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To the Graduate Council:

I am submitting herewith a thesis written by Syed Zubair Ahmad entitled "Relations Between 4-H Enrollment and Selected Characteristics of Tennessee's County 4-H Extension Programs." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.

Major Professor

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Graduate Studies and Research

RELATIONS BETWEEN 4-H ENROLLMENT AND SELECTED CHARACTERISTICS OF TENNESSEE'S COUNTY 4-H EXTENSION PROGRAMS

A Thesis

Presented to

the Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

---

by

Syed Zubair Ahmad

March 1969

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ABSTRACT

The study was concerned with the problem of decreasing county 4-H enrollment in Tennessee. Twenty-one independent variables concerning the characteristics of Tennessee's county 4-H Extension programs and five dependent variables concerning total 4-H enrollment were studied. The independent variables were classified under the headings of 4-H leadership, organization, participation, place of 4-H member residence, potential number of 4-H members, and number of Extension staff members. The purpose was to identify the association between the selected variables concerning county 4-H programs and the total 4-H enrollment in the Tennessee counties. Another purpose was to determine which variable, within each group of 4-H Extension program variables, accounted for the highest percent of variation in the number of 4-H members enrolled per county.

It was found that total 4-H enrollment in the ninety-five Tennessee counties was directly related to each of the following variables: total number of adult 4-H leaders, total number of junior 4-H club leaders, total number of basic four organizations, total number of 4-H all stars, total number of honor club members, total number of senior 4-H clubs, total number of junior 4-H clubs, total number of 4-H clubs, average number of senior 4-H members per senior club, total number of senior 4-H district winners, total number of 4-H members participating in 4-H judging and in 4-H camp, total number of full-time Extension staff equivalents responsible for 4-H work, and total number of Extension staff members per county.

The variables, within each group of county 4-H program variables, which accounted for the largest percents of variation in total county 4-H enrollment were: total number of junior 4-H leaders (50 percent), total number of 4-H clubs per county (60 percent), total number of 4-H members per county participating in 4-H camp (31 percent), total number of 4-H members per county residing on farm (55 percent), total number of full-time Extension staff equivalents per county (54 percent). Variables under potential number of 4-H members were not significantly related with enrollment.

It was implied that 4-H enrollment in Tennessee counties might tend to increase if either the number of 4-H leaders, number of 4-H clubs, number of members participating in 4-H events and activities, and/or the number of full-time Extension staff equivalents responsible for 4-H work were increased. Implications for program emphasis were made.

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CHAPTER I

THE PROBLEMS AND SETTING

I. INTRODUCTION

The Cooperative Extension Service is a partnership undertaking between each state Land-grant College, the United States Department of Agriculture, county governments, and local people. The major function of the Cooperative Extension Service, as stated in the Smith-Lever Act, is:

> . . . to aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same. . . . (8:3)*

Together with subsequent legislation, the Smith-Lever Act provided a legal basis for Extension work, including 4-H club work. The goal of 4-H club work, one of the major work areas of the Cooperative Extension Service, is to develop boys and girls through a self help program. Another function of 4-H work is to impart all aspects of education for economic, social and cultural living through improved farm, home, and community practices.

In order to achieve these goals, a higher percent of the potential membership must become actively involved in the various projects, events,

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*Numbers in parentheses refer to similarly numbered items in the List of References; the number following the colon represents the page number.

and activities at the county level. Although the total 4-H enrollment in the United States increased 54 percent between 1940 and 1962 (10:4), the percent of potential 4-H members enrolled in 1961 was 35 percent of the farm youth of 4-H club age, 6 percent of the rural non-farm and 2 percent of the urban youth (10:7). Also it should be noted that although the numbers of youth in the United States of 4-H club age has continued to increase since 1960, there has been a decrease in the total number of 4-H members enrolled (20).

These general trends, plus the fact that about 35 percent of the boys and girls who enroll in 4-H club work each year do not re-enroll the following year, indicate an area of major concern to Extension agents and administrators as well as leaders who are interested in the youth of the United States (15:3).

II. STATEMENT OF THE PROBLEM

The 4-H club, since its start prior to World War I, has been an active youth organization in each state in the nation. Table I shows the total 4-H membership in the United States from 1914 through 1967. These data show an increase in 4-H enrollment each year from 1920 to 1940 except the years 1920 and 1933. Between 1945 and 1959 there was an increase of approximately 50,000 members each year.

Though the foregoing indicated the tremendous achievement of 4-H, recent data have shown a downward trend in the total 4-H enrollment. Between 1959 and 1960 total 4-H membership in the United States decreased 4,987 members and there was a decrease of 11,143 (8 percent decrease) members between 1960 and 1961. Similarly, between 1962 and

TABLE I

UNITED STATES TOTAL 4-H ENROLLMENT (1914-67)*

Year	Total	Year	Total	Year	Total
1914	116,262	1932	925,612	1950	1,990,932
1915	161,518	1933	921,615	1951	2,004,139
1916	169,652	1934	916,062	1952	2,016,138
1917	336,900	1935	997,744	1953	2,058,144
1918	518,154	1936	1,145,508	1954	2,104,787
1919	323,340	1937	1,192,385	1955	2,155,952
1920	222,137	1938	1,286,029	1956	2,164,294
1921	273,614	1939	1,381,595	1957	2,201,481
1922	305,622	1940	1,420,297	1958	2,253,999
1923	459,074	1941	1,404,700	1959	2,301,722
1924	510,355	1942	1,443,248	1960	2,296,735
1925	565,046	1943	1,639,473	1961	2,285,592
1926	586,156	1944	1,590,598	1962	2,193,384
1927	619,712	1945	1,562,622	1963	2,190,721
1928	663,940	1946	1,615,039	1964	2,221,119
1929	756,096	1947	1,759,911	1965	2,185,514
1930	822,714	1948	1,829,250	1966	2,047,452
1931	890,374	1949	1,886,214	1967	2,338,582

*Federal Extension Service, U. S. Department of Agriculture, May, 1968.

1965 the total 4-H enrollment decreased 7,870 members. Again, between 1965 and 1966 the total 4-H enrollment decreased 38,062 members. However, between 1966 and 1967 the total 4-H enrollment increased by 291,130 members (14 percent).

A look at Tennessee data given in Table II, for the period 1961 through 1967, shows a general decrease in the number of 4-H members and in the number of 4-H clubs (23:3). More specifically, the Tennessee data in Table II show a loss of 5,838 members (4.4 percent) between 1962 and 1963. The decrease in membership between 1963 and 1964 was 3,059 members or 2.4 percent. Between 1964 and 1965 there was a total loss of 4,734 members (3.8 percent). When 1965 and 1966 were compared there was a loss of only 209 members (0.2 percent) but again in 1967 the total Tennessee 4-H enrollment decreased by 2,892 members (2.5 percent). Between 1961 and 1967 the total number of boys and girls in Tennessee enrolled in 4-H decreased 16,823 members (13 percent). Thus, Tennessee had an average loss in 4-H enrollment of 2.6 percent between the years 1961 and 1967. Preliminary figures for 1968 suggest an improved enrollment figure of just over 122,000.

Although there was a decrease in the total number of boys and girls enrolled in 4-H club work in Tennessee between 1965 and 1967, data in Table XXXVIII in the Appendix show that some counties in Tennessee actually increased their 4-H enrollment during these same years. This indicates a possible relation between the numbers of boys and girls enrolled in 4-H and certain factors concerning the characteristics of the county 4-H Extension programs.

TABLE II

TENNESSEE TOTAL 4-H ENROLLMENT (1961-1967)*

Year	Tennessee's Total 4-H Enrollment	Number of 4-H Clubs
1961	131,283	3,077
1962	131,192	3,048
1963	125,354	3,048
1964	122,295	3,305
1965	117,561	2,938
1966	117,352	2,989
1967	114,460	2,935

*Tennessee 4-H Club Enrollment Reports, July 1, 1961, through 1967.

More specifically, this study was concerned with the problem of identifying the variables concerning the characteristics of Tennessee's county 4-H Extension programs which were related to the numbers of boys and girls enrolled in 4-H club work.

III. STATEMENT OF PURPOSE

The general purpose of the study was to identify variables concerning characteristics of Tennessee's county 4-H Extension programs which accounted for the variation in 4-H enrollment. More specifically, the study dealt with the following specific questions:

1. What is the relation between the total number of 4-H adult leaders, total number of junior 4-H leaders, and the total number of 4-H members per county?

2. What is the relation between the number of 4-H clubs and the total number of 4-H members per county?

3. What is the relation between the number of 4-H members participating in 4-H events and the total number of 4-H members per county?

4. What is the relation between place of 4-H member residence and the total number of 4-H members per county?

5. What is the relation between the number of Extension agents and the total number of 4-H members per county?

6. What percent of the variation in the number of 4-H members per county is accounted for by the number of 4-H leaders per county?

7. What percent of the variation in the number of 4-H members per county is accounted for by the number of 4-H clubs per county?

8. What percent of the variation in the number of 4-H members per county is accounted for by the number of 4-H members participating in various 4-H events and activities?

9. What percent of the variation in the number of 4-H members per county is accounted for by the potential number of 4-H members per county?

10. What percent of the variation in the number of 4-H members per county is accounted for by the place of 4-H members residence?

11. What percent of the variation in the number of 4-H members per county is accounted for by the number of Extension agents per county?

12. What percent of the variation in the number of 4-H members per county is accounted for by all of the 4-H leadership, organization, participation, place of member residence, and number of Extension agent variables?

IV. NEED FOR STUDY

For a number of years prior to the study, Tennessee's total 4-H club enrollment had been decreasing, while the potential number of 4-H members was at the same time increasing. Less than one-half of Tennessee's rural youth and about 10 percent of its urban junior 4-H age population were annually enrolled in 4-H clubs. Of Tennessee's total senior 4-H age population, less than 10 percent of the rural population and about 1.5 percent of the urban population were annually enrolled in 4-H clubs. Tennessee's annual 4-H drop-out rate was about one member for each three enrolled (17:1).

Workers in Tennessee, as well as in many other states where 4-H enrollment was also decreasing, were seeking to determine what factors might relate to this problem. Many factors, no doubt, are related to the number of 4-H members enrolled in a county or state. One such group of factors concern the characteristics of each county's 4-H program.

This study was concerned with the above factors. More specifically, it was believed that a study of certain variables concerning 4-H leadership, organization, participation, place of member residence, and number of Extension members per county as related to total 4-H enrollment would help to clarify the enrollment problem. Such a study, it was believed, would also help to identify areas of county 4-H work which needed additional emphasis--in terms of numbers of leaders, kind of 4-H organization, member participation in events, and activities and number of Extension staff--in order to increase total 4-H enrollment. Staff allocation of Extension's limited number of staff members to these potentially productive work areas would increase efficiency in terms of maximizing educational returns to Tennessee's 4-H age youth.

V. VARIABLES AND SOURCES OF DATA

The study of the factors related to 4-H enrollment included data concerning the characteristics of the 4-H program in each of the 95 Tennessee counties. Furthermore, the study was concerned with five 4-H enrollment variables (dependent variables) and twenty-one 4-H program variables (independent variables) dealing with 4-H leadership, organization, participation, place-of-residence, potential 4-H enrollment, and

number of Extension staff members. Data regarding these variables were secured from the 1960 Census of Population (24) and the July 1, 1965, 1966, and 1967 Tennessee 4-H Club Enrollment Reports (18).

Data concerning the following twenty-one independent variables were secured for each of the 95 counties in Tennessee: (1) total number of adult 4-H leaders; (2) total number of junior 4-H club leaders; (3) total number of junior and adult 4-H club leaders; (4) total number of basic four organization; (5) total number of 4-H all stars; (6) total number of honor club members; (7) total number of senior 4-H clubs; (8) total number of junior 4-H clubs; (9) total number of 4-H clubs; (10) average number of senior 4-H members per senior club; (11) total number of senior district winners; (12) total number of 4-H members participating in judging (crop, dairy, forestry, home economics, land, livestock, and poultry); (13) total number of 4-H members participating in 4-H camp; (14) total potential senior 4-H population; (15) total number of junior 4-H members enrolled; (16) total number of 4-H members enrolled; (17) total number of 4-H members residing on farms; (18) total number of 4-H members residing on rural non-farm; (19) total number of 4-H members residing in urban areas; (20) total number of Extension full-time staff equivalents responsible for 4-H work; and (21) total number of Extension staff members (Appendix, Table XXXVIII).

Data concerning the following five 4-H enrollment or dependent variables also were collected for each of the 95 counties in Tennessee: (1) total number of 4-H members; (2) percent of the potential 4-H members enrolled; (3) average number of 4-H members per club; (4) percent of potential 4-H members per county enrolled per full time staff

equivalent; and (5) percent of potential 4-H members enrolled per Extension staff member.

Data for independent variables numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 18, and 19 were secured from the Tennessee 4-H Club Enrollment Reports for the years 1965, 1966, and 1967 (18). Data for each of the three years were secured and the resulting totals were divided by three to determine the average for the years 1965, 1966, and 1967. Variables 11 and 14 also were three-year averages for the years 1965, 1966, and 1967. Data for these variables were secured from Reports of the Tennessee 4-H Round-Up Program (25), and from the 1960 Census of Population, Vol. 1, respectively (24). Variables numbered 20 and 21, total number of full-time staff equivalents and total number of Extension staff members, respectively, were secured from the Tennessee Extension Agent's Guide for Five-Year Planning, 1966 (1), and the Directory of The University of Tennessee Institute of Agriculture, Agricultural Extension Service, August, 1968, respectively (19).

Data for dependent variables numbered 2, 3, and 5 were derived from combinations of other variables. Data for dependent variables number 1 and 4 were taken from Tennessee 4-H Club Enrollment Reports for the years 1965, 1966, and 1967 and Tennessee Extension Agent's Guide for Five-Year Planning, 1966.

VI. ANALYSIS OF DATA

The study was designed to identify the association between variables concerning the 4-H Extension program and the total number of 4-H members enrolled in each of the 95 Tennessee counties. The data

were punched on cards and computations were made by The University of Tennessee Computing Center. A stepwise regression program was used to analyze the data.

> This program computes a sequence of multiple linear regression equations in a stepwise manner. At each step one variable is added to the regression equation. The variable added is the one which makes the greatest reduction in the error sum of squares. Equivalently it is the variable which has the highest partial correlation with the dependent variables partialed on the variable which has already been added; and equivalently it is the variable which, if it were needed, would have the highest F value. In addition, variables can be forced into the regression equation. No forced variables are automatically removed when their F values become too low. . . . (7:233)

The correlation matrix showed the association between each of the twenty-six variables. Multiple correlation coefficients were computed for each of the following: (1) six 4-H leadership variables with each of the five 4-H enrollment variables; (2) four 4-H organization variables with each of the five 4-H enrollment variables; (3) three 4-H participation variables with each of the five 4-H enrollment variables; (4) three 4-H enrollment variables with each of five dependent variables; (5) three place of member residence variables with each of the five 4-H enrollment variables; (6) two Extension staff variables with each of the five 4-H enrollment variables; and (7) all twenty-one county 4-H program variables with each of the five 4-H enrollment variables.

The significance level of the correlation coefficients and the multiple correlation coefficients of the various degrees of freedom were read from a statistical table (11:581). Coefficients achieving the .01 and .05 levels were noted in the tables where coefficients were shown.

VII. DEFINITION OF TERMS

Coefficient of correlation (r)--A pure number, varying from +1 through 0 to -1, that denotes the degree of relationship existing between two variables concerning two or more series of observations (9:80).

Coefficient of multiple correlation (R)--A pure number lying between the limits of 0.00 and 1.00, indicating the degree of relationship between a criterion or dependent variable and the optimumly weighted sum of a number of independent variable being so weighted as to make the multiple correlation coefficient a maximum (9:82).

Coefficient of multiple determination (R^2)--The square of a coefficient of multiple correlation, which gives the proportion of the variance of one variable which is accounted for by its correlation with a second variable (13:28).

Correlation--The amount of similarity in direction and degree of variation in corresponding pairs of observations in two series or variables (13:39).

