two manuals should be introduced to respondents simultaneously.

This study did not investigate the possibility that 4-H leaders use members' manuals more than leaders' manuals. This relationship is a logical one to study since Hypothesis III, stating that leaders use members' manuals more than members use them, was supported in this study.

Since the study sample, although randomly selected, contained a large proportion of rural people, a survey of the urban 4-H members and leaders would be valuable. Urban youth are a prospective 4-H audience. Therefore, application of any of their unique interests and needs during development of project publications might aid in obtaining and maintaining more of the urban youth's membership. Similarly, the study was confined to counties in which there was a home economics agent headquartered. Indian reservations and counties in which there is no home economics agent need to be surveyed to determine their use of current publications and their needs for future publications.
Finally, the 4-H publications study was concerned with comparing members' and leaders' use of four publications. The extent to which a particular manual was used by a particular group was not directly tested in this study. A study limited to the specific objective of determining if publications really are used effectively would be invaluable.
APPENDIX A

Sample Selection
Dear Home Economics Agents:

As you have heard, Barbara Butler is doing a very important study relating to 4-H club literature. She is studying the use made of the Food and Nutrition and Clothing project guides by 9-13 year old girls enrolled in both those projects. She also plans to study the use made of project guides and leader guides by 4-H leaders who work with both of those projects.

Originally, Barbara confined her study to Brookings County and planned to personally interview 4-H club members and leaders to obtain the necessary data.

However, the experiment station statistician advised her that the results of her study in Brookings County would not be valid to apply to the State of South Dakota. He suggested that she select a sample from each county having a home economics agent. It was at this time that Barbara wrote to you for the needed lists for 4-H leaders and members.

Barbara has worked the last month developing two questionnaires for members and leaders to answer. If she were to send these questionnaires directly to a sample of members and leaders selected from the lists you supplied for her, the results would not be entirely accurate or complete.

The mail questionnaire has at least two very severe drawbacks: A 50 per cent return for a mail questionnaire is considered good--and this is not enough. Even more important, questions can be easily misunderstood--a mistake definitely affecting the conclusions drawn. Also, in the case of Barbara's study, members and leaders might be tempted to consult their guides for answers to questions, thereby destroying the whole purpose of the study.

Barbara and I would like to ask for your assistance in obtaining valid, useful answers to important questions about how the 4-H club literature for foods and clothing projects are being utilized.

Will you attend one of the following meetings at which Barbara and I will explain and discuss her literature study and review both questionnaires?

- Wednesday evening, June 5th at 7:30-9:30 p.m. at S.D.S.U., Room 150, Ag. Hall
- Tuesday morning, June 10th at 10:00-12:00 a.m. at Parker, S.D. at Courthouse.

If you cannot attend either of the meetings please send me a post card.
Barbara's sample will be selected in each home agent county in proportion to the number of members and leaders enrolled in both projects.

Would you be willing to give the questionnaire to those members and leaders selected at random from your county and to supervise the answering of those questionnaires?

This might involve only two meetings (one for members and one for leaders) and probably only two hours of your time. Of course, if all people concerned could not meet at the designated time, a few might have to be contacted by you individually.

I wish to stress the importance of this literature study to the State of South Dakota. Considering the amount of money we spend for literature the need for the study is great and long overdue. Its results might very well aid in determining the type of literature we will use in the future.

Please do attend one of the two meetings listed above.

Sincerely yours,

Mary Frances Lyle
State Leader
Home Economics Extension

MFL:rp

cc: Barbara Butler
Dear

I am beginning my thesis study toward completion of my master's degree in journalism. I think you will find the subject of that study of interest to you.

I have continually pondered the actual worth and use of 4-H members' project guides and 4-H leaders' guides. The object of my study is to compare two basic types of or approaches to 4-H literature. I want to find out how much the 4-H member uses each guide.

4-H members who are enrolled in both the clothing and foods and nutrition projects will be interviewed. These members will have access to use of the foods and nutrition project guide which contains basic background information as well as suggestions for completing the project, and they will also have access to use of the clothing project guide which essentially contains only suggestions for completion of the project.

Since the foods and nutrition guide is more expensive to produce I would like to see if there is any difference in the manner and amount of use that the member makes of each guide. Of course, if there is no difference we would recommend that the inexpensive guide with little or no background information be utilized in the future.

In order to keep the study results valid and uniform I will study 4-H members in only home economics agent counties.

May I ask you to send me the following information as soon as you possibly can so that I can begin the study?

A list of the names of all the 4-H girls in County who are 13 years of age or under and who are enrolled in both the clothing and foods and nutrition 4-H projects.

A complete and accurate list is essential to obtain results that we can all use for our 4-H program.

I hope that this idea interests you! Will you send me this information really soon? Thank you so much!

Sincerely,

Barbara Butler
Home Economics Editor

Mary Frances Lyle
State Leader,
Home Economics Extension

P.S. How about trying to get the list to me by April 24th?

Thank you!

Mary Frances Lyle
State Leader,
Home Economics Extension
Dear ________,

Thank you for your quick reply to my request for the 4-H member list!

My thesis grows every time I turn around! We have decided that it will be valuable to study 4-H leaders, too. May I inconvenience you once again? Will you send me a list of the 4-H leaders in ______ County who work at all with both the Clothing and Foods and Nutrition projects? These might include project leaders, regular leaders or both. Will you try to send me the list by May 10th?

Thank you so much! I know how busy you are. Your help really is appreciated!

Sincerely,

Barbara Butler
Home Economics Editor
APPENDIX B

Questionnaires, Instruction Sheet
4-H LITERATURE QUESTIONNAIRE FOR MEMBERS

Please circle your answer or answers.

In what size community do you live? under 2500 2501 and above
How old are you? 9 10 11 12 13
What grade were you in school this year? 4 5 6 7 8 9
How many years have you been a 4-H member (count this year)? 1 2 3 4 5 6
To what kind of a 4-H club do you belong?

Agricultural  Home Economics  Combination
About how many members belong to your 4-H club?

1-5 6-15 16-30 Over 30
About how many regular 4-H club meetings has your club had since September?

1-5 6-10 More than 10
How many of the regular meetings did you attend?

1-5 6-10 More than 10
Questions Concerning the Food and Nutrition Project:

Please circle your answer or answers.

How many years have you been enrolled in the 4-H Food and Nutrition Project? (Count this year)
1 2 3 4 5 6

What time of year did you enroll in the Food and Nutrition Project? (this year)
September-December 1968
January-April 1969
May-July 1969

How many regular 4-H club meetings emphasized the Food and Nutrition Project? (Since September)
0-2 3-5 Over 5

How many Food and Nutrition project meetings has your club had since September?
0 1 2 3 4 Over 4

How many of the Food and Nutrition project meetings have you attended?
0 1 2 3 4 Over 4

Does your 4-H club have a junior leader who helps you with your Food and Nutrition Project?
Yes No

Have you ever taken a class in school where you learned about food and nutrition?
Yes No

Did you receive a copy of the Food and Nutrition Project guide?
Yes No

Where did you get the Food and Nutrition Project guide?
4-H leader Family member Friend Home Economics Agent Other (please list)

Can you remember when you received your Food and Nutrition Project guide?
Before September 1968 September-December 1968
May-July 1969 January-April 1969
I cannot remember
Do you happen to have more than one Food and Nutrition Project guide at home?

Yes  No

Did you complete your Food and Nutrition Project record insert last year?

Yes  No  I am a first year 4-H member

Do you have a Food and Nutrition Project record insert at home for this year?

Yes  No  I do not know

Please circle any of the following that helped you with your Food and Nutrition Project this year.

- Home Economics Agent or Extension Office
- 4-H leader
- 4-H Food and Nutrition Project leader
- 4-H Junior Leader
- School teacher
- Family members
- Other adults
- Friends
- Food and Nutrition Project Guide
- Cookbooks
- Other books
- Magazines
- Commercial literature
- Extension Service Bulletins

Please rank these sources of help for the Food and Nutrition Project in the order of helpfulness to you. Place a number 1 beside the source most helpful, a 2 beside the next most helpful, etc. Leave blank any sources that were of no help to you.