Degree of freedom--The number of independent comparisons available for calculating variance or for computing the estimate of error (13:47).

Full-time staff equivalent--This term refers to the total percent of time a county staff devoted to 4-H work.

Total 4-H enrollment--All the boys and girls who hold membership in a county 4-H club.

Senior 4-H members--Any boy or girl between the ages of 14 and 19 enrolled in a county 4-H club.

Junior 4-H members--Any boy or girl between the ages of 9 and 13 enrolled in a county 4-H club.

County Extension program--

> It is the sum total of all Extension work done in county, including planning and plans, carry out of five-year and annual plans, and evaluation reporting of progress made toward objective. There is one county Extension program in each county consisting of everything done in all appropriate work areas and/or with all appropriate audiences. (16:1)

Leadership variables--This term was used to refer to six independent variables dealing with 4-H club leadership in a county. These variables include total number of junior 4-H leaders, total number of adult 4-H club leaders, total number of all leaders, total number of 4-H all stars, total number of honor club members, and total number of basic four organizations.

Organization variables--This term was used to refer to the four independent variables: total number of senior 4-H clubs; total number of junior 4-H clubs; total number of 4-H clubs; and average number of senior 4-H members per senior club.

Participation variables--This term was used to refer to the three independent variables dealing with the 4-H members taking part in 4-H events and activities. These variables were: total number of senior district winners; total number of members participating in 4-H judging; and total number of members attending 4-H camp.

Place-of-residence variables--This term was used to refer to the 4-H members residing on farms, in rural non-farm, and in urban areas.

Extension staff per county variable--This term was used to refer to the total number of full-time Extension staff equivalents and total number of Extension staff members doing 4-H work per county.

CHAPTER II

REVIEW OF LITERATURE

Several studies have been conducted concerning factors of county 4-H programs which influence continuous 4-H club membership, 4-H re-enrollment, and 4-H member drop out. Those factors which have direct or indirect bearing on the present study are briefly reviewed in this chapter. This review was organized and reported on the basis of studies which dealt with 4-H leadership, organization, participation, and place of member residence.

I. LEADERSHIP AND TOTAL 4-H ENROLLMENT

Several studies have found an association between 4-H member enrollment and the extent to which the member becomes identified with a leader. Members visited by either leaders or Extension agents generally re-enroll in 4-H the following year. This finding was reported in studies by Harmon, Sabrosky, and Joy in 1951 who found that 83 percent of the members visited by club leaders re-enrolled the second year (2:13).

A 1956 study made in Connecticut, Massachusetts, and Vermont revealed that the leaders with whom the members remain longest after entering high school had the following characteristics: the leaders were likely to be farmers; they tended to have been 4-H club members themselves; they planned programs with the members; they had been leaders for three years or longer; and they tended to visit the projects of first-year members more often (14:115). Leadership was found to be

related to 4-H member retention in a 1947 Florida study by Merton (4:35). Slocum found in 1951 a relationship between 4-H re-enrollment and the members having experienced 4-H organization leaders (6:5).

II. ORGANIZATION AND TOTAL 4-H ENROLLMENT

Only a few studies were found which considered the relation between the organization of a 4-H club and total 4-H enrollment. Martin states that:

> The club program should be in harmony with the culture of the local people--with their equipment, skills, attitude, and social organization. This requires that the club structure be kept elastic and adaptable to the interest and needs of the members. (3:7)

A 1959 Illinois study, reported by D. E. Lindstrum and W. M. Dawson, attempted to ascertain some of the factors which influenced boys and girls to become and remain members of 4-H clubs. One of the major findings was that boys and girls whose parents participated actively in various organizations and social activities were attracted in greater numbers to the 4-H clubs (12:21). Sabrosky, in 1952, reported that both the county and local organization affected the success of 4-H work (5:28). Esbeck reported a 1960 study of the "holding power" of 4-H club work which indicated that larger clubs tended to have better trained officers and had greater "holding power" than smaller clubs (21:50).

III. PARTICIPATION AND 4-H ENROLLMENT

Several studies report a relationship between 4-H member participation in projects, events, and activities and thier re-enrollment.

Studies by Coopp and Clark, Campbell, Crile, Cummings, Graham, Harmon, Howes, Joy, Lindstrom and Dawson, Sabrosky, and Sandstead, each reported that the degree of member participation in the 4-H program and activities were associated with 4-H member re-enrollment. Boys and girls who are active in the 4-H program re-enrolled at a higher rate (12:20). Again, Harmon, Tucker, and Esbeck (1951) support the above statement saying that re-enrollment was higher for boys and girls who were doing project work and that completion of project work tended to encourage re-enrollment (2:13). A 1956 study of tenure of Missouri 4-H members suggests that members who participate in 4-H events stay for a longer period than those who do not (14:139).

IV. PLACE-OF-RESIDENCE AND TOTAL 4-H ENROLLMENT

Only a few studies were found which dealt with the place of 4-H member residence and enrollment in 4-H. A 1959 study in Illinois by Lindstrom and Dawson showed that boys and girls who were more appreciative of farm life tended to join 4-H clubs in relatively greater numbers than those who disliked farm life (12:21). Clark, Campbell, Crile, Harmon, Howes, Sabrosky and others have stated that farm residence is associated with enrollment and drop out (12:20). Copp and Clark noted that farm residence favors successful performance of membership expectations (22:32).

Thus, some previous studies have shown a relationship between certain factors concerning the 4-H Extension program and total 4-H enrollment. This study was planned to determine which of the factors

among 4-H leadership, organization, participation, place-of-residence, and Extension staff per county were the best predictors of total 4-H enrollment in Tennessee.

CHAPTER III

PRESENTATION AND ANALYSIS OF DATA

I. INTRODUCTION

This chapter was organized on the basis of the major type of statistics used to analyze the data. Two major types of statistics were used, the Pearsonian r correlation coefficient and the multiple correlation coefficient (R). Thus, the two major sections will deal with correlation and multiple correlation. Further explanation of the organization and analysis of the variables will be given as an introduction to each major section.

II. CORRELATIONS BETWEEN SELECTED FACTORS OF TENNESSEE COUNTY 4-H EXTENSION PROGRAMS AND TOTAL 4-H ENROLLMENT PER COUNTY

This section dealt with the correlation between the selected 4-H program factors and the total number of 4-H members enrolled per county. Six tables were developed to show the relations between total 4-H enrollment variables (dependent variables) and the county 4-H program variables (independent variables). The analysis was organized and presented so each table would show the correlation coefficients between each of the five dependent (total enrollment) variables and each variable within one group of independent variables (4-H leadership, organization, participation, enrollment-related, place-of-residence, and number of Extension staff members).

The correlation coefficients had to equal or exceed .21 to achieve the .05 level of significance and .27 to achieve the .01 level of significance with 93 degree of freedom. The "r" represented the coefficient of correlation which ranged in value from -1.0 through 0 to +1.0.

Relation Between Number of 4-H Leaders and Number of 4-H Members Per County

Table III shows the relation between six 4-H leadership variables and each of the five 4-H enrollment variables. Examination of Table III reveals that each of the leadership variables was significantly related (.01 level) to the total number of 4-H members enrolled per county. The correlation coefficients of .59, .71, .68, .34, .45, and .58, respectively, were obtained between the total number of 4-H members enrolled per county and the total number of adult 4-H leaders per county; total number of junior 4-H club leaders per county; total number of junior and adult 4-H club leaders per county; total number of basic four 4-H organization per county; total number of 4-H all stars per county; and total number of honor club members per county. Thus, the total county 4-H enrollment tended to increase with an increase in any one of the leadership variables.

The percent of the potential members enrolled in 4-H was not significantly related (.05 level) to any of the six leadership variables.

The average number of 4-H members per club was significantly related (.05 level) to three of the leadership variables. The total number of adult 4-H leaders, total number of junior 4-H club leaders,

TABLE III

RELATION BETWEEN NUMBER OF 4-H LEADERS AND TOTAL NUMBER OF 4-H MEMBERS PER COUNTY (N = 95), 1965-67

4-H Leadership Variable	4-H Enrollment Variables				
	Total Number of 4-H Members Enrolled Per County r	Percent of Potential 4-H Members Enrolled in 4-H Per County r	Average Number of 4-H Members Per Club Per County r	Percent of Potential 4-H Members Enrolled Per Full-Time Staff Equivalent Per County r	Percent of Potential 4-H Members Enrolled Per Staff Member Per County r
Total number of adult 4-H leaders per county	.59[a]	.12	.21[b]	-.17	-.22[b]
Total number of junior 4-H club leaders per county	.71[a]	.10	.23[b]	-.19	-.24[b]
Total number of junior and adult 4-H club leaders per county	.68[a]	.12	.24[b]	-.19	-.25[b]
Total number of basic four organizations per county	.34[a]	-.14	.11	-.33[a]	-.39[a]
Total number of 4-H all stars per county	.45[a]	.14	.17	-.11	-.21[b]
Total number of honor club members per county	.58[a]	.07	.15	-.20	-.28[a]

[a]Significant at .01 level.

[b]Significant at .05 level.

and total number of junior and adult 4-H club leaders combined had positive correlations of .21, .23, and .24, respectively, with the average number of 4-H members per club. Thus, the average number of 4-H members per club tended to increase as the total numbers of adult and/or junior 4-H leaders increased. However, these direct correlations also could be interpreted to mean that if the number of 4-H members per club decreased, the number of adult and/or junior 4-H leaders tended to decrease.

The percent of potential 4-H members enrolled per full-time staff equivalent was inversely related with each of the leadership variables. However, only one of the correlation coefficients reached the .05 significance level or greater. The total number of basic four organizations per county was significantly and inversely related to the percent of potential 4-H members enrolled per full-time staff equivalents (-.33 was significant at .01 level). Thus, as the number of basic four organizations increased, the percent of potential 4-H members enrolled per full-time staff equivalent tended to decrease.

The percent of potential 4-H members enrolled per staff member was significantly and inversely related to each of the five leadership variables. The leadership variables, total number of adult 4-H leaders; total number of junior 4-H club leaders; total number of junior and adult 4-H club leaders; and total number of 4-H all stars showed correlation coefficients of -.22, -.24, -.25, and -.21, respectively, with the percent of potential 4-H members enrolled per staff member. Thus, the percent of potential 4-H members enrolled per staff member decreased as each of these leadership variables increased (significant at .05 level). Similarly, as the number of basic four organizations or the

total number of honor club members increased, the percent of potential 4-H members enrolled per staff member tended to decrease (significant at .01 level).

In brief summary, then, the analysis of data presented in Table III, page 20, indicates that Tennessee counties with a large total 4-H enrollment tended to have a large number of adult and/or junior leaders It also was shown that as the average number of 4-H members per club increased, the total numbers of adult and/or junior leaders tended to increase; however, the percents of potential 4-H members enrolled per staff member and per full-time staff equivalent decreased. Total county 4-H enrollment tended to increase as the total number of basic four organizations increased; but, the percents of potential 4-H members enrolled per full-time staff and per staff member tended to decrease. Similarly, total 4-H enrollment increased as total number of honor club and total number of 4-H all stars increased, the reverse being true with the percent of potential 4-H members enrolled per staff member.

Relation Between Organization of 4-H Clubs and Total Number of 4-H Members Per County 4-H Enrollment

The correlations between the four organization variables and the five 4-H enrollment variables are shown in Table IV. The highest correlation coefficients were obtained between each of the four organization variables and the total number of 4-H members enrolled. These coefficients were .54, .81, .83, and .25, respectively, for the variables, total number of senior 4-H clubs per county; total number of junior 4-H clubs per county; total number of 4-H clubs per county; and average

TABLE IV

RELATION BETWEEN ORGANIZATION OF THE 4-H CLUBS AND TOTAL NUMBER OF 4-H MEMBERS PER COUNTY (N = 95), 1965-67

4-H Organization Variable	4-H Enrollment Variables				
	Total Number of 4-H Members Enrolled Per County r	Percent of Potential 4-H Members Enrolled in 4-H Per County r	Average Number of 4-H Members Per Club Per County r	Percent of Potential 4-H Members Enrolled Per Full-Time Staff Equivalent Per County r	Percent of Potential 4-H Members Enrolled Per Staff Member Per County r
Total number of senior 4-H clubs per county	.54[a]	.08	.040	-.14	-.17
Total number of junior 4-H clubs per county	.81[a]	.10	.001	-.25[b]	-.33[a]
Total number of 4-H clubs per county	.83[a]	.11	.009	-.25[b]	-.33[a]
Average number of senior 4-H members per senior club per county	.25[b]	.21[b]	.390[a]	.09	.03

[a]Significant at .01 level.

[b]Significant at .05 level.

number of senior 4-H members per senior club per county. The first three correlation coefficients were significant at the .01 level, and the last at the .05 level. This showed that when each of the organization variables increased, the total 4-H enrollment also tended to increase.

When the correlation coefficient between each of the four organization variables and the percent of potential members enrolled in 4-H were observed, only the variable, average number of senior 4-H members per senior club was significantly (.05 level) related to the percent of potential members enrolled in 4-H. This indicated that the counties in Tennessee which had a higher number of senior 4-H members per senior club also tended to have a higher percent of the potential members enrolled in 4-H.

Average number of 4-H members per club and average number of senior 4-H members per senior club were significantly related at the .01 level. Three of the organization variables shown in Table IV were significantly (.05 level) and inversely related with the percent of potential 4-H members enrolled per full-time staff equivalent. Thus, as either the number of junior 4-H clubs, or the number of 4-H clubs increased, there tended to be a decrease in the percent of potential 4-H members enrolled per full-time staff equivalent.

The two organization variables, total number of junior 4-H clubs and total number of 4-H clubs, showed significant negative correlation coefficients with the percent of potential 4-H members enrolled per staff member. It was quite evident that as the number of junior 4-H clubs and total number of 4-H clubs increased, there was a decrease of potential 4-H members enrolled per staff member.

Relation Between Participation of 4-H Members and Total Number of 4-H Members Per County

Table V shows the correlation coefficient for each of the three participation variables with each of the five 4-H enrollment variables. Each of the three participation variables was significantly (.01 level) related to the total number of 4-H members enrolled per county. The correlation coefficient between the three participation variables and total number of 4-H members enrolled were as follows: total number of senior district winners per county (.48); total number of 4-H members participating in judging (.35); and total number of 4-H members participating in 4-H camp (.56). Thus, enrollment tended to increase with an increase in number of senior district winners, the number of members participating in judging, and the number of members participating in 4-H camp. The reverse was also true, since the correlation between the dependent and independent variables showed a positive or direct relation.

The variables, total number of 4-H members participating in 4-H camp, showed a significant (.05 level) positive correlation (.22)with the average number of 4-H members per club. This indicated that the average number of 4-H members per club tended to increase as the total number participating in 4-H camp increased.

The total number of senior district winners and number of members participating in 4-H camp showed a significant (.05 level) negative correlation coefficient with the percent of potential 4-H members enrolled per full-time staff equivalent. Thus, as the number of senior district winners, and the number of members participating in camp increased, the percent of potential 4-H members enrolled per full-time staff equivalent tended to decrease.

TABLE V

RELATION BETWEEN PARTICIPATION OF 4-H MEMBERS AND TOTAL NUMBER OF 4-H MEMBERS PER COUNTY (N = 95), 1965-67

4-H Participation Variable	4-H Enrollment Variables				
	Total Number of 4-H Members Enrolled Per County r	Percent of Potential 4-H Members Enrolled in 4-H Per County r	Average Number of 4-H Members Per Club Per County r	Percent of Potential 4-H Members Enrolled Per Full-Time Staff Equivalent Per County r	Percent of Potential 4-H Members Enrolled Per Staff Member Per County r
Total number of senior district winner per county	.48[a]	-.05	.02	-.26[b]	-.33[a]
Total number of 4-H members participating in 4-H judging per county	.35[a]	.15	.16	.09	.04
Total number of 4-H members participating in 4-H camp per county	.56[a]	.09	.22[b]	-.22[b]	-.27[a]

[a]Significant at .01 level.

[b]Significant at .05 level.