- 4-H leader
- 4-H Clothing Project leader
- 4-H Junior Leader
- Home Economics Agent or Extension Office
- Family members
- Other adults
- Friends (school age)
- Food and Nutrition Project guide
- Extension Service literature other than the project guide
- Other literature
- Any other source (please list)

Do you think the Food and Nutrition Project guide is easy to read and understand?

Yes  No

Please circle any of the following which you learned just by reading the Food and Nutrition Project guide.

- How to measure baking ingredients
- How to make different kinds of milk beverages
- How to buy fruits
- How to clean up after a meal

(Continued next page)
What vitamins do for our bodies
How girls grow
What the basic four food groups are
How to plan family meals
None of the above

Please list the things you like about the Food and Nutrition Project guide.

Please list the things you dislike about the Food and Nutrition Project guide.

Please list new ideas you would like to have included in the Food and Nutrition Project guide.

What did the shaded areas in the Food and Nutrition Project guide tell you? Circle one or more answers.

How to cook certain foods   How to buy certain foods   Interesting tips and facts about food

Do you remember seeing anything in the Food and Nutrition Project guide that suggested you give a foods demonstration?

Yes    No

Do you have to complete all of the suggested activities in the Food and Nutrition Project guide in order to complete the project?

Yes    No
Have you done any of the "science why" experiments suggested in the Food and Nutrition Project guide?

Yes      No

If your answer is yes, please list some experiments you did. 

____________________

____________________

____________________
4-H LITERATURE QUESTIONNAIRE FOR MEMBERS

Questions Concerning the Clothing Project:

Please circle your answer or answers.

How many years have you been enrolled in the 4-H Clothing Project?

1  2  3  4  5  6

What time of the year did you enroll in the Clothing Project? (this year)

September-December 1968
January-April 1969
May-July 1969

Which unit in the Clothing Project did you choose this year?

Unit I--Let's Sew
Unit II--Your First Outfit
Unit III--Dress Up Dress, Complete Outfit, Tailored Clothing
I do not know

How many regular 4-H club meetings emphasized the Clothing project? (Since Sept.)

0-2  3-5  Over 5

How many Clothing Project meetings has your club had since September?

0  1  2  3  4  Over 4

How many of the Clothing project meetings have you attended?

0  1  2  3  4  Over 4

Does your 4-H club have a Clothing project leader in addition to your regular 4-H leader?

Yes  No

Does your 4-H club have a junior leader who helps you with your Clothing Project?

Yes  No

Have you ever taken a class in school where you learned to sew?

Yes  No

Did you receive a copy of the Clothing Project guide?

Yes  No
Where did you get the Clothing Project guide?

4-H leader   Family member   Friend   Home Economics Agent
Other (please list) ______________________________

Can you remember when you received your Clothing Project guide?

<table>
<thead>
<tr>
<th>Before September 1968</th>
<th>September-December 1968</th>
</tr>
</thead>
<tbody>
<tr>
<td>January-April 1969</td>
<td>May-July 1969</td>
</tr>
</tbody>
</table>

Do you happen to have more than one Clothing Project guide at home?

Yes   No

Did you complete your clothing project record insert last year?

Yes   No   I am a first year member

Do you have a Clothing Project record insert at home for this year?

Yes   No   I do not know

Please circle any of the following that helped you with your Clothing Project this year.

4-H leader   4-H Clothing Project leader   4-H Junior Leader
School teacher   Family members   Other adults   Friends
Clothing Project Guide   Sewing books   Other books
Magazines   Commercial Literature   Extension Service Bulletin

Please rank these sources of help for the Clothing Project in the order of helpfulness to you. Place a number 1 beside the source most helpful, a 2 beside the next most helpful, etc. Leave blank any sources that were of no help to you.

___ 4-H leader
___ 4-H Clothing Project leader
___ 4-H Junior Leader
___ Home Economics Agent or Extension Office
___ Family Members
___ Other Adults
___ Friends (School Age)
___ Clothing Project Guide
___ Extension Service Literature other than the project guide
___ Other literature
___ Any other source (please list) ______________________________
Do you think the Clothing Project guide is easy to read and understand?