This also held true for the same independent variables where the percent of potential 4-H members enrolled per staff member was considered--this time at the .01 level of significance. Therefore, it is seen that the number of senior district winners and the number of 4-H members participating in judging tended to decrease as the percent of potential 4-H members per staff member increased or vice versa.

Relation Between the Potential and the Actual Number of 4-H Members Enrolled Per County

Table VI shows the correlation coefficients between three potential 4-H enrollment variables and four dependent variables concerning actual county 4-H enrollment. The percent of potential members enrolled in 4-H per county was not significantly related to the total number of potential senior 4-H population, the total number of junior 4-H members enrolled, or the total number of 4-H members enrolled per county.

The average number of 4-H members per club had a significant (.05 and .01) positive correlation with total number of potential senior 4-H population per county (.22 significant at .05), total number of junior 4-H members enrolled per county (.43 significant at .01), and total number of 4-H members enrolled per county (.42 significant at .01). This suggested that as the potential senior 4-H population, total number of junior members, and total number of 4-H members enrolled per county increased, there was also an increase in the average number of 4-H members per club.

TABLE VI

RELATION BETWEEN THE POTENTIAL AND THE ACTUAL NUMBER OF 4-H MEMBERS PER COUNTY (N = 95), 1965-67

Potential 4-H Enrollment Variable	4-H Enrollment Variables			
	Percent of Potential 4-H Members Enrolled in 4-H Per County r	Average Number of 4-H Members Per Club Per County r	Percent of Potential 4-H Members Enrolled Per Full-Time Staff Equivalent Per County r	Percent of Potential 4-H Members Per Staff Member Per County r
Total number of potential senior 4-H population per county	-.20	.22[b]	-.29[a]	-.27[a]
Total number of junior 4-H members enrolled per county	.03	.43[a]	-.33[a]	-.40[a]
Total number of 4-H members enrolled per county	.07	.42[a]	-.31[a]	-.38[a]

[a]Significant at .01 level.

[b]Significant at .05 level.

Also in Table VI, the total number of potential senior 4-H population per county, total number of junior 4-H members enrolled per county, and total number of 4-H members enrolled per county, had a significant (.01 level) negative correlation coefficient with the percent of potential 4-H members enrolled per full-time staff equivalent, and with the percent of 4-H members enrolled per staff member. It was obvious from Table VI that as the number of potential 4-H members increased, the percent of the potential 4-H members enrolled per staff member decreased.

Relation Between Place of Members Residence and Total Number of 4-H Members Per County

Table VII shows the correlation between variables concerning place where 4-H members residence and the four total 4-H enrollment variables. The correlation coefficients between the total number of 4-H members per county residing on farms, on rural nonfarms, and in urban areas were not significantly related to the percent of potential members per county enrolled in 4-H.

The correlation coefficient between the average number of 4-H members per club and the three variables; total number of 4-H members per county residing on farm; total number of 4-H members per county residing on rural nonfarm; and total number of 4-H members per county residing in urban areas were .30, .41, and .24, respectively. These correlation coefficients were significant to at least the .05 level.

The two variables concerning place of member residence were significantly and inversely correlated with the percent of potential

TABLE VII

RELATION BETWEEN PLACE OF 4-H MEMBER RESIDENT AND TOTAL NUMBER OF 4-H MEMBERS PER COUNTY (N = 95), 1965-67

Place of 4-H Member Residence Variable	4-H Enrollment Variables			
	Percent of Potential 4-H Members Enrolled in 4-H Per County r	Average Number of 4-H Members Per Club Per County r	Percent of Potential 4-H Members Enrolled Per Full-Time Staff Equivalent Per County r	Percent of Potential 4-H Members Per Staff Member Per County r
Total number of 4-H members residing on farm	.16	.30[a]	-.18	-.25[b]
Total number of 4-H members residing on rural non-farm per county	-.04	.41[a]	-.28[a]	-.33[a]
Total number of 4-H members residing in urban areas per county	-.06	.24[b]	-.28[a]	-.32[a]

[a]Significant at .01 level.

[b]Significant at .05 level.

4-H members enrolled per full-time staff equivalent. These two negative correlation coefficients of -.28 and -.28, respectively, showed that as either the number of members living on rural farm or number living in urban areas increased, there was a decrease in the percent of the potential members enrolled.

The percent of potential members enrolled per staff member was shown to be inversely related to the total number of 4-H members per county residing on farms, on rural nonfarms, and in urban areas. Each was significant to at least the .05 level. These correlation coefficients were -.25, -.23, and -.32, respectively.

Relation Between Number of Extension Staff Members and Total Number of 4-H Members Per County

Table VIII, shows the correlation coefficient between each of the two Extension staff variables and each of the five enrollment variables. The total number of 4-H members enrolled per county showed a correlation coefficient of .73 with the total number of full-time staff equivalent responsible for 4-H work per county and .71 with the total number of Extension staff members per county. Each of these coefficients was significant at the .01 level. Similarly, the average number of 4-H members per club per county showed a correlation coefficient of .26 for each of the variables, total number of full-time staff equivalent responsible for 4-H work per county, and total number of Extension's staff members per club per county. Thus, the average number of 4-H members per club increased with an increase in the total number of full-time staff equivalent responsible for 4-H work and total number of

TABLE VIII

RELATION BETWEEN NUMBER OF EXTENSION STAFF MEMBERS AND TOTAL NUMBER OF 4-H MEMBERS PER COUNTY (N = 95), 1965-67

Extension Staff Variable	4-H Enrollment Variables				
	Total Number of 4-H Members Enrolled Per County r	Percent of Potential 4-H Members Enrolled in 4-H Per County r	Average Number of 4-H Members Per Club Per County r	Percent of Potential 4-H Members Enrolled Per Full-Time Staff Equivalent Per County r	Percent of Potential 4-H Members Enrolled Per Staff Member Per County r
Total number of full-time staff equivalent responsible for 4-H work per county	.73[a]	-.08	.26[b]	-.52[a]	-.67[a]
Total number of Extension staff members per county	.71[a]	-.13	.26[b]	-.57[a]	-.57[a]

[a]Significant at .01 level.

[b]Significant at .05 level.

Extension's staff members per club per county. However, the percent of potential 4-H members enrolled per county was not significantly related to either the total number of staff members or to the total number of full-time staff equivalent responsible for 4-H work.

The percent of potential 4-H members enrolled per full-time staff equivalent and percent of potential 4-H members enrolled per staff member, showed a significant negative correlation (at .01 level) with both the total number of full-time staff equivalent responsible for 4-H work per county and total number of Extension's staff member per county. As the number of full-time staff equivalent responsible for 4-H work per county and a total number of Extension's staff member per county increased, the percent of potential 4-H members enrolled per full-time staff equivalent per county and percent of potential 4-H members enrolled per staff member decreased.

III. THE MULTIPLE CORRELATION BETWEEN SELECTED FACTORS OF TENNESSEE'S COUNTY 4-H EXTENSION PROGRAMS AND THE NUMBER OF 4-H MEMBERS ENROLLED PER COUNTY

The purpose of this section was to determine the multiple correlation between each of the six groups of county 4-H program or independent variables and each of the five 4-H enrollment or dependent variables. Another purpose was to determine which of the dependent variables (4-H program variables) accounted for the largest percent of variation in each of the five 4-H enrollment or dependent variables. The five groups of 4-H program or independent variables were 4-H leadership, organization, participation, enrollment, place of 4-H member

residence, and number of Extension staff members per county. The six 4-H enrollment or dependent variables were: total number of 4-H members per county; percent of potential 4-H members per county enrolled in 4-H; average number of 4-H members per club; percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent; and percent of the potential 4-H members per county enrolled per Extension staff member.

The correlation coefficient (r) and the multiple correlation coefficient (R) between the 4-H enrollment or dependent and the 4-H program independent variables were reported in tables in this section. The coefficient of multiple determination (R^2) and the percent increase in R^2 were also shown in the tables.

This section was organized so that the data concerning each dependent or 4-H enrollment variable could be presented in a sub-section. Five headings were used, one for each of the dependent variables. Under each of these headings data concerning each of the six groups of independent variables (4-H leadership, organization, participation, enrollment, place of residence, and number of Extension staff members) were presented in a table and the findings were discussed.

Multiple Correlation Between Total Number of 4-H Members Per County and Each of the Six Groups of Independent Variables

Table IX shows the multiple correlation coefficient of the six 4-H leadership variables with the total number of 4-H members per county. Each of the coefficients achieved the .01 significance level. This table revealed that 60 percent of the variation in total 4-H enrollment was accounted for by the six leadership variables. Out of this 60

TABLE IX

MULTIPLE CORRELATION BETWEEN THE TOTAL NUMBER OF 4-H MEMBERS PER COUNTY AND SIX 4-H LEADERSHIP VARIABLES (N = 95)

Independent Variables--4-H Leadership	Dependent Variable--Total Number of 4-H Members Per County: Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of junior leaders per county	.71[a]	.71[a]	.50	50.3
Total number of adult and junior leaders per county	.68[a]	.75[a]	.56	5.8
Total number of honor club members per county	.58[a]	.77[a]	.60	3.5
Total number of basic four organizations per county	.34[a]	.77[a]	.60	0.5
Total number of 4-H all stars per county	.45[a]	.76[a]	.60	0.1
Total number of adult leaders per county	.59[a]	.78[a]	.60	0.0

[a]Significant at .01 level.

[b]Sixty percent of the variation in total number of 4-H members per county was accounted for by the six leadership variables.

percent of variation accounted by all the independent variables, 50 percent was accounted for by the variable, total numbers of junior 4-H leaders per county. Similarly, 6 and 5 percent, respectively, of the variation was accounted for by the variables, total number of adult and junior leaders per county and total number of honor club members per county. The other two variables, which accounted for less than 1 percent of the variation in total number of 4-H members per county, were total number of basic four organizations and total number of 4-H all stars per county. The variable, total number of junior leaders per county was the best predictor of the total number of 4-H members per county.

Table X shows the multiple correlation coefficients of the three organization variables with the total number of 4-H members per county. Each of these multiple correlation coefficients achieved the .01 level of significance. The three organizations variables accounted for 75 percent of the variation in the total number of 4-H members per county. Of the 75 percent of variation in total 4-H enrollment per county, 69 percent was accounted for by the variable, total number of 4-H clubs per county. The remaining 4 percent and 2 percent, respectively, were accounted for by the variables, average number of senior 4-H members per senior club and total number of senior 4-H clubs per county. The variable total number of 4-H clubs per county was the best predictor of the total number of 4-H members per county.

Table XI shows the multiple correlation coefficient of the three participation variables with the total number of 4-H members per county. Each of these multiple correlation coefficients achieved the

TABLE X

MULTIPLE CORRELATION BETWEEN THE TOTAL NUMBER OF 4-H MEMBERS PER COUNTY AND THREE ORGANIZATION VARIABLES (N = 95)

Independent Variables--4-H Organization	Dependent Variable--Total Number of 4-H Members per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of 4-H clubs per county	.83[a]	.83[a]	.69	68.8
Average number of senior 4-H members per senior club per county	.26[b]	.85[a]	.73	3.9
Total number of senior 4-H clubs per county	.54[a]	.86[a]	.75	2.0

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Seventy-five percent of the variation in total number of 4-H members per county was accounted for by the three organization variables.

TABLE XI

MULTIPLE CORRELATION BETWEEN THE TOTAL NUMBER OF 4-H MEMBERS PER COUNTY AND THREE PARTICIPATION VARIABLES (N = 95)

Independent Variables--4-H Participation	Dependent Variable--Total Number of 4-H Members Per County: Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of 4-H members per county participating in 4-H camp	.56[a]	.56[a]	.31	31.2
Total number of senior district 4-H winners per county	.48[a]	.65[a]	.42	10.8
Total number of 4-H members participating in 4-H judging per county	.35[a]	.67[a]	.45	3.4
Independent Variable--4-H Enrollment				
Total number of potential senior 4-H members per county	.48[a]	.48[a]	.23	23.1

[a]Significant at .01 level.

[b]Forty-five and 23 percent of the variation in total number of 4-H members per county was accounted for by the three participation and one enrollment variables, respectively.

.01 level of significance. The three participation variables accounted for 45 percent of the variation in total number of 4-H members per county. Out of this, 45 percent of variation in total number of 4-H members per county accounted for by all the independent variables, 31 percent was accounted for by the variable, total number of 4-H members per county participating in 4-H camp. Similarly, 11 percent and 3 percent, respectively, of the variation in the total number of 4-H members per county was accounted for by the variables, total number of senior district 4-H winners per county, and total number of 4-H members per county participating in judging. The variable, total number of 4-H members per county participating in 4-H camp was the best predictor of the total number of 4-H members per county.

Also shown in Table XI was the correlation coefficient of the potential number of junior 4-H members per county. This correlation coefficient achieved the .01 level of significance. The variable, total number of potential junior 4-H members per county accounted for 23 percent of the variation in total number of 4-H members per county.

Table XII shows the multiple correlation coefficient of the three place of 4-H member resident variable, with the total number of 4-H members per county. Each of these multiple correlation coefficients achieved the .01 level of significance. The three place of residence variables accounted for 96 percent of the variation in the number of 4-H members per county. Of the 96 percent of variation in the number of 4-H members per county, 55 percent, 30 percent, and 11 percent, respectively, of the variation were accounted for by the variables, total number of 4-H members per county residing on farm, total number

TABLE XII

MULTIPLE CORRELATION BETWEEN THE TOTAL NUMBER OF 4-H MEMBERS PER COUNTY AND THREE PLACE OF RESIDENCE VARIABLES (N = 95)

Independent Variables--Place of 4-H Members Residence	Dependent Variable--Total Number of 4-H Members Per County: Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of 4-H members per county residing on farm	.74[a]	.74[a]	.55	55.2
Total number of 4-H members per county residing in non-farm areas	.73[a]	.92[a]	.85	30.1
Total number of 4-H members per county residing in urban areas	.72[a]	.98[a]	.96	11.0

[a]Significant at .01 level.

[b]Ninety-six percent of the variation in total number of 4-H members per county was accounted for by the three place of residence variables.

of 4-H members per county residing in nonfarm areas, and total number of 4-H members per county residing in urban areas. The variable, total number of 4-H members per county residing on farm was the best predictor of the total number of 4-H members per county.

Table XIII shows the multiple correlation coefficients of the two variables concerning the number of Extension's staff members per county with the total number of 4-H members per county. Each of these multiple correlation coefficients achieved the .01 level of significance. The two Extension staff per county variables accounted for 57 percent of variation in the total number of 4-H members per county. Of the 57 percent of variation in total 4-H enrollment per county, 54 percent was accounted for by the variable, total number of full-time staff equivalent responsible for 4-H work per county. The remaining 3 percent of the variation in total 4-H enrollment per county was accounted for by the variable, total number of Extension staff members per county. The variable, total number of full-time Extension staff equivalent responsible for 4-H work per county was the best predictor of the total number of 4-H members per county.

Table XIV shows the multiple correlation coefficients of the 4-H leadership, organization, participation, enrollment, place of resident, and number of Extension staff members per county variables with the total number of 4-H members per county. Each of these multiple correlation coefficients achieved the .01 significance level. This table revealed that 98 percent of the variation in total number of 4-H members per county was accounted for by the seventeen independent variables. The variable, total number of 4-H clubs per county accounted for 68

TABLE XIII

MULTIPLE CORRELATION BETWEEN THE TOTAL NUMBER OF 4-H NUMBERS PER COUNTY AND TWO EXTENSION STAFF PER COUNTY VARIABLES (N = 95)

Independent Variables--Number of Extension Staff Members Per County	Dependent Variable--Total Number of 4-H Members Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of F.S.E. responsible for 4-H work per county	.73[a]	.73[a]	.54	53.7
Total number of Extension staff members per county	.71[a]	.75[a]	.57	2.7

[a]Significant at .01 level.

[b]Fifty-seven percent of the variation in total number of 4-H members per county was accounted for by Extension staff per county variables.