Yes    No

Please circle any of the following which you learned just by reading the Clothing Project guide.

- How to take my measurements
- How to sew a blouse
- How to buy ready-made garments
- How to take care of my clothes
- Information about new fabrics
- None of the above

Please list the things you like about the Clothing Project guide.

Please list the things you dislike about the Clothing Project guide.

Please list any new ideas you would like to see included in the Clothing Project guide.

What did the shaded areas in the Clothing Project guide tell you? Please circle one or more answers.

- How to sew
- How to buy clothes
- How many suggested activities to do
Do you remember seeing anything in the Clothing Project guide that suggested you give a clothing demonstration?

Yes  No

Do you have to complete all of the suggested activities in the Clothing Project guide in order to complete the project?

Yes  No

Does the Clothing Project guide say that you should sew a garment in order to complete the project?

Yes  No

Have you done any of the science why experiments suggested in the Clothing Project guide?

Yes  No

If your answer is yes, please list some experiments you did.__________________________________________

__________________________________________

__________________________________________

__________________________________________

__________________________________________

__________________________________________
4-H QUESTIONNAIRE FOR LEADERS

Please circle your answer or answers.

In what size community do you live? Under 2500 2501 and above

How old are you? 18-35 36-50 Over 50

How many years have you been a 4-H leader (count this year)?
1 2-4 5-10 11-15 Over 15

What type of 4-H club do you lead?
Agricultural Home Economics Combination

What type of a 4-H leader are you?
Organizational Leader Assistant Leader Food & Nutrition Project Leader
Clothing Project Leader Other (Please list)

About how many members belong to your 4-H club?
1-5 6-15 16-30 Over 30

About how many regular 4-H Club meetings has your club had since September?
1-5 6-10 More than 10

How many of the regular meetings did you attend?
1-5 6-10 More than 10
Questions concerning the Food and Nutrition Project:

Please circle your answer or answers.

How many years have you worked with the 4-H Food and Nutrition Project?

1-3  4-10  11-15  Over 15

What time of year did most of your members enroll in the Food and Nutrition Project? (this year)

<table>
<thead>
<tr>
<th>Time of Year</th>
<th>1968</th>
<th>1969</th>
</tr>
</thead>
<tbody>
<tr>
<td>September-December</td>
<td></td>
<td></td>
</tr>
<tr>
<td>January-February</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May-June</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How many regular 4-H club meetings emphasized the Food and Nutrition Project? (Since September)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>1968</th>
<th>1969</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How many Food and Nutrition project meetings has your club had since September?

0  1  2  3  4  Over 4

Does your 4-H club have a junior leader who helps the club with the Food and Nutrition Project?

Yes  No

Have you ever taken adult education, extension or 4-H leader courses where you were trained in foods and nutrition?

Yes  No

Did you receive a copy of the Food and Nutrition Project members guide?

Yes  No

When did you receive your copy of the Food and Nutrition Project members guide?

<table>
<thead>
<tr>
<th>Time</th>
<th>1968</th>
<th>1969</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td></td>
<td></td>
</tr>
<tr>
<td>September</td>
<td></td>
<td></td>
</tr>
<tr>
<td>January</td>
<td></td>
<td></td>
</tr>
<tr>
<td>April</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
</tr>
<tr>
<td>June</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How many of your club's 4-H members received a copy of the Food and Nutrition Project members guide?

Most  Some  None

Do you happen to have extra Food and Nutrition Project members guides at home?

Yes  No
Please circle any of the following that helped you while working with the Food and Nutrition Project this year.

Another 4-H leader  Extension Office or
Home Economics Agent  Friends  School teacher

Other adults  Magazines  Food and Nutrition Project Members Guide

Food and Nutrition Project Mimeographed Leaders Guide  Commercial Literature

Extension Service Bulletins  Cookbooks  Other books

Please rank these sources of help for the Food and Nutrition Project in the order of helpfulness to you. Place a number 1 beside the source most helpful, a 2 beside the next most helpful, etc. Leave blank any sources that were of no help to you.