TABLE XIV

MULTIPLE CORRELATION BETWEEN THE TOTAL NUMBER OF 4-H MEMBERS PER COUNTY AND LEADERSHIP, ORGANIZATION, PARTICIPATION, ENROLLMENT, PLACE OF RESIDENCE, EXTENSION STAFF PER COUNTY VARIABLES (N = 95)

Independent Variables	Dependent Variable--Total Number of 4-H Members Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of 4-H clubs per county	.83[a]	.83[a]	.69	68.7
Total number of 4-H members per county residing in rural non-farm areas	.73[a]	.90[a]	.81	12.2
Total number of 4-H members per county residing on farm	.74[a]	.95[a]	.89	8.3
Total number of 4-H members per county residing in urban areas	.72[a]	.98[a]	.96	7.1
Total number of basic four organization per county	.34[a]	.98[a]	.97	0.07
Total number of potential senior 4-H members per county	.48[a]	.98[a]	.97	0.05
Total number of 4-H all stars per county	.45[a]	.98[a]	.97	0.06
Total number of F.S.E. responsible for 4-H work per county	.73[a]	.98[a]	.97	0.07
Total number of Extension staff per county	.71[a]	.98[a]	.97	0.04
Average number of junior 4-H members per county per junior club	.26[b]	.98[a]	.97	0.03

TABLE XIV (continued)

Independent Variables	Dependent Variable--Total Number of 4-H Members Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of 4-H members per county participating in judging	.35[a]	.98[a]	.97	0.02
Total number of 4-H members per county participating in 4-H camp	.56[a]	.98[a]	.97	0.03
Total number of senior district 4-H winners per county	.48[a]	.98[a]	.97	0.02
Total number of honor club members per county	.58[a]	.98[a]	.97	0.02
Total number of adult and junior 4-H club leaders per county	.68[a]	.98[a]	.97	0.02
Total number of senior 4-H clubs per county	.54[a]	.98[a]	.97	0.00
Total number of junior 4-H club leaders per county	.71[a]	.98[a]	.97	0.00

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Ninety-seven percent of the variation in total number of 4-H members per county was accounted for by the seventeen independent variables.

percent of the variation in the total number of 4-H members per county. Twelve percent, 8 percent, and 7 percent of the variation, respectively, in the total 4-H enrollment per county were accounted for by the variables, total number of 4-H members residing in rural nonfarm areas, total number of 4-H members residing on the farm, and total number of 4-H members residing in urban areas, respectively.

The remaining thirteen variables accounted for less than 1 percent of variations in the total number of 4-H members per county. The variable, total number of 4-H clubs per county, was the best predictor of the total number of 4-H members per county when all 17 independent variables were considered as a unit.

Multiple Correlation Between Percent of the Potential 4-H Members Enrolled Per County and Each of the Six Groups of Independent Variables

The multiple correlation coefficients of the three leadership variables with the percent of potential 4-H members enrolled per county did not reach the .05 level of significance (Table XV). The three leadership variables accounted for 7 percent of the variation in percent of the potential 4-H members enrolled per county. Of the 7 percent of variation accounted for, 4 percent of variation in percent of the potential 4-H members enrolled per county was accounted for by the variable, total number of basic four organizations per county.

Table XVI shows the multiple correlation coefficient of the three organization variables with percent of the potential 4-H members enrolled per county. Of the three organization variables, only the variable total number of senior 4-H clubs per county achieved the .05 level of significance; of the 7 percent of the variation in percent of the

TABLE XV

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL MEMBERS ENROLLED IN 4-H PER COUNTY AND THREE LEADERSHIP VARIABLES (N = 95)

Independent Variables--4-H Leadership	Dependent Variable--Percent of the Potential 4-H Members Enrolled Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[a] Increase In R^2
Total number of 4-H adult leaders per county	.14	.14	.02	2.1
Total number of basic four organization per county	-.14	.25	.06	4.1
Total number of adult and junior 4-H leaders per county	.12	.26	.07	0.8

[a]Seven percent of the variation in percent of the potential members per county enrolled in 4-H was accounted for by the three leadership variables.

TABLE XVI

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL MEMBERS ENROLLED IN 4-H PER COUNTY AND THREE ORGANIZATION VARIABLES (N = 95)

Independent Variables--4-H Organization Variable	Dependent Variable--Percent of the Potential 4-H Members Enrolled Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Average number of senior 4-H members per county per senior clubs	.21[a]	.21	.04	4.4
Total number of senior 4-H clubs per county	.08	.26[a]	.07	2.6
Total number of junior 4-H clubs per county	.10	.27	.07	0.0

[a]Significant at .05 level.

[b]Seven percent of the variation in percent of the potential members per county enrolled in 4-H was accounted for by organization variables.

potential 4-H members enrolled per county which was accounted for by the three organization variables, the variable total number of senior 4-H clubs accounted for 3 percent of that variation. The remaining two organization variables, total number of junior 4-H members per club, and total number of junior 4-H clubs shows a nonsignificant multiple correlation with percent of the potential 4-H members enrolled per county.

Table XVII shows a nonsignificant multiple correlation coefficient for each of the three participation variables with percent of the potential 4-H members enrolled per county. The three participation variables accounted for 3 percent of the variation in percent of the potential members per county enrolled in 4-H. The variable, total number of 4-H members per county participating in judging accounted for 2 percent of the variation in percent of the potential members enrolled in 4-H per county. The remaining two participation variables, total number of senior district 4-H winners per county, and number of members participating in 4-H camp accounted for less than 1 percent of the variation in percent of the potential 4-H members enrolled in 4-H per county.

Multiple correlations coefficients of the three place of residence variables and one enrollment variables with the percent of the potential 4-H members enrolled per county, did not reach the .05 level of significance (Table XVIII). The three place of 4-H member residence variables and one enrollment variable each accounts for 4 percent of the variation in percent of the potential 4-H members enrolled per county. Of the three place of residence variables, the variables total number of 4-H members per county residing on farm and total number of 4-H

TABLE XVII

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL ENROLLED IN 4-H PER COUNTY AND THREE PARTICIPATION VARIABLES (N = 95)

Independent Variables--4-H Members Participation	Dependent Variable--Percent of the Potential 4-H Members Enrolled Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[a] Increase In R^2
Total number of 4-H members per county participating in judging	.15	.15	.02	2.3
Total number of senior district 4-H winners per county	-.05	.17	.03	0.5
Total number of 4-H members participating in 4-H camp	.09	.18	.03	0.4

[a]Three percent of the variation in percent of the potential members per county enrolled in 4-H was accounted for by three participation variables.

TABLE XVIII

MULTIPLE CORRELATION BETWEEN PERCENT OF THE POTENTIAL MEMBERS PER COUNTY ENROLLED IN 4-H AND THREE PLACE OF RESIDENCE VARIABLES (N = 95)

Independent Variables--4-H Members Place of Residence	Dependent Variable--Percent of the Potential 4-H Members Enrolled Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[a] Increase In R^2
Total number of 4-H members per county residing on farm	.16	.16	.02	2.7
Total number of 4-H members per county residing on rural non-farm	-.04	.20	.04	1.5
Total number of 4-H members per county residing in urban areas	-.06	.21	.04	0.2
Independent Variable--Number of 4-H Members Enrolled				
Total number of potential senior 4-H population	-.20	.20	.04	4.1

[a]Four percent of the variation in percent of the potential members per county enrolled in 4-H was accounted for by three place of residence variables and one enrollment variable, respectively.

members per county residing in rural nonfarm areas, accounted for 3 percent and 1 percent of the variations, respectively, in percent of the potential 4-H members enrolled per county. Similarly, one enrollment variable, total number of potential senior 4-H members per county accounted for 4 percent of the variation in percent of the potential 4-H members enrolled per county.

Multiple correlations coefficients of the two variables concerning the number of Extension staff members per county with the percent of potential 4-H members enrolled per county did not achieve the .05 level of significance (Table XIX. The two Extension staff per county variables accounted for 2 percent of variation in percent of the potential 4-H members enrolled per county. Nearly 2 percent of variation in percent of the potential 4-H members enrolled per county was accounted for by the variable, total number of Extension staff members per county.

Table XX shows the multiple correlation coefficients of the 4-H leadership, organization, participation, enrollment, place of resident, and number of Extension staff members per county variables with percent of the potential members enrolled in 4-H per county. Each of these multiple correlation coefficients achieved either the .01 or the .05 significance level. This table revealed that a total of 26 percent of the variation in percent of the potential 4-H members enrolled in 4-H per county was accounted for by the 17 dependent variables. This table also showed that 8 independent variables accounted for 25 percent of the variation in percent of the potential 4-H members enrolled per county. Only 1 percent of the variation in percent of the potential 4-H members enrolled per county was accounted for by the remaining 9 independent variables. The variable total number of senior 4-H clubs

TABLE XIX

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL MEMBERS PER COUNTY ENROLLED IN 4-H AND TWO EXTENSION STAFF PER COUNTY VARIABLES (N = 95)

Independent Variables-- Number of Extension Staff Members Per County	Dependent Variable--Percent of the Potential 4-H Members Enrolled Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[a] Increase In R^2
Total number of Extension staff members per county	-.13	.13	.01	1.8
Total number of F.S.E. responsible for 4-H work per county	-.08	.14	.02	0.2

[a]Two percent of the variation in percent of the potential members per county enrolled in 4-H was accounted for by the two Extension staff per county variables.

TABLE XX

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL 4-H MEMBERS PER COUNTY AND 4-H LEADERSHIP ORGANIZATION, PARTICIPATION, ENROLLMENT, PLACE OF RESIDENCE, AND EXTENSION STAFF PER COUNTY VARIABLES (N = 95)

Independent Variables	Dependent Variable--Percent of the Potential 4-H Members Enrolled Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Average number of junior 4-H members per county per junior clubs	.21[b]	.21[b]	.04	4.4
Total number of potential senior 4-H members per county	-.20	.28[b]	.08	3.8
Total number of senior 4-H clubs per county	.08	.38[a]	.14	6.1
Total number of basic four organizations per county	-.14	.40[a]	.16	2.0
Total number of 4-H all stars per county	.14	.42[a]	.17	1.1
Total number of Extension staff members per county	-.13	.43[a]	.18	1.1
Total number of 4-H members per county participating in 4-H camp	.09	.44[b]	.19	1.0
Total number of 4-H members per county residing in urban areas	-.06	.45[b]	.21	1.2
Total number of junior 4-H clubs per county	.10	.48[a]	.23	2.0
Total number of senior district winners per county	-.05	.49[a]	.24	1.0

TABLE XX (continued)

Independent Variables	Dependent Variable--Percent of the Potential 4-H Members Enrolled Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of adult leaders per county	.11	.50[b]	.25	0.8
Total number of junior 4-H club leaders per county	.10	.50[b]	.25	0.5
Total number of 4-H members per county residing non-farm	-.04	.50[b]	.25	0.3
Total number of 4-H members per county residing on farm	.16	.51[b]	.26	0.4
Total number of F.S.E. per county responsible for 4-H work per county	-.08	.51[b]	.26	0.1
Total number of 4-H members per county participating in 4-H judging	.15	.51[b]	.26	0.1
Total number of junior and adult 4-H club leaders per county	.12	.51[b]	.26	0.0

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Twenty-six percent of the variation in percent of the potential members per county enrolled in 4-H was accounted for by the seventeen independent variables.

per county was the best predictor of the percent of potential 4-H members enrolled per county.

Multiple Correlation Between Average Number of 4-H Members Per Club and Each of the Five Groups of Independent Variables

Table XXI shows the multiple correlation coefficients of the five 4-H leadership variables with the average number of 4-H members per club. The total number of adult leaders per county and the total number of junior 4-H leaders per county showed a significant (.05 level) multiple correlation with the average number of members per 4-H club. The five 4-H leadership variables accounted for 8 percent of the variation in the average number of 4-H members per club. Of the 8 percent of variation in the average number of 4-H members per club accounted for by the five leadership variables, 6 percent was accounted for by the variable total number of junior and adult 4-H club leaders per county. The remaining 2 percent was accounted for by the variables total number of adult leaders per county, total number of 4-H all stars per county, total number of Honor Club members per county, and total number of basic four organization per county. The variable total number of junior and adult 4-H club leaders per county was the best predictor of the average number of 4-H members per club.

Table XXII shows the multiple correlation coefficients of the total number of senior 4-H clubs per county and total number of junior 4-H clubs per county with the average number of 4-H members per club. These two organization variables did not show a significant (.05 level) multiple correlation with the average number of 4-H members per club (Table XX, page 53). Less than 1 percent of variation in the average

TABLE XXI

MULTIPLE CORRELATION BETWEEN THE AVERAGE NUMBER OF 4-H MEMBERS PER COUNTY PER CLUB AND FIVE 4-H LEADERSHIP VARIABLES (N = 95)

Independent Variables--4-H Leadership	Dependent Variable--Average Number of 4-H Members Per Club: Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of junior and adult leaders per county	.24[a]	.24[a]	.05	5.9
Total number of adult leaders per county	.20	.26[a]	.06	0.9
Total number of 4-H all stars per county	.17	.27	.07	0.5
Total number of honor club members per county	.15	.27	.07	0.3
Total number of basic four organization per county	.11	.28	.08	0.3

[a]Significant at .05 level.

[b]Eight percent of the variation in the average number of 4-H members per club was accounted for by the five 4-H leadership variables.

TABLE XXII

MULTIPLE CORRELATION BETWEEN THE AVERAGE NUMBER OF 4-H MEMBERS PER CLUB PER COUNTY AND TWO ORGANIZATION VARIABLES (N = 95)

Independent Variables--4-H Organization	Dependent Variable--Average Number of 4-H Members Per Club Per County: Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[a] Increase In R^2
Number of senior 4-H clubs per county	.040	.040	.001	0.1
Number of junior 4-H clubs per county	.001	.040	.002	0.0

[a]Less than 1 percent of the variation in the average number of 4-H members per club was accounted for by the two organization variables.

number of 4-H members per club was accounted for by the two organization variables (number of junior 4-H clubs and number of senior 4-H clubs per county).

Table XXIII shows the multiple correlation coefficients of the three participation variables with the average number of 4-H members per club per county. The variable, total number of 4-H members per county participating in 4-H camp, achieved the .05 significance level. The variables total number of 4-H members per county participating in judging, and total number of senior district 4-H winners per county did not show a significant multiple correlation with the average number of 4-H members per club. The three participation variables accounted for 6 percent of the variation in the average number of 4-H members per club. Five percent of this variation in the average number of 4-H members per club was accounted for by the variable, total number of 4-H members per county participating in 4-H camp. Each of the other two variables, accounted for less than 1 percent of the variation in the average number of 4-H members per club. The variable total number 4-H members per county participating in 4-H was the best predictor of the average number of 4-H members per club.

Table XXIV shows the multiple correlation coefficients of the three place of member resident variable, with the average number of 4-H members per club, per county. Each of these multiple correlation coefficients reached the .01 significance level. This table revealed that 21 percent of the variation in average number of 4-H members per club was accounted for by the three place of residence variables. Of the 21 percent of variation in the average number of 4-H members per

TABLE XXIII

MULTIPLE CORRELATION BETWEEN THE AVERAGE NUMBER OF 4-H MEMBERS PER CLUB, PER COUNTY, AND THREE PARTICIPATION VARIABLES (N = 95)

Independent Variables--4-H Member Participation	Dependent Variable--Average Number of Members Per Club, Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of 4-H members per county participating in 4-H camp	.22[a]	.22[a]	.05	5.0
Total number of 4-H members per county participating in judging	.15	.24	.06	0.8
Total number of senior district winners per county	.02	.25	.06	0.2

[a]Significant at .05 level.

[b]Six percent of the variation in the average number of 4-H members per club was accounted for by the three participation variables.

TABLE XXIV

MULTIPLE CORRELATION BETWEEN THE AVERAGE NUMBER OF 4-H MEMBERS PER CLUB PER COUNTY AND THREE PLACE OF RESIDENCE VARIABLES (N = 95)

Independent Variables--4-H Members Place of Residence	Dependent Variable--Average Number of 4-H Members Per Club, Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of 4-H members per county residing on rural non-farm	.41[a]	.41[a]	.16	16.8
Total number of 4-H members per county residing on farm	.30[a]	.45[a]	.21	3.8
Total number of 4-H members per county residing in urban areas	.24[b]	.45[a]	.21	0.1

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Twenty-one percent of the variation in the average number of 4-H members per club was accounted for by the three place of residence variables.

club, 17 percent and 4 percent, respectively, were accounted for by the variables, total number of 4-H members per county residing on rural nonfarms and total number of 4-H members per county residing on farms. The variable total number of 4-H members per county residing on rural nonfarms was the best predictor of the average number of 4-H members per club.