_____ Another 4-H leader
____ Home Economics Agent or Extension Office
_____ Other Adults
_____ 4-H Food and Nutrition Project members guide
_____ 4-H Food and Nutrition Project Mimeographed Leaders Guide
_____ Extension Service literature other than the members or leaders guide
_____ Other literature (please list) ________________________________
_____ Any other source

Do you think the Food and Nutrition Project members guide is easy to read and understand?

Yes  No

On which of the following did you find helpful information in the Food and Nutrition Project members guide?

How to measure baking ingredients
How to make different kinds of milk beverages
How to buy fruits
How to clean up after a meal
What vitamins do for our bodies
How girls grow
What the basic four food groups are
How to plan family meals
None of the above
Please list the things you **like** about the Food and Nutrition Project members' guide.

Please list the things you **dislike** about the Food and Nutrition Project members' guide.

Please list new ideas you would like to have included in the Food and Nutrition Project members' guide.

What kind of information did the shaded areas in the Food and Nutrition Project members' guide give to you? Circle one or more answers.

- How to cook certain foods
- How to buy certain foods
- Interesting tips and facts about foods

Do you remember anything in the Food and Nutrition Project members' guide that suggested 4-H members give a foods demonstration?

- Yes
- No

Do 4-H members have to complete all of the suggested activities in the Food and Nutrition Project members' guide in order to complete the project?

- Yes
- No
- I do not know

Did you receive a copy of the Food and Nutrition mimeographed leaders' guide?

- Yes
- No

Where did you get the Food and Nutrition mimeographed leaders' guide?

- Another 4-H leader
- Home Economics Agent
- Other **(please list)**

When did you receive the Food and Nutrition mimeographed leaders' guide?

- Before September 1968
- September-December 1968
- January-February 1969
- May-July 1969
Do you happen to have more than one Food and Nutrition mimeographed leaders guide at home?

Yes  No

Do you think the Food and Nutrition mimeographed leaders guide is easy to read and understand?

Yes  No

On which of the following topics did you find helpful information in the Food and Nutrition mimeographed leaders guide?

- What 9, 10 and 11 years old girls are like
- How to plan Food and Nutrition project meeting
- Suggested references
- What role playing is
- How to buy fruit
- What vitamins do for the body
- How to plan family meals
- How to measure baking ingredients
- None of the above

Please list the things you like about the Food and Nutrition Project mimeographed leaders guide.

Please list the things that you dislike about the Food and Nutrition Project mimeographed leaders guide.

Please list new ideas you would like to have included in a Food and Nutrition Project leaders guide.
Did you see suggested topics for 4-H members demonstrations in the Clothing Project leaders guide?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Did you see any suggested science why experiments for 4-H members to do in the Clothing Project leaders guide?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

What kind of 4-H literature do you need as a 4-H leader working with the 4-H Clothing Project?

<table>
<thead>
<tr>
<th>Clothing Members guide</th>
<th>Clothing Leaders guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td>Neither</td>
</tr>
<tr>
<td></td>
<td>No opinion</td>
</tr>
</tbody>
</table>
Questions concerning the Clothing Project:

Please circle your answer or answers.

How many years have you worked with the 4-H Clothing Project?

1  2-4  5-10  11-15  Over 15

What time of the year did most of your members enroll in the Clothing Project (this year)?

September-December 1968
January-April 1969
May-July 1969

How many regular 4-H club meetings emphasized the Clothing Project? (Since Sept.)

0-2  3-5  Over 5

How many Clothing Project meetings has your club had since September?

0  1  2  3  4  Over 4

Does your 4-H club have a junior leader who helps the club with the Clothing Project?

Yes  No

Have you ever taken an adult education, extension or 4-H leader course where you were trained in clothing?

Yes  No

Did you receive a copy of the Clothing Project members guide?

Yes  No

When did you receive your copy of the Clothing Project members guide?

Before September 1968
January-April 1969
September-December 1968
May-July 1969

How many of your 4-H members received a copy of the Clothing Project members guide?