Table XXV shows the multiple correlation coefficients of the two Extension staff per county variable with the average number of 4-H members per club. Each of these multiple correlation coefficients reached the .05 significance level. This table revealed that 7 percent of the variation in the average number of 4-H members per club was accounted for by the two Extension staff members per county variables. The variable total number of full-time Extension staff equivalent per county responsible for 4-H work accounted for 6.5 percent of variation in the average number of 4-H members per club. The same variable was the best predictor of the average number of 4-H members per club.

Table XXVI shows the multiple correlation coefficients of the 4-H leadership, organization, participation, enrollment, place of member residence, and number of Extension staff members per county variables with the average number of 4-H members per club. Each of these fifteen multiple correlation coefficients achieved the .01 significance level. The fifteen independent variables accounted for 68 percent of the variation in the average number of 4-H members per club. Of the 68 percent of the variation in average number of 4-H members per club accounted for, 18 percent, 43 percent, and 4 percent were accounted for by the variables, total number of junior 4-H members per county, total number of

TABLE XXV

MULTIPLE CORRELATION BETWEEN THE AVERAGE NUMBER OF 4-H MEMBERS PER CLUB, PER COUNTY AND TWO EXTENSION STAFF PER COUNTY VARIABLES (N = 95)

Independent Variables--Number of Extension Staff Members Per County	Dependent Variable--Average Number of 4-H Members Per Club, Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of F.S.E. responsible for 4-H work per county	.25[a]	.25[a]	.06	6.5
Total number of Extension staff members per county	.25[a]	.26[a]	.07	0.5

[a]Significant at .05 level.

[b]Seven percent of the variation in the average number of 4-H members per club was accounted for by the two Extension staff per county variables.

TABLE XXVI

MULTIPLE CORRELATION BETWEEN THE AVERAGE NUMBER OF 4-H MEMBERS PER CLUB PER COUNTY AND 4-H LEADERSHIP, ORGANIZATION, PARTICIPATION, ENROLLMENT, PLACE OF RESIDENCE, AND EXTENSION STAFF PER COUNTY VARIABLES (N = 95)

Independent Variables	Dependent Variable--Average Number of 4-H Members Per Club Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of junior 4-H members enrolled per county	.420[a]	.42[a]	.18	18.1
Total number of 4-H club per county	.009	.78[a]	.60	42.7
Total number of 4-H members enrolled per county	.420[a]	.81[a]	.65	4.2
Total number of honor club members per county	.150	.81[a]	.66	0.7
Total number of junior 4-H club leaders per county	.230[b]	.82[a]	.67	1.1
Total number of 4-H all stars per county	.170	.82[a]	.67	0.4
Total number of senior district winners per county	.020	.82[a]	.67	0.3
Total number of 4-H members per county residing on farm	.300[a]	.82[a]	.68	0.2
Total number of Extension staff members per county	.250[b]	.82[a]	.68	0.1
Total number of 4-H members per county participating in 4-H camp	.220[b]	.82[a]	.68	--

TABLE XXVI (continued)

Independent Variables	Dependent Variable--Average Number of 4-H Members Per Club Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of basic four organizations per county	.110	.82[a]	.68	--
Total number of 4-H members per county residing on rural non-farm	.410[a]	.82[a]	.68	--
Total number of 4-H members residing urban	.240[b]	.82[a]	.68	--
Total number of junior and adult 4-H club leaders per county	.240[b]	.82[a]	.68	--
Total number of adult leaders per county	.200	.82[a]	.68	--

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Sixty-eight percent of the variation in the average number of 4-H members per club was accounted for by the fifteen independent variables.

4-H clubs per county, and total number of 4-H members per county, respectively. The variables, total number of honor club members per county and total number of junior 4-H club leaders per county each accounted for about 1 percent of variation in the average number of 4-H members per club. The remaining ten variables combined accounted for less than 3 percent of the variation in average number of 4-H members per club. The variable total number of 4-H clubs per county was the best predictor of the average number of 4-H members per club.

Multiple Correlation Between Percent of Potential 4-H Members Enrolled Per County Per Full-time Staff Equivalent and Each of the Four Groups of Independent Variables

Table XXVII shows the multiple correlation coefficients of the four 4-H leadership variables with percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent. Each of these coefficients achieved the .01 significance level. The four 4-H leadership variables accounted for 13 percent of the variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalents. The variables, total number of basic four organizations per county, and total number of junior and adult 4-H club leaders per county accounted for 11 percent and 1 percent of the variation, respectively, in the percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent.

Table XXVIII shows the multiple correlation coefficients of the two organizations variables with percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent. One of these two coefficients achieved the .05 significance level. The total

TABLE XXVII

MULTIPLE CORRELATION BETWEEN THE PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER FULL-TIME EXTENSION STAFF EQUIVALENT AND FOUR 4-H LEADERSHIP VARIABLES (N = 95)

Independent Variables--4-H Leadership	Dependent Variable--Percent of Potential 4-H Members Enrolled Per Full-Time Extension Staff Equivalent Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of basic four organizations per county	-.33[a]	.33[a]	.11	11.1
Total number of junior and adult 4-H club leaders per county	-.19	.35[a]	.13	1.4
Total number of 4-H all stars per county	-.11	.36[a]	.13	0.1
Total number of junior 4-H club leaders per county	-.17	.36[a]	.13	0.1

[a]Significant at .01 level.

[b]Thirteen percent of the variation in the percent of potential 4-H members enrolled per full-time staff equivalent was accounted for by the four 4-H leadership variables.

TABLE XXVIII

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER FULL-TIME EXTENSION STAFF EQUIVALENT AND TWO ORGANIZATION VARIABLES (N = 95)

Independent Variables--4-H Organization	Dependent Variable--Percent of Potential 4-H Members Enrolled Per Full-Time Extension Staff Equivalent Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of junior 4-H clubs per county	-.25[a]	.25	.06	6.1
Total number of senior 4-H clubs per county	-.14	.25	.06	0.0

[a]Significant at .05 level.

[b]Six percent of the variation in percent of potential 4-H members per county enrolled per full-time staff equivalent was accounted for by the two organization variables.

number of junior 4-H clubs per county and total number of senior 4-H clubs per county accounted for 6.1 percent of the variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent. The variable total number of junior 4-H clubs per county alone accounted for 6 percent of the variation in percent of potential 4-H members per county enrolled per full-time Extension staff equivalent.

The multiple correlation coefficients of the three participation variables with the percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent is shown in Table XXIX. Two of these three multiple correlation coefficients achieved the .05 significance level. The three participation variables accounted for 12 percent of the variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent. Of the 12 percent of variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent accounted for, 7 percent, 2 percent, and 3 percent, respectively, by the variables, total number of senior district 4-H winners per county, total number of 4-H members per county participating in 4-H camp, and total number of 4-H members per county participating in judging. The variable total number of senior district 4-H winners per county was the best predictor of the percent of potential 4-H members per county enrolled per full-time staff equivalent.

Table XXX shows the multiple correlation coefficients of the three place of resident variables with percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent.

TABLE XXIX

MULTIPLE CORRELATION BETWEEN THE PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER FULL-TIME EXTENSION STAFF EQUIVALENT AND THREE PARTICIPATION VARIABLES (N = 95)

Independent Variables--4-H Members Participation	Dependent Variable--Percent of Potential 4-H Members Enrolled Per Full-Time Extension Staff Equivalent Per County			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of senior district 4-H winners per county	-.26[a]	.26[a]	.06	6.6
Total number of 4-H members per county participating in 4-H camp	.09	.30[a]	.08	2.2
Total number of 4-H members per county participating in judging	-.22[a]	.35[a]	.12	3.0

[a]Significant at .05 level.

[b]Twelve percent of the variation in the percent of the potential 4-H members per county enrolled per full-time staff equivalent was accounted for by three participation variables.

XXX

MULTIPLE CORRELATION BETWEEN THE PERCENT OF POTENTIAL 4-H MEMBERS PER COUNTY ENROLLED PER FULL-TIME EXTENSION STAFF EQUIVALENT AND THREE PLACE OF RESIDENT VARIABLES (N = 95)

Independent Variables--4-H Members Place of Residence	Dependent Variable--Percent of Potential 4-H Members Per County Enrolled Per Full-Time Extension Staff Equivalent			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of 4-H members per county residing on rural non-farm	-.28[a]	.28[a]	.08	7.9
Total number of 4-H members per county residing urban	-.28[a]	.33[a]	.11	3.1
Total number of 4-H members per county residing on farm	-.18	.34[b]	.11	0.3

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Eleven percent of variation in the percent of potential 4-H members per county enrolled per full-time staff equivalent was accounted for by the three place of resident variables.

Each of these coefficients achieved either .01 or .05 significance level. The three participation variables accounted for 11 percent of the variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent. Of 11 percent of the variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent, 8 percent, and 3 percent of the variation in percent of the potential 4-H members per county was accounted for by the variables, total number of 4-H members per county residing on rural nonfarm, and total number of 4-H members per county residing in urban areas, respectively. The variable total number of 4-H members per county residing on rural nonfarm was the best predictor of percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent per county.

Table XXXI shows the multiple correlation coefficients of the 4-H leadership, organization, participation, and place of resident variables with percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent. Each of these coefficients achieved the .01 significance level. The sixteen independent variables accounted for 27 percent of the variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent. Of the 27 percent of variation accounted for, 23 percent was accounted for by five of the indepdent variables. These independent variables and percent of the variation in the percent of potential 4-H members per county enrolled per full-time Extension staff equivalent accounted for by each variable were as follows: total number of junior 4-H members enrolled per county (11.1); total number of basic four organization per county

TABLE XXXI

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER FULL-TIME EXTENSION STAFF EQUIVALENT AND 4-H LEADERSHIP, ORGANIZATION, PARTICIPATION, PLACE OF RESIDENCE VARIABLES (N = 95)

	Dependent Variable--Percent of Potential 4-H Members Enrolled Per County Per Full-Time Extension Staff Equivalent			
Independent Variables	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of junior 4-H members enrolled per county	-.33[a]	.33[a]	.11	11.1
Total number of basic four organization per county	-.33[a]	.41[a]	.17	5.4
Total number of 4-H members per county participating in judging	.09	.47[a]	.22	5.4
Total number of 4-H members residing in urban areas	-.28[a]	.48[a]	.23	1.0
Total number of honor club members per county	-.20	.49[a]	.24	0.9
Total number of senior district winners per county	-.26[b]	.49[a]	.24	0.3
Total number of 4-H members per county participating in 4-H camp	-.22[b]	.50[a]	.25	0.3
Total number of junior 4-H clubs per county	-.25[b]	.50[a]	.25	0.2
Total number of junior and adult 4-H club leaders per county	-.19	.50[a]	.25	0.2

TABLE XXXI (continued)

Independent Variables	Dependent Variable--Percent of Potential 4-H Members Enrolled Per County Per Full-Time Extension Staff Equivalent			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of 4-H members per county residing on rural non-farm	-.28[a]	.51[a]	.26	0.3
Total number of 4-H members enrolled per county	-.31[a]	.51[a]	.26	0.2
Total number of 4-H members per county residing on farm	-.18	.51[a]	.26	0.4
Total number of senior 4-H clubs per county	-.14	.52[a]	.27	0.2
Total number of junior 4-H club leaders per county	-.19	.52[a]	.27	0.5
Total number of 4-H all stars per county	-.11	.52[a]	.27	--
Total number of adult leaders per county	-.17	.52[a]	.27	--

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Twenty-seven percent of variation in the percent of potential 4-H members per county enrolled per full-time staff equivalent was accounted for by the sixteen independent variables.

(5.4); total number of 4-H members per county participating in judging (5.4); total number of 4-H members residing in urban areas (1.0); and total number of honor club members per county (0.9). The remaining eleven variables accounted for 4 percent of variation in percent of the potential 4-H members enrolled per full-time staff equivalent. The variable total number of junior 4-H members enrolled was the best predictor of percent of the potential 4-H members per county enrolled per full-time staff equivalent.

Multiple Correlation Between Percent of Potential 4-H Members Per County Enrolled Per Extension Staff Member and Each of the Four Groups of Independent Variables

Table XXXII shows the multiple correlation coefficients of the five 4-H leadership variables with the percent of the potential 4-H members per county enrolled per Extension staff member. Each of these coefficients achieved the .01 significance level. The five 4-H leadership variables accounted for 19 percent of variation in the percent of the potential 4-H members per county enrolled per Extension staff member. The variable, total number of basic four organizations per county, and total number of junior and adult 4-H club leaders per county accounted for 16 percent and 3 percent, respectively, of variation in the percent of the potential 4-H members per county enrolled per Extension staff member. The remaining three leadership variables accounted for less than 1 percent of the variation in the percent of the potential 4-H members per county enrolled per Extension staff member. These last mentioned variables were the total number of adult leaders per county, total number of 4-H all stars per county, and total number of

TABLE XXXII

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER EXTENSION STAFF MEMBER AND FIVE 4-H LEADERSHIP VARIABLES (N = 95)

Independent Variables--4-H Leadership	Dependent Variable--Percent of Potential 4-H Members Per County Enrolled Per County Per Extension Staff Member			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of basic four organization per county	-.40[a]	.40[a]	.16	15.9
Total number of junior and adult 4-H club leaders per county	-.25[b]	.43[a]	.19	2.8
Total number of adult leaders per county	-.22[b]	.44[a]	.19	0.2
Total number of 4-H all stars per county	-.21[b]	.44[a]	.19	--
Total number of junior 4-H club leaders per county	-.24[b]	.44[a]	.19	--

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Nineteen percent of variation in the percent of potential 4-H members enrolled per staff member was accounted for by the five 4-H leadership variables.

junior 4-H club leaders per county. The variable total number of basic four organization was the best predictor of the percent of the potential 4-H members per county enrolled per Extension staff member.

Table XXXIII shows the multiple correlation coefficients of the three organization variables, with the percent of the potential 4-H members per county enrolled per Extension staff member. Each of these multiple correlation coefficient achieved either the .01 or .05 significance level. The three organization variables accounted for 12 percent of variation in the percent of the potential 4-H members per county enrolled per Extension staff member. The remaining two organization variables accounted for less than 1 percent of the variation in the percent of potential 4-H members per county enrolled per Extension staff member. These variables were the average number of senior 4-H members per senior club and the total number of senior 4-H clubs per county. The variable total number of junior 4-H clubs per county was the best predictor of the percent of potential 4-H members per county enrolled per Extension staff member.

Table XXXIV shows the multiple correlation coefficients of the three participation variables with the percent of the potential 4-H members per county enrolled per Extension staff member. Each of these multiple correlation coefficients achieved the .01 significance level. The three organization variables accounted for 16 percent of variation in the percent of the potential 4-H members per county enrolled per Extension staff member. Eleven percent, 3 percent, and 2 percent, respectively, of variation in the percent of the potential 4-H members per county enrolled per Extension staff member was accounted for by the

TABLE XXXIII

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER EXTENSION STAFF MEMBER AND THREE ORGANIZATION VARIABLES (N = 95)

Independent Variables--4-H Organization	Dependent Variable--Percent of Potential 4-H Members Per County Enrolled Per Extension Staff Member			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of junior 4-H clubs per county	-.33[a]	.33[a]	.11	11.1
Average number of senior 4-H members per senior clubs per county	.02	.34[a]	.12	0.6
Total number of senior 4-H clubs per county	-.16	.34[b]	.12	--

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Twelve percent of variation in the percent of potential 4-H members enrolled per staff member was accounted for by the three organization variables.