Most  Some  None

Do you happen to have extra Clothing Project member guides at home?

Yes  No
Please circle any of the following that helped you while working with the Clothing Project this year.

<table>
<thead>
<tr>
<th>Extension Office or Home Economics Agent</th>
<th>Friends</th>
<th>School Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Another 4-H leader</td>
<td>Other adults</td>
<td>Clothing Project members guide</td>
</tr>
<tr>
<td>Other adults</td>
<td>Sewing books</td>
<td>Clothing Project leaders guide</td>
</tr>
<tr>
<td>Clothing Project members guide</td>
<td>Other books</td>
<td>Magazines</td>
</tr>
<tr>
<td>Commercial literature</td>
<td>Extension Service Bulletins</td>
<td>I received no help</td>
</tr>
</tbody>
</table>

Please rank these sources of help for the Clothing Project in the order of helpfulness to you. Place a number 1 beside the source most helpful, a 2 beside the next most helpful source, etc. Leave blank any sources that were of no help to you.

___ Home Economics Agent or Extension Office

___ Another 4-H leader

___ Other adults

___ 4-H Clothing Project members guide

___ 4-H Clothing Project leaders guide

___ Extension Service literature other than the members or leaders guide

___ Other literature (please list) _____________________

___ Any other sources

Do you think the Clothing Project members guide is easy to read and understand?

Yes  No

On which of the following did you find helpful information in the Clothing Project members guide?

- How to take my measurements
- How to sew a blouse
- How to buy ready-made garments
- How to take care of my clothes
- Information about new fabrics
- None of the above

Please list the things you like about the Clothing Project members guide.
Please list the things you dislike about the Clothing Project members guide.

Please list any new ideas you would like to see included in the Clothing Project members guide.

What kind of information did the shaded areas in the Clothing Project members guide give to you? Please circle one or more answers.

- How to sew
- How to buy clothes
- How many suggested activities to do

Do you remember seeing anything in the Clothing Project members guide that suggested 4-H members give a clothing demonstration?

- Yes
- No

Do 4-H members have to complete all of the suggested activities in the Clothing Project members guide in order to complete the project?

- Yes
- No
- I do not know

Do you remember if the Clothing Project members guide said 4-H members should sew a garment in order to complete the project?

- Yes
- No

Did you receive a copy of the Clothing Project leaders guide?

- Yes
- No

Where did you get the Clothing Project leaders guide?

- Another 4-H leader
- Home Economics Agent
- Other ____________________________ (please list)

When did you receive the Clothing Project leaders guide?

- Before September 1968
- September-December 1968
- January-April 1969
- May-July 1969
Do you happen to have more than one Clothing Project leaders guide at home?  
Yes  No

Do you think the Clothing Project leaders guide is easy to read and understand?  
Yes  No

On which of the following topics did you find helpful information in the Clothing Project leaders guide?

How a 4-H member can complete the Clothing Project  
Suggested teaching methods to use for each unit  
How to help the 4-H member evaluate her project  
What parents can do to help  
How to put in a zipper  
How to press wool fabrics  
How to sew on a button  
How to hem a dress  
None of the above

Please list the things you like about the Clothing Project leaders guide.

Please list the things you dislike about the Clothing Project leaders guide.

Please list new ideas you would like to have included in a Clothing Project leaders guide.
Did you see any suggested topics for 4-H members' demonstrations in the Food and Nutrition Project mimeographed leaders guide?

Yes       No

Did you see any suggested science why experiments for 4-H members to do listed in the Food and Nutrition Project mimeographed leaders guide?

Yes       No

What kind of 4-H literature do you need as a 4-H leader working with the Food and Nutrition Project?

Food and Nutrition members guide       Food and Nutrition leaders guide
                                            Both       Neither       No Opinion
Instructions For Administering 4-H Literature Questionnaire
Clothing and Food and Nutrition Projects

Please find attached a list of the 4-H members and leaders who were randomly selected to receive the questionnaire in ______________ County.

To make the results meaningful please contact those members and leaders listed. Make substitutions only if absolutely necessary. Use the first name on the substitution list, etc.