TABLE XXXIV

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER EXTENSION STAFF MEMBER AND THREE PARTICIPATION VARIABLES (N = 95)

Independent Variables--4-H Member Participation	Dependent Variable--Percent of Potential 4-H Members Enrolled Per County Per Extension Staff Member			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[b] Increase In R^2
Total number of senior district 4-H winners per county	-.33[a]	.33[a]	.11	10.7
Total number of 4-H members per county participating in 4-H camp	-.27[a]	.38[a]	.14	3.5
Total number of 4-H members per county participating in 4-H judging	.04	.40[a]	.16	1.8

[a]Significant at .01 level.

[b]Sixteen percent of variation in the percent of potential 4-H members per county enrolled per staff member was accounted for by the three participation variables.

variables, total number of senior district 4-H winners per county, total number of 4-H members participating in 4-H camp per county, and total number of 4-H members per county participating in 4-H judging. The variable total number of senior district 4-H winners was the best predictor of the percent of the potential 4-H members per county enrolled per Extension staff member.

Table XXXV shows the multiple correlation coefficients of the three place of resident variables with the percent of potential 4-H members per county enrolled per Extension staff member. These multiple correlation coefficients each achieved the .01 significance level with the percent of potential 4-H members per county enrolled per Extension staff member. A total of 16 percent of the variation in the percent of the potential 4-H members per county enrolled per Extension staff member was accounted for by the three place of member resident variables. This table also showed that 11 percent, 4 percent, and 1 percent, respectively, of variations in the percent of the potential 4-H members enrolled per Extension staff member was accounted for by the variables, total number of 4-H members per county residing on rural nonfarm areas, total number of 4-H members per county residing in urban areas, and total number of 4-H members per county residing on farms. The variable total number of 4-H members per county residing on rural nonfarms was the best predictor of the percent of potential 4-H members per county enrolled per Extension staff member.

Table XXXVI shows the multiple correlation coefficients of the 4-H leadership, organization, participation, enrollment, and place of resident variables with percent of the potential 4-H members per county

TABLE XXXV

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER EXTENSION STAFF MEMBER AND THREE PLACE OF RESIDENT VARIABLES (N = 95)

Independent Variables--4-H Members Place of Residence	Dependent Variable--Percent of Potential 4-H Members Enrolled Per County Per Extension Staff Member			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of 4-H members per county residing on rural non-farms	-.33[a]	.33[a]	.11	10.9
Total number of 4-H members per county residing in urban areas	-.32[a]	.39[a]	.15	4.1
Total number of 4-H members per county residing on farms	-.25[b]	.41[a]	.16	1.4

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Sixteen percent of variation in the percent of potential 4-H members enrolled per staff member was accounted for by the three participation variables.

TABLE XXXVI

MULTIPLE CORRELATION BETWEEN PERCENT OF POTENTIAL 4-H MEMBERS ENROLLED PER COUNTY PER EXTENSION STAFF MEMBER AND 4-H LEADERSHIP, ORGANIZATION, PARTICIPATION, AND PLACE OF RESIDENT VARIABLES (N = 95)

Independent Variables	Dependent Variable--Percent of Potential 4-H Members Enrolled Per County Per Extension Staff Member			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of basic four organizations per county	-.40[a]	.40[a]	.16	15.9
Total number of 4-H members per county residing in urban areas	-.32[a]	.47[a]	.22	5.8
Total number of 4-H members per county participating in 4-H judging	.04	.51[a]	.26	3.8
Total number of 4-H members per county residing on rural non-farm	-.33[a]	.53[a]	.28	2.1
Total number of 4-H members per county residing on farm	-.25[b]	.54[a]	.29	1.4
Total number of 4-H honor club members per county	-.28[a]	.55[a]	.30	0.5
Total number of senior district 4-H winners per county	-.33[a]	.55[a]	.30	0.5
Total number of 4-H members per county participating in 4-H camps	-.27[a]	.55[a]	.31	0.4
Total number of junior 4-H club leaders per county	-.24[b]	.56[a]	.31	0.2

TABLE XXXVI (continued)

Independent Variables	Dependent Variable--Percent of Potential 4-H Members Enrolled Per County Per Extension Staff Member			
	Coefficient of Correlation r	Coefficient of Multiple Correlation R	Coefficient of Multiple Determination R^2	Percent[c] Increase In R^2
Total number of adult leaders per county	-.25[b]	.56[a]	.31	0.2
Total number of junior 4-H members per junior clubs per county	-.22[b]	.56[a]	.32	0.3
Average number of senior 4-H members per senior clubs per county	.02	.56[a]	.32	0.3
Total number of senior 4-H clubs per county	-.17	.57[a]	.32	0.4
Total number of 4-H all stars per county	.21[b]	.57[a]	.33	0.2
Total number of 4-H clubs per county	-.33[a]	.57[a]	.33	0.1

[a]Significant at .01 level.

[b]Significant at .05 level.

[c]Thirty-three percent of variation in the percent of potential 4-H members enrolled per staff member was accounted for by the fifteen independent variables.

enrolled per Extension staff member. Each of these coefficients achieved the .01 level of significance. This table also revealed that 33 percent of the variation in percent of the potential 4-H members per county enrolled per Extension staff member was accounted for by the fifteen independent variables. Of this 33 percent of variation accounted for, 29 percent of the variation in percent of the potential 4-H members per county enrolled per Extension staff member was accounted for by five of the fifteen variables. These five variables and the percent of variation each accounted for were as follows: total number of basic four organization per county (15.9 percent); total number of 4-H members per county residing in urban areas (5.8 percent); total number of 4-H members per county participating in 4-H judging (3.8 percent); total number of 4-H members per county residing in rural nonfarm (2.1 percent); and total number of 4-H members per county residing on farm (1.4 percent). The other ten variables combined accounted for the remaining 4 percent of variation in the percent of potential 4-H members per county enrolled per Extension staff member. The variable total number of basic four organization per county was the best predictor of the percent of potential 4-H members per county enrolled per Extension staff member.

IV. SUMMARY

In summary, the purpose of this section was to determine the multiple correlation between variables concerning 4-H leadership, organization, participation, place of member residence, number of Extension staff members, and each of five variables concerning the number of 4-H members enrolled per county.

When the multiple correlation of each of these six groups of variables was made with the total 4-H enrollment, the six 4-H leadership variables, three 4-H organization variables, four 4-H participation variables, three place of 4-H members residence variables, and two Extension staff variables, respectively, accounted for 60, 75, 45, 96, and 57 percent of the total variation in the total number of 4-H members per county. The variables, within each group of independent variables, which accounted for the largest percent of variation in total 4-H enrollment were: total number of junior 4-H leaders (50 percent); number of 4-H clubs (69 percent); number of 4-H members per county participating in 4-H camp (31 percent); number of 4-H members per county residing on farm (55 percent); and number of full-time Extension staff equivalent responsible for 4-H work (53 percent).

When the multiple correlation of each of these six groups of variables was made with the percent of the potential 4-H members enrolled per county, the three 4-H leadership variables, five place of 4-H members residence variables, and two Extension staff members variables, respectively, accounted for 7, 7, 3, 4, and 2 percent of the total variations in percent of the potential 4-H members enrolled per county. The variables, within each group of independent variables which accounted for the largest percent of variation in percent of the potential 4-H members enrolled per county were: total number of basic four organizations (4 percent); average number of senior 4-H members (4 percent); number of 4-H members participating in judging (2 percent); number of 4-H members residing on farms (3 percent); and number of Extension staff members per county (2 percent),

When the multiple correlation of each of these six groups of variables was made with the average number of 4-H members per club, the five 4-H leadership variables, three 4-H participation variables, three place of 4-H members residence variables, and two number of Extension staff variables, respectively, accounted for 8, 6, 21, and 7 percent of the total variation in the average number of 4-H members per county. The variables, within each group of independent variables which accounted for the largest percent of variation in the average number of 4-H members per club were: total number of junior and adult 4-H club leaders (6 percent); number of 4-H members per county participating in 4-H camp (5 percent); number of 4-H members per county residing on rural nonfarm (17 percent); and total number of full-time Extension staff equivalent (6 percent).

When the multiple correlation of each of these six groups of variables was made with the percent of the potential 4-H members per county enrolled per full-time Extension staff equivalents, the four 4-H leadership variables, two 4-H organization variables, three 4-H members participation variables, and three place of 4-H members residence variables, respectively, accounted for 13, 6, 12, and 11 percent of the total variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalent. The variables, within each group of independent variables which accounted for the largest percent of variation in percent of the potential 4-H members per county enrolled per full-time Extension staff equivalents were: total number of basic four organizations (11 percent); number of junior 4-H clubs (6 percent); number of senior district 4-H winners (7 percent); and

number of 4-H members per county residing on rural nonfarm (8 percent).

When the multiple correlation of each of these six groups of variables was made with the percent of potential 4-H members per county enrolled per Extension staff member, the five 4-H leadership variables, three 4-H organization variables, three 4-H member participation, and three place of 4-H members' residence variables, respectively, accounted for 19, 12, 16, and 16 percent of the total variation in the percent of potential 4-H members per county enrolled per Extension staff members. The variable, within each group of independent variables which accounted for the largest percent of variation in percent of the potential 4-H members per county enrolled per Extension staff members were: total number of basic four organizations (16 percent); number of junior 4-H club leaders (11 percent); number of senior district 4-H winners (11 percent); and number of 4-H members per county residing on rural nonfarm (11 percent).

CHAPTER IV

MAJOR FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

I. INTRODUCTION

The study was designed to identify the relation between selected variables concerning the characteristics of Tennessee's County 4-H Extension programs and the number of boys and girls enrolled in 4-H club work. More specifically the purposes of the study were: (1) to identify the relations between the total number of 4-H members enrolled per county and selected variables concerning 4-H leadership, organization, participation, enrollment, place of member residence, and number of Extension staff members per county; (2) to determine which of the six groups of county 4-H programs or independent variables (i.e., 4-H leadership, organization, participation, enrollment, place of residence, and Extension staff per county variables) accounted for the greatest percent of variation in the total county 4-H enrollment; and (3) to determine which variable, within each of the six groups of 4-H Extension program variables, accounted for the highest percent of variation in the number of 4-H members enrolled per county.

Source of Data and Name of Variables

Data for each of the 95 counties were secured from secondary sources, including the United States Census of Population for Tennessee Counties and Tennessee 4-H Club Mid-Year Reports. Twenty-six variables were studied. The variables were classified into twenty-one county 4-H programs or independent and five 4-H enrollment or dependent variables.

The five dependent or 4-H enrollment variables were as follows: total 4-H enrollment; percent of potential enrolled in 4-H; average number of 4-H members per club; percent of potential 4-H members enrolled per full time staff equivalent; and percent of potential 4-H members enrolled per Extension staff member per county.

The 21 independent or county 4-H program variables were as follows:

Leadership variables. Total number of adult leaders; total number of junior 4-H club leaders; total number of junior and adult 4-H club leaders; total number of basic four organizations; total number of 4-H all stars; and total number of honor club members.

Organization variables. Total number of senior 4-H clubs; total number of junior 4-H clubs; total number of 4-H clubs; and average number of senior 4-H members per senior club.

Participation variables. Total number of senior district winners; total number of 4-H members participating in 4-H judging; and total number of 4-H members participating in 4-H camp.

Enrollment variables. Total number of potential senior 4-H population; total number of junior 4-H members enrolled; and total number of 4-H members enrolled.

Place of member residence variables. Total number of 4-H members residing on farm; total number of 4-H members residing on rural non-farm; and total number of 4-H members residing in urban areas.

Extension staff per county variables. Total number of full-time Extension staff equivalent responsible for 4-H work per county; and total number of Extension staff members per county.

Analysis of Data

The study was organized upon the basis of the type of statistics used to analyze the data. Two major types of statistics were used: the correlation coefficient (r) and the multiple correlation coefficient (R). The correlation coefficient was used to determine the relation between each of the 21 county 4-H programs or independent variables and each of the five 4-H enrollment or dependent variables. The multiple correlation coefficient was used to determine the multiple relation between the county 4-H program or independent variables, within each group of independent variables, and each 4-H enrollment or dependent variable.

Data were recorded and punched on processing cards. A stepwise regression analysis program was run by The University of Tennessee Computing Center.

II. MAJOR FINDINGS

This summary was organized on the basis of findings concerning each of the independent or county 4-H program variables (4-H leadership, organization, participation, place of member residence, potential 4-H enrollment, and number of Extension staff members). The associations and the percent of variation in county 4-H enrollment accounted for by each group of county 4-H program variables are briefly discussed in this section.

The Relation Between Number of Leaders and 4-H Enrollment

Total 4-H enrollment. Each of the six leadership variables was directly and significantly related (.01 level) to the total number of

4-H members enrolled per county. These six leadership variables, listed in order of decreasing correlations were: total number of junior 4-H leaders; total number of junior and adult 4-H club leaders per county; total number of adult 4-H leaders per county; total number of honor club members per county; total number of 4-H all stars per county; and total number of basic four organizations per county. Therefore, as the number of 4-H leaders increased the total number of 4-H members enrolled per county also increased. It was also found that these six 4-H leadership variables accounted for 60 percent of the variation in the total number of 4-H members enrolled. Out of this, 50 percent of the variation in 4-H enrollment was accounted for by the variable, total number of junior 4-H leaders per club.

Average number of 4-H members per club. The average number of 4-H members per club was significantly related (.05 level) to two of the 4-H leadership variables. It was found that as the total number of adult 4-H leaders and the number of junior leaders increased, the average number of 4-H members per club also increased. However, these six 4-H leadership variables accounted for only 8 percent of variation in the average number of 4-H members per club.

Percent of potential 4-H members enrolled per Extension staff member. Each of the 4-H leadership variables was significantly but inversely related to the percent of potential 4-H members enrolled per staff member. Thus, the potential 4-H members enrolled per staff decreased as each of the six 4-H leadership variables increased. These leadership variables accounted for a total of 19 percent of the

variation in the percent of potential 4-H members enrolled per staff member. Of this, 16 percent was accounted for by the variable, total number of basic four organizations per county.

The six leadership variables showed an inverse relation with the percent of potential 4-H members enrolled per full-time Extension staff equivalent; however, only the variable, total number of basic four organizations, achieved the .05 significance level. None of the leadership variables was significantly related to the percent of potential members enrolled per county.

The Relation Between 4-H Organization and 4-H Enrollment

Total 4-H enrollment. Each of the four 4-H organization variables, total number of 4-H clubs, junior clubs, senior clubs, and average number of senior 4-H members per senior club was significantly related (either .01 or .05 level) to total county 4-H enrollment. Thus, an increase in either of the four organization variables was accompanied by an increase in the total number of 4-H members per county. These four 4-H organization variables accounted for 75 percent of the variation in total 4-H enrollment. Sixty-nine percent of this variation was accounted for by the variable, total number of 4-H clubs per county.

Percent of potential 4-H members enrolled. Only one of the organization variables, average number of senior 4-H members per senior club, was significantly (.05 level) related to the percent of potential members enrolled in 4-H. This correlation indicated that the percent of potential members enrolled in 4-H increased with an increase in the number of senior 4-H members per senior club. However, the four

organization variables accounted for only 7 percent of the variation in the percent of potential members enrolled.

Percent of potential 4-H members enrolled per Extension staff member. Two of the organization variables showed a significant negative correlation coefficient with the percent of potential 4-H members enrolled per Extension staff member. It was found that as either the number of junior 4-H clubs or the total number of 4-H clubs increased, the percent of potential 4-H members enrolled per Extension staff member decreased. The four 4-H organization variables accounted for 12 percent of variation in the percent of potential 4-H members per Extension staff member. Eleven percent of this variation was accounted for by the variable, total number of junior 4-H clubs per county.

The Relation Between 4-H Participation Variables and 4-H Enrollment

Total 4-H enrollment. The 4-H participation variables were: total number of 4-H members participating in judging and in 4-H camp and the total number of senior district 4-H project winners per county. Each of these variables was significantly (.01 level) related to the county 4-H enrollment. Thus, as participation by 4-H members in events and activities increased there was also an increase in the number of 4-H members enrolled per county. The three 4-H participation variables accounted for 45 percent of the variation in total 4-H enrollment. Of this 45 percent, 31 percent was accounted for by the variable, total number of members participating in 4-H camp.

Percent of potential 4-H members enrolled per full-time Extension staff equivalent. The variables, total number of senior district 4-H winners, and total number of members participating in 4-H camp were inversely related (.05 level) to the percent of potential 4-H members enrolled per full-time Extension staff equivalent. Therefore, the number of senior district 4-H winners and the number of members participating in camp each increased as the potential 4-H members enrolled per full-time Extension staff equivalent decreased. The three 4-H participation variables accounted for 12 percent of the variation in the percent of potential 4-H members enrolled per full-time Extension staff equivalent.

Percent of potential 4-H members enrolled per Extension staff member. The variables, total number of district 4-H winners per county, and the total number of 4-H members per county participating in camp, were also inversely related to the percent of potential 4-H members enrolled per Extension staff member (.01 level). The three participation variables accounted for 16 percent of the variation in the percent of the potential 4-H members enrolled per Extension staff member. Eleven percent of this variation was accounted for by the variable, total number of senior district 4-H winners per county.

The Relation Between Potential and Actual Number of 4-H Members Enrolled Per County

The potential 4-H enrollment variables were, number of potential senior 4-H members, total number of junior 4-H members per county and total number of 4-H members enrolled per county. None of these independent variables was significantly related to percent of potential

members enrolled per county. However, the correlation between the total number of potential senior 4-H population and the percent of potential members enrolled was in the negative direction.

Average number of members per 4-H club. The average number of 4-H members per club was directly related to: the total number of junior 4-H members enrolled per county; the total number of 4-H members enrolled per county; and the total number of potential senior 4-H members per county. Thus, as the potential 4-H enrollment increased, the average number of 4-H members per club increased.

Percent of potential 4-H members enrolled per full-time Extension staff equivalent. Each of these potential 4-H enrollment variables showed a significant (.01 level) negative correlation with the percent of potential 4-H members enrolled per full-time Extension staff equivalent. This indicated that as each of the three potential 4-H enrollment variables increased, there was a decrease in the percent of potential 4-H members enrolled per full-time Extension staff equivalent.

Percent of potential 4-H members enrolled per Extension staff member. The three potential 4-H enrollment variables showed a significant (.01 level) negative correlation with the percent of potential 4-H members enrolled per staff member. This indicated that a decrease in either the number of potential 4-H members, the number of junior 4-H members, or the number of total 4-H members enrolled, was accompanied by an increase in the percent of the potential 4-H members enrolled per Extension staff member.

The Relation Between Place of 4-H Members Residence and Average Number of 4-H Members Per Club

It was found that as the number of 4-H members residing on farms, residing on rural non-farm, and residing in urban areas increased, the average number of 4-H members per club also increased. The three place of 4-H member residence variables accounted for 21 percent of the variation in the average number of 4-H members per club. Out of this 21 percent of variation accounted for, 17 percent was accounted for by the variable, total number of 4-H members per county residing on rural non-farms.

Percent of potential members enrolled per full-time Extension staff equivalent. The variables, number of members residing on rural non-farm and the number residing in urban areas were significantly (.01 level) and inversely related to the percent of potential 4-H members enrolled per full-time Extension staff equivalent. This indicated that as either the number of members living on rural farm or members living in urban areas increased, there was a decrease in the percent of the potential members enrolled per full-time Extension staff equivalent. The three place of 4-H members residence variables accounted for 11 percent of variation in the percent of potential 4-H members enrolled per full-time staff equivalent. Out of this, 8 percent of the variation was accounted for by the variable, total number of 4-H members per county residing on rural non-farm.

Percent of potential 4-H members enrolled per Extension staff member. The three place of 4-H members residence variables were

significant and inversely related to the percent of potential 4-H members enrolled per Extension staff member. Therefore, regardless of the place of member residence, as the number of 4-H members increased, there was a decrease in the percent of potential 4-H members enrolled per Extension staff member. The three place of 4-H member residence variables accounted for 16 percent of variation in the percent of potential 4-H members enrolled per Extension staff member. Of this, 11 percent was accounted for by the variable, total number of 4-H members residing on rural non-farm.

The Relation Between the Number of Extension Staff Members and Total Number of 4-H Members Enrolled Per County

Total 4-H enrollment. The two Extension staff variables were total number of full-time staff equivalent responsible for 4-H work and total number of Extension staff members per county. A direct relation was shown between the total number of 4-H members enrolled per county and the total number of full-time Extension staff equivalent per county. Also, a direct relation was shown between total number of 4-H members enrolled and total number of Extension staff members per county. Therefore, as either the total number of full-time Extension staff equivalent, or the total number of Extension staff members per county increased, there was also an increase in the total number of 4-H members enrolled. The two variables accounted for 57 percent of variation in the total 4-H enrollment. The variable, total number of full-time Extension staff equivalent responsible for 4-H work per county accounted

for 54 percent of the variation in total number of 4-H members enrolled in the 95 Tennessee counties.

Number of 4-H members per club. Each of the two Extension staff variables showed a significant (.05 level) direct relation with the average number of 4-H members per club. However, the two staff variables accounted for only 7 percent of variation in the average number of 4-H members per club.

Percent of potential 4-H members enrolled per full-time Extension staff equivalent. Each of the Extension staff variables showed a significant negative correlation (.01 level) with percent of the potential 4-H members enrolled per full-time staff equivalent. As the number of full-time staff equivalent responsible for 4-H work per county and total number of Extension staff per county increased, the percent of potential 4-H members enrolled per full-time staff equivalent decreased.

Percent of potential 4-H members enrolled per Extension staff member. The two Extension staff variables showed a significant negative correlation (.01 level) with the potential number of 4-H members enrolled per Extension staff member. As either the number of full-time Extension staff equivalent responsible for 4-H work or the total number of Extension staff per county increased, the percent of potential 4-H members enrolled per full-time staff equivalent decreased.

III. CONCLUSIONS

Based on the findings of this study, it was concluded that:

1. The total 4-H enrollment in Tennessee counties increased when either the number of junior 4-H club leaders, adult 4-H club leaders, honor club members, 4-H all stars, or basic four organizations increased. Furthermore, the total number of adult 4-H club leaders accounted for the largest increase in total 4-H enrollment.

2. The total 4-H enrollment in Tennessee counties increased when either the total number of junior 4-H clubs, total number of 4-H clubs, or total number of senior 4-H clubs increased. Furthermore, the total number of 4-H clubs accounted for the largest increase in total 4-H enrollment.

3. The total 4-H enrollment in Tennessee counties increased when either the total number of 4-H members participating in 4-H camp, total number of senior district project winners, or total number of 4-H members participating in 4-H judging events and activities increased. Furthermore, the total number of 4-H members participating in 4-H camp accounted for the largest increase in total 4-H enrollment.

4. The total 4-H enrollment in Tennessee counties increased when either the total number of full-time Extension staff equivalents primarily responsible for 4-H work or total number of Extension staff members per county increased. Furthermore, an increase in the total number of full-time Extension staff equivalents responsible for 4-H work accounted for the largest increase in total 4-H enrollment.

5. Finally, it was concluded that a circular effect was present in the 4-H program or independent variables which influenced the size of obtained correlations coefficients and thus influenced the percent of variation in total 4-H enrollment accounted for by the 4-H program variables. The number of junior 4-H leaders is an example of the circular effect. Assuming that the new junior 4-H leaders were also new 4-H members, an increase in the number of junior leaders would naturally increase the total number of 4-H members enrolled.

IV. IMPLICATIONS

The following implications were based upon the findings of the study:

1. An increase in the number of active adult 4-H leaders should be expected to either increase the number of 4-H members who can be serviced or concentrate more educational efforts on the 4-H members presently enrolled. In either case, it would seem desirable to actively involve more adult 4-H leaders.

2. Counties with large enrollments need to investigate ways of reducing the size or number of 4-H members per club (very large clubs seem to be undesirable). In terms of number of leaders per club, counties with larger enrollments could conceiveably increase the number of clubs and still maintain as many leaders per club as counties having smaller enrollment.

3. In terms of their potential influence on enrollment, it would appear that the basic four 4-H organizations would be desirable in counties regardless of size of enrollment.

4. Counties with large 4-H enrollment have little justification for complacency. Although counties with large enrollments also have more leaders, more 4-H organizations, more members participating in activities and events, they also tend to have larger clubs (which seems to be undesirable), enroll a smaller percent of the potential members and enroll a smaller percent of potential 4-H members per full-time Extension staff equivalents, as well as having fewer 4-H leaders, organizations, and lower member participation per full-time Extension staff equivalent responsible for 4-H work.

5. If increased 4-H enrollment is desirable (and this study found nothing which indicates it is not), it would appear that consideration should be given to placing greater emphasis on 4-H expansion in those counties which presently have relatively high 4-H enrollments. This seems desirable in view of the evidence that many of these counties presently enroll small percents of the potential boys and girls, they have the essential organizational structure, they have relatively large numbers of leaders and even greater numbers of potential leaders, and they tend to be adequately staffed, as compared to many counties with fewer 4-H members, to service even larger numbers of 4-H members and leaders. Motivation, encouragement, and direction of Extension staff in this direction may be a key factor in future 4-H enrollment in Tennessee.

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APPENDIX

TABLE XXXVII

CORRELATION MATRIX*

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21	Y22	Y23	Y24	Y25	Y26
X1	1.0	.57	.96	.19	.34	.38	.44	.55	.58	.28	.30	.24	.20	.06	.55	.61	.73	.19	.36	.36	.33	.59	.12	.21	-.17	-.22
X2		1.0	.73	.27	.48	.58	.67	.61	.68	-.002	.47	.29	.33	.25	.84	.84	.65	.53	.65	.67	.61	.71	.10	.23	-.19	-.24
X3			1.0	.22	.40	.47	.53	.62	.66	.24	.37	.29	.25	.11	.64	.70	.77	.28	.44	.44	.41	.68	.12	.24	-.19	-.25
X4				1.0	.33	.51	.23	.26	.28	-.03	.46	.13	.34	.20	.34	.33	.17	.34	.21	.43	.33	.34	-.14	.11	-.33	-.39
X5					1.0	.77	.40	.32	.36	.01	.56	.18	.41	.10	.42	.43	.32	.29	.38	.41	.27	.45	.14	.18	-.11	-.21
X6						1.0	.54	.44	.50	-.10	.63	.22	.60	.14	.56	.57	.39	.44	.47	.45	.33	.58	.07	.15	-.20	-.28
X7							1.0	.46	.62	-.32	.30	.23	.36	.35	.50	.58	.52	.25	.42	.40	.49	.54	.08	.04	-.14	-.17
X8								1.0	.98	.16	.44	.31	.43	.32	.84	.84	.65	.53	.65	.67	.61	.81	.10	.001	-.25	-.33
X9									1.0	.07	.45	.32	.45	.36	.84	.86	.69	.52	.67	.68	.64	.83	.11	.009	-.25	-.33
X10										1.0	-.02	.42	.03	-.03	.24	.25	.29	.18	.09	.13	.03	.25	.21	.39	.09	.03
X11											1.0	.11	.29	.11	.45	.44	.30	.38	.36	.40	.31	.48	-.05	.02	-.26	-.33
X12												1.0	.30	.16	.35	.37	.21	.24	.38	.18	.15	.35	.15	.16	.09	.04
X13													1.0	.26	.58	.57	.31	.46	.48	.46	.42	.56	.09	.22	-.22	-.27
X14														1.0	.51	.49	.09	.52	.50	.53	.66	.48	-.20	.22	-.29	-.27
X15															1.0	.99	.70	.75	.75	.75	.71	.99	.03	.43	-.33	-.40
X16																1.0	.75	.72	.73	.74	.71	.99	.07	.42	-.31	-.38
X17																	1.0	.27	.32	.53	.51	.74	.16	.30	-.18	-.25
X18																		1.0	.41	.57	.54	.73	-.04	.41	-.28	-.33
X19																			1.0	.59	.54	.72	-.06	.24	-.28	-.32
X20																				1.0	.85	.73	-.08	.26	-.52	-.67
X21																					1.0	.71	-.13	.26	-.57	-.57
Y22																						1.0	.07	.44	-.30	-.38
Y23																							1.0	.03	.74	.62
Y24																								1.0	-.11	-.15
Y25																									1.0	.91
Y26																										1.0

*
X1 Total Number of Adult 4-H Leaders
X2 Total Number of Junior 4-H Leaders
X3 Total Number of Junior and Adult 4-H Leaders
X4 Total Number of Basic Four Organizations
X5 Total Number of 4-H All Stars
X6 Total Number of Honor Club Members
X7 Total Number Senior 4-H Clubs
X8 Total Number of Junior 4-H Clubs
X9 Total Number of 4-H Clubs
X10 Average Number of Senior 4-H Members Per Senior Club
X11 Total Number of Senior District 4-H Project Winners
X12 Total Number of 4-H Members Participating in Judging
X13 Total Number of 4-H Members Participating in 4-H Camp
X14 Total Potential Senior 4-H Population
X15 Total Number of Junior 4-H Members Enrolled
X16 Total Number of 4-H Members Enrolled
X17 Total Number of 4-H Members Residing on Farm
X18 Total Number of 4-H Members Residing on Rural Non-Farm
X19 Total Number of 4-H Members Residing in Urban Areas
X20 Total Number of F.S.E. Responsible for 4-H Work
X21 Total Number of Extension Staff Members Per County
X22 Total Number of 4-H Members
Y23 Percent of the Potential 4-H Members Enrolled
Y24 Average Number of 4-H Members Per Club
Y25 Percent of Potential 4-H Members Per County Enrolled Per F.S.E.
Y26 Percent of Potential 4-H Members Enrolled Per Extension Staff Member