I. Preliminary Information

Please arrange to meet with each of the people listed on the attached sheet sometime before July 19, 1969.

You may meet with them either as a total group, in smaller groups or as individuals.

If you cannot contact a person at meeting, please make an earnest effort to contact him individually.

If a contact is absolutely impossible cross the name off the list and contact the first person on the substitution list.

If more questionnaires are needed, please write to: Barbara Froke, Extension Editorial Office, SDSU, Brookings, South Dakota 57006.

Unused questionnaires may be discarded.

II. Administering the questionnaire

Meet separately with 4-H members and 4-H leaders because their questionnaires are somewhat different.

When you meet with groups or individuals have at least one copy of the following 4-H literature: 4-H Clothing Project Members Guide, 4-H Clothing Project Leaders Guide, 4-H Clothing Project Record Book Insert, 4-H Food and Nutrition Project Members Guide, 4-H Food and Nutrition Project Mimeographed Leaders Guide, 4-H Food and Nutrition Project Record Book Insert.

Be sure also to have enough questionnaires and pencils.

Distribute questionnaires and pencils.

Explain to the members and leaders that the object of the questionnaire is not to test their memory or knowledge of the project. The object of the study is to learn how the members and the leaders use the 4-H literature. Be sure to indicate that the results of the study will help to make future publications more economical, beneficial and helpful.

Point out that their answer to the questionnaire is anonymous.

Reassure each person answering a questionnaire that she may at any time ask questions.

Explain how important it is that each question be answered as carefully, honestly and thoroughly as possible. Encourage members and leaders to answer
every question they possibly can. If they cannot answer the question for any reason they should leave it blank. Discourage guessing.

Read each question out loud to the members and leaders as they answer it. Make sure that all terms and questions are understood completely by each person answering each question.

Allow for ample time for each question to be answered.

Hold up the publication to which the question refers to be sure they know which guide to which the question is referring.

You may show an example of the "shaded areas" in the project guides, but the members should not see what the writing says in the shaded areas.

Define terms like the following:

**PROJECT LEADER:** A 4-H leader who works extensively with a particular project. The project leader is usually responsible for that project within her 4-H club.

**PROJECT MEETING:** A project meeting is a special meeting for 4-H members that is devoted exclusively to one particular project.

**JUNIOR LEADER:** A junior leader is a 4-H member 14 years of age or older who aids the 4-H leader in activities like project work, demonstrations and judging.

**TO COMPLETE THE PROJECT:** Completing a 4-H project means to meet the requirements for working on a project for one year. Requirements are sometimes stated by the county extension office, the local 4-H club leader or an individual 4-H club member.

**SCIENCE WHY EXPERIMENTS:** "Science why" experiments are individual or club activities demonstrations, exhibits or experiments that tell or point out the "how and the why" of a project.

**COMMERCIAL LITERATURE:** Commercial literature is literature produced by a commercial company. For example, a sewing book might be published by the Singer Company or a cook book might be compiled by General Mills.

**EASY TO READ AND UNDERSTAND:** "Easy to read and understand" means the literature does not seem to be just a mass of print. It is a book you want to pick up and read. It has words that are easy to understand.

If a 4-H member or leader did not receive a copy of a project guide she will not be able to answer some of the questions. She should leave those questions blank but answer all others. Encourage all members and leaders to follow you as you read each question.

Ask members and leaders to double-check to be sure they have answered all questions they possibly can.

Thank members and leaders for their cooperation. (And, thank you for yours!)

Ask the members and leaders to fold their questionnaires like a letter and place them in the pre-addressed envelope. Seal the envelope in front of them explaining that no one will read the results except me. Emphasize that no one will know who answered any of the questionnaires.

Immediately mail the envelope to: Barbara Froke, Extension Editorial Office, SDSU, Brookings, South Dakota 57006.

Sincerely,

Barbara Froke
APPENDIX C

Flesch Readability Formulas, Charts
READABILITY FORMULAS

Flesch's Revised Reading Ease Formula

Systematically select 100-word samples from the material to be rated;

Determine the number of syllables per 100 words (wl);

Determine the average number of words per sentence (sl);

Apply in the following reading ease equation:

\[ RE = 206.835 - 0.846 \text{wl} - 1.015 \text{sl}. \]

Flesch's Human Interest Formula

Systematically select 100-word samples from the material to be rated;

Count number of personal words per 100 words (pw);

Count number of personal words per 100 sentences (ps);

Apply in the following human interest equation:

\[ HI = 3.635 \text{pw} + 0.314 \text{ps}. \]
### Reading Ease Chart

<table>
<thead>
<tr>
<th>Reading Ease Score</th>
<th>Description of Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>Very Easy</td>
</tr>
<tr>
<td>80-90</td>
<td>Easy</td>
</tr>
<tr>
<td>70-80</td>
<td>Fairly Easy</td>
</tr>
<tr>
<td>60-70</td>
<td>Standard</td>
</tr>
<tr>
<td>50-60</td>
<td>Fairly Difficult</td>
</tr>
<tr>
<td>30-50</td>
<td>Difficult</td>
</tr>
<tr>
<td>0-30</td>
<td>Very Difficult</td>
</tr>
</tbody>
</table>
### Human Interest Chart

<table>
<thead>
<tr>
<th>Human Interest Score</th>
<th>Description of Style</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>40-60</td>
<td>Highly Dramatic</td>
</tr>
<tr>
<td>20-40</td>
<td>Interesting</td>
</tr>
<tr>
<td>10-20</td>
<td>Mildly Interesting</td>
</tr>
<tr>
<td>0-10</td>
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</tr>
</tbody>
</table>
FLESCH'S INTERPRETATION CHARTS (continued)

**Grade Level Chart**

<table>
<thead>
<tr>
<th>Reading Ease Score</th>
<th>Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>5th Grade</td>
</tr>
<tr>
<td>80-90</td>
<td>6th Grade</td>
</tr>
<tr>
<td>70-80</td>
<td>7th Grade</td>
</tr>
<tr>
<td>60-70</td>
<td>8th and 9th Grade</td>
</tr>
<tr>
<td>50-60</td>
<td>10th to 12th Grade</td>
</tr>
<tr>
<td></td>
<td>(High School)</td>
</tr>
<tr>
<td>30-50</td>
<td>13th to 16th Grade</td>
</tr>
<tr>
<td></td>
<td>(College)</td>
</tr>
<tr>
<td>0-30</td>
<td>College Graduate</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY


BIBLIOGRAPHY (continued)


Younger, John F. "History of the 4-H Program in South Dakota," Brookings, South Dakota, 1962. (Mimeographed.)
SOUTH DAKOTA 4-H MEMBERS' AND LEADERS' USE OF TWO TYPES OF 4-H MANUALS

Barbara Kaye Froke, M.S.
South Dakota State University, 1970
Advisor: George H. Phillips

The purpose of the 4-H publications study was to compare 4-H members' and leaders' use of four 4-H publications and to determine what factors influenced their use of the publications.

County home economics agents from 34 South Dakota counties administered foods and nutrition and clothing questionnaires to a 20 per cent random sample of 381 4-H members and 223 leaders. Three questions on each questionnaire were selected as indicators of respondents' use of a manual. The Chi Square formula was used to test all hypotheses.

Testing of hypotheses indicated that 4-H leaders use the members' manuals more than members use them. No significant differences were found in 4-H members' use of the two
members' manuals. Similarly, no significant differences were found in leaders' use of the two members' manuals. No significant differences were found in leaders' use of the two leaders' manuals.

All four 4-H manuals rated either "interesting" or "highly interesting" and "fairly difficult" to "fairly easy" when tested by the Flesch Human Interest and Reading Ease formulas. Respondents, when asked if each manual was "easy to read and understand," generally agreed with the Flesch ratings. Following is an exception: Reading ease tests, conducted on each of three units contained in the clothing members' manual, suggested that Unit I should be written at a lower grade level. The unit, intended for use of ages 9 through 12 years, rated a "standard" or 8th or 9th grade level reading ease score.