TABLE XXXVIII

TOTAL 4-H ENROLLMENT DATA FOR 95 COUNTIES OF TENNESSEE 1965-1967

County	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21	Y22	Y23	Y24	Y25	Y26
	Total Number of Adult 4-H Leaders	Total Number of Junior 4-H Leaders	Total Number of Junior and Adult 4-H Leaders	Total Number of Basic Four Organizations	Total Number of 4-H All Stars	Total Number of Honor Club Members	Total Number of Senior 4-H Clubs	Total Number of Junior 4-H Clubs	Total Number of 4-H Clubs	Average Number of Senior 4-H Members Per Senior Club	Total Number of Senior District 4-H Project Winners	Total Number of 4-H Members Participating in Judging	Total Number of 4-H Members Participating in 4-H Camp	Total Potential Senior 4-H Population	Total Number of Junior 4-H Members	Total Number of 4-H Members Enrolled	Total Number of 4-H Members Residing on Farm	Total Number of 4-H Members Residing on Rural Nonfarm	Total Number of 4-H Members Residing in Urban Areas	Total Number of F.S.E. Responsible for 4-H Work	Total Number of Extension Staff Members Per County	Total Number of 4-H Members	Percent of Potential 4-H Members Enrolled	Average Number of 4-H Members Per Club	Percent of Potential 4-H Members Per County Enrolled Per S.F.E.	Percent of Potential 4-H Members Enrolled Per Extension Staff Member
Anderson	126	39	165	4	18	34	5	32	37	58	2	160	434	7008	1614	1874	480	1296	131	2.0	4	1874	13	51	6	3
Bedford	60	52	112	2	59	31	4	20	24	72	2	122	181	2247	928	1217	560	314	310	2.5	4	1217	27	51	11	7
Benton	28	7	35	1	14	25	7	12	19	22	0	82	157	1055	426	580	229	235	117	1.1	3	580	31	30	28	10
Bledsoe	38	5	43	2	17	11	7	17	24	15	1	33	59	914	456	561	322	240	0	1.1	4	561	33	23	17	8
Blount	99	41	140	4	11	18	3	34	37	116	5	134	90	6362	1964	2312	635	1422	255	2.0	4	2312	19	59	10	5
Bradley	92	30	122	3	53	73	2	18	20	102	13	129	453	4073	1888	2091	635	1149	304	2.0	4	2091	27	55	13	7
Campbell	124	18	142	2	21	29	5	25	30	81	3	102	86	3278	1321	1706	726	971	30	2.0	4	1706	29	57	14	7
Cannon	110	22	132	3	25	23	7	16	23	17	8	56	122	812	510	622	414	204	4	1.4	3	622	40	28	28	13
Carroll	65	21	86	1	5	12	2	27	29	51	1	51	332	2238	979	1078	460	351	264	1.6	4	1078	26	38	16	6
Carter	90	27	117	3	17	25	4	24	28	41	4	49	55	4563	1372	1537	622	907	8	2.0	4	1537	18	55	9	5
Cheatham	27	5	32	0	6	0	2	28	30	50	0	41	107	993	854	955	390	532	0	0.6	2	955	49	32	82	25
Chester	70	8	78	1	2	0	0	27	27	32	0	25	89	1035	571	603	187	294	121	1.1	3	603	34	22	31	11
Claiborne	85	15	100	1	24	1	4	33	37	59	0	83	86	2111	1089	1325	890	434	0	1.5	3	1325	34	36	23	11
Clay	14	11	25	1	13	1	2	18	20	46	2	45	65	852	471	563	361	194	8	1.0	3	563	38	28	38	13
Cocke	92	17	89	1	26	0	3	18	21	39	1	90	24	2600	741	859	421	320	118	1.4	3	859	17	45	12	5
Coffee	68	19	87	3	26	24	1	14	15	101	5	36	55	3051	216	317	166	90	62	1.8	4	317	50	19	3	1
Crockett	205	29	234	3	14	6	4	29	33	86	4	101	87	1584	917	1262	799	463	0	1.6	4	1262	42	38	26	11
Cumberland	39	16	55	2	9	17	1	25	26	100	7	78	161	2319	911	1067	531	280	200	2.0	4	1067	24	39	12	6
Davidson	84	42	126	1	9	12	2	48	50	105	0	332	471	37458	2401	2612	252	1026	1334	3.1	7	2612	3	52	1	4
Decatur	71	29	100	2	12	0	3	25	28	102	3	90	113	841	706	1012	495	517	0	2.0	5	1012	67	36	33	13
DeKalb	77	27	104	1	8	0	1	23	24	230	0	1622	112	1011	869	1103	499	474	129	0.8	2	1103	55	46	69	28
Dickson	68	35	103	2	13	13	3	37	40	61	2	93	415	1891	1223	1407	500	594	313	1.8	4	1407	38	34	21	9
Dyer	163	38	201	3	16	13	4	55	59	73	7	134	116	3077	1025	1317	579	481	257	2.3	4	1317	22	22	10	6

TABLE XXXVIII (continued)

County	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21	Y22	Y23	Y24	Y25	Y26
	Total Number of Adult 4-H Leaders	Total Number of Junior 4-H Leaders	Total Number of Junior and Adult 4-H Leaders	Total Number of Basic Four Organizations	Total Number of 4-H All Stars	Total Number of Honor Club Members	Total Number of Senior 4-H Clubs	Total Number of Junior 4-H Clubs	Total Number of 4-H Clubs	Average Number of Senior 4-H Members Per Senior Club	Total Number of Senior District 4-H Project Winners	Total Number of 4-H Members Participating in Judging	Total Number of 4-H Members Participating in 4-H Camp	Total Potential Senior 4-H Population	Total Number of Junior 4-H Members	Total Number of 4-H Members Enrolled	Total Number of 4-H Members Residing on Farm	Total Number of 4-H Members Residing on Rural Nonfarm	Total Number of 4-H Members Residing in Urban Areas	Total Number of F.S.E. Responsible for 4-H Work	Total Number of Extension Staff Members Per County	Total Number of 4-H Members	Percent of Potential 4-H Members Enrolled	Average Number of 4-H Members Per Club	Percent of Potential 4-H Members Per County Enrolled Per S.F.E.	Percent of Potential 4-H Members Enrolled Per Extension Staff Member
Fayette	133	51	184	1	4	4	6	31	37	100	0	38	161	3309	1469	2059	1605	454	0	2.8	6	2059	29	56	10	5
Fentress	27	13	40	1	9	20	3	38	41	78	7	173	206	1778	972	1207	578	620	0	1.6	3	1207	40	30	25	13
Franklin	98	13	111	3	18	39	2	37	39	45	7	71	200	2791	1226	1316	494	730	92	2.0	5	1316	23	34	12	5
Gibson	174	58	232	3	14	21	7	39	46	73	4	222	264	4479	1767	2277	990	541	746	2.0	5	2277	26	49	13	5
Giles	58	33	91	1	26	19	9	17	26	36	2	149	306	2193	813	1140	723	239	171	1.6	7	1140	27	44	17	4
Grainger	26	10	36	1	10	0	2	26	28	108	0	33	56	1361	870	1019	916	103	0	1.5	3	1019	39	36	26	13
Greene	140	51	191	2	29	34	10	39	49	37	2	126	423	4328	1549	1923	1173	578	172	2.2	5	1923	23	39	10	5
Grundy	31	13	44	1	6	0	1	15	16	106	2	80	209	1293	580	687	226	461	0	1.7	4	687	26	43	15	6
Hamblen	95	21	116	2	16	15	2	25	27	70	3	176	105	3236	675	851	304	363	184	1.6	3	851	12	31	8	4
Hamilton	159	44	203	3	17	14	10	48	58	33	1	151	311	24027	1962	2290	379	374	535	2.1	6	2290	45	39	21	7
Hancock	37	13	50	0	9	0	7	20	27	26	0	23	18	896	395	578	484	94	0	0.4	1	578	35	21	87	35
Hardeman	120	22	142	0	5	0	4	58	62	73	0	34	66	2304	1858	2149	982	778	391	2.7	6	2149	48	32	18	10
Hardin	70	12	82	0	8	2	1	29	30	113	2	45	95	1928	859	972	362	294	216	1.2	3	972	28	32	23	9
Hawkins	408	164	482	2	55	103	23	62	85	39	10	334	275	3154	2386	3260	1874	355	1067	2.2	5	3260	52	38	23	10
Haywood	525	39	564	1	6	0	3	49	52	227	0	132	53	3036	1768	2447	2209	177	61	2.1	5	2447	39	50	18	8
Henderson	59	26	85	3	7	4	2	40	42	72	1	141	127	1651	995	1140	552	416	172	1.9	5	1140	36	27	19	7
Henry	54	15	69	2	7	13	5	29	34	23	3	77	40	2125	729	845	407	298	140	1.8	4	845	21	25	12	5
Hickman	35	15	40	0	8	0	3	25	28	69	1	72	272	1216	624	831	336	386	108	1.8	4	831	36	30	20	9
Houston	18	12	30	0	4	0	2	12	14	62	1	118	140	480	307	428	131	263	0	0.6	2	428	45	30	76	23
Humphreys	58	19	77	0	30	0	2	30	32	108	0	112	189	1177	856	1072	320	315	437	2.0	4	1072	44	33	22	11
Jackson	37	9	46	2	11	5	1	24	25	61	1	89	32	941	548	626	490	136	0	1.6	2	626	37	25	23	18
Jefferson	334	16	350	0	18	0	3	16	19	86	1	101	146	1970	875	1061	331	486	243	1.5	3	1061	26	56	18	9
Johnson	44	17	61	3	1	8	4	21	25	27	0	77	53	1251	586	692	436	256	0	1.5	3	692	32	27	22	11
Knox	99	24	123	2	15	18	7	26	33	33	2	86	220	23747	1207	1445	418	934	94	2.2	6	1445	3	44	1	0.5

TABLE XXXVIII (continued)

County	X1 Total Number of Adult 4-H Leaders	X2 Total Number of Junior 4-H Leaders	X3 Total Number of Junior and Adult 4-H Leaders	X4 Total Number of Basic Four Organizations	X5 Total Number of 4-H All Stars	X6 Total Number of Honor Club Members	X7 Total Number of Senior 4-H Clubs	X8 Total Number of Junior 4-H Clubs	X9 Total Number of 4-H Clubs	X10 Average Number of Senior 4-H Members Per Senior Club	X11 Total Number of Senior District 4-H Project Winners	X12 Total Number of 4-H Members Participating in Judging	X13 Total Number of 4-H Members Participating in 4-H Camp	X14 Total Potential Senior 4-H Population	X15 Total Number of Junior 4-H Members	X16 Total Number of 4-H Members Enrolled	X17 Total Number of 4-H Members Residing on Farm	X18 Total Number of 4-H Members Residing on Rural Nonfarm	X19 Total Number of 4-H Members Residing in Urban Areas	X20 Total Number of F.S.E. Responsible for 4-H Work	X21 Total Number of Extension Staff Members Per County	Y22 Total Number of 4-H Members	Y23 Percent of Potential 4-H Members Enrolled	Y24 Average Number of 4-H Members Per Club	Y25 Percent of Potential 4-H Members Per County Enrolled Per S.F.E.	Y26 Percent of Potential 4-H Members Enrolled Per Extension Staff Member
Lake	4	1	5	0	0	0	0	3	3	2	0	0	2	1177	53	56	44	12	0	0.1	1	56	2	19	24	2
Lauderdale	78	57	135	0	13	5	3	26	29	89	5	30	167	2354	202	1470	737	481	252	1.6	3	1470	30	49	19	10
Lawrence	89	25	114	2	13	17	5	29	34	43	6	69	478	3023	1252	1466	843	558	65	1.8	5	1466	25	44	14	5
Lewis	2	1	3	0	0	0	1	11	12	33	0	29	48	709	214	247	59	43	145	0.8	2	247	18	19	23	9
Lincoln	33	12	45	3	11	37	4	17	21	33	1	66	199	2439	782	914	492	317	105	2.0	5	914	19	43	10	4
Loudon	46	23	69	2	13	8	3	15	18	50	1	91	73	2447	629	812	333	325	153	1.4	3	812	17	48	12	6
McMinn	175	61	236	2	45	47	7	25	32	38	7	170	113	3365	1083	1449	833	420	196	2.0	4	1449	21	45	10	5
McNairy	89	12	101	1	10	18	12	36	48	46	0	327	472	1915	1036	1245	655	555	35	1.2	3	1245	36	26	30	12
Macon	20	12	32	1	6	11	3	10	13	77	1	87	105	1203	732	956	567	226	163	1.6	3	956	41	80	26	14
Madison	147	145	192	1	16	19	6	53	59	35	7	105	5	6125	1831	2381	1289	786	306	2.6	7	2381	18	40	7	3
Marion	11	4	15	1	12	10	2	18	20	61	0	19	71	2454	577	699	147	552	0	1.2	3	699	14	35	12	5
Marshall	134	27	161	2	12	29	4	13	17	44	1	98	181	1660	741	884	474	201	209	1.3	3	884	27	52	21	9
Maury	84	38	122	2	23	18	4	52	56	54	2	180	117	4267	1504	1777	754	469	495	3.0	6	1777	20	32	7	3
Meigs	14	10	24	3	9	4	1	5	6	57	0	18	25	649	232	289	178	77	34	0.5	2	289	25	48	50	8
Monroe	40	8	48	3	7	6	2	34	36	81	4	69	236	2683	957	1119	540	435	144	1 8	4	1119	2	38	26	11
Montgomery	116	54	170	3	30	62	3	35	38	104	2	166	790	4921	1704	2014	971	896	148	2.5	5	2014	82	53	33	16
Moore	30	11	41	2	5	7	1	8	9	29	1	33	68	327	187	216	146	68	0	0.7	2	216	34	24	49	17
Morgan	49	28	77	1	10	15	4	30	34	81	1	139	131	1648	1138	1528	484	1044	0	1.6	3	1528	49	45	31	16
Obion	126	28	154	3	8	29	3	26	29	58	4	77	119	2444	1019	1226	570	397	259	2.0	4	1226	24	42	12	2
Overton	18	18	36	2	8	8	1	10	11	46	4	57	77	1632	173	225	160	58	7	1.3	3	225	8	22	6	2
Perry	41	15	56	1	4	1	4	16	20	17	0	69	122	508	384	449	128	321	0	1.1	3	449	51	22	46	16
Pickett	26	3	29	1	3	0	1	14	15	94	0	31	48	545	335	429	273	157	0	0.8	2	429	45	29	57	23
Polk	54	16	70	1	5	21	2	17	19	99	1	61	139	1431	607	805	325	465	15	2.1	3	805	31	42	15	10
Putnam	79	18	97	2	15	15	3	39	42	55	9	87	283	2773	1142	1306	460	352	495	1.8	4	1306	24	31	13	6
Rhea	44	16	60	0	5	3	5	27	32	26	2	89	111	1744	760	889	268	420	201	1.6	4	889	26	29	16	6
Roane	48	18	66	2	7	19	3	28	31	81	2	184	117	4518	1179	1421	267	800	355	1.9	4	1421	16	47	8	4

TABLE XXXVIII (continued)

County	Total Number of Adult 4-H Leaders X1	Total Number of Junior 4-H Leaders X2	Total Number of Junior and Adult 4-H Leaders X3	Total Number of Basic Four Organizations X4	Total Number of 4-H All Stars X5	Total Number of Honor Club Members X6	Total Number of Senior 4-H Clubs X7	Total Number of Junior 4-H Clubs X8	Total Number of 4-H Clubs X9	Average Number of Senior 4-H Members Per Senior Club X10	Total Number of Senior District 4-H Project Winners X11	Total Number of 4-H Members Participating in Judging X12	Total Number of 4-H Members Participating in 4-H Camp X13	Total Potential Senior 4-H Population X14	Total Number of Junior 4-H Members X15	Total Number of 4-H Members Enrolled X16	Total Number of 4-H Members Residing on Farm X17	Total Number of 4-H Members Residing on Rural Nonfarm X18	Total Number of 4-H Members Residing in Urban Areas X19	Total Number of F.S.E. Responsible for 4-H Work X20	Total Number of Extension Staff Members Per County X21	Total Number of 4-H Members Y22	Percent of Potential 4-H Members Enrolled Y23	Average Number of 4-H Members Per Club Y24	Percent of Potential 4-H Members Per County Enrolled Per S.F.E. Y25	Percent of Potential 4-H Members Enrolled Per Extension Staff Member Y26
Robertson	136	54	190	2	10	9	6	36	42	53	4	159	388	2798	1754	2070	1066	413	592	3.1	6	2070	36	49	12	6
Rutherford	164	76	240	3	39	80	9	66	75	55	12	187	439	4869	2212	2709	982	1030	701	2.1	5	2709	23	36	11	5
Scott	26	4	30	2	2	0	3	10	13	53	0	123	242	2028	446	603	215	352	37	0.8	2	603	16	46	20	8
Sequatchie	8	2	10	0	20	0	1	3	4	41	0	25	32	733	218	261	101	160	0	0.8	3	261	19	65	24	6
Sevier	40	19	59	0	12	0	3	20	23	57	0	86	290	2569	1176	1344	845	451	49	1.5	3	1344	27	58	18	9
Shelby	36	62	98	3	21	30	14	44	58	47	5	167	299	65331	2571	3224	875	1528	821	4.0	11	3224	22	56	5	2
Smith	82	10	92	2	19	9	1	16	17	77	4	98	92	1099	706	816	459	358	0	1.3	3	816	38	48	29	12
Stewart	48	6	54	0	0	0	0	19	19	29	0	50	42	776	521	549	244	306	0	0.8	2	549	36	29	45	18
Sullivan	122	30	152	1	56	50	5	35	40	46	9	57	97	12126	1082	1311	399	870	43	2.2	5	1311	54	33	24	11
Sumner	188	39	227	3	66	94	4	65	69	94	8	256	653	3375	2722	3064	1115	1012	971	2.6	4	3064	50	44	19	12
Tipton	150	42	192	1	3	9	5	35	40	75	1	65	197	3514	1616	2199	1174	724	87	1.0	6	2199	30	55	30	5
Trousdale	44	36	80	2	23	9	4	14	18	31	2	97	65	488	367	776	230	59	161	1.0	2	776	82	46	82	41
Unicoi	43	7	50	1	5	2	1	15	16	136	0	45	66	1640	1000	1135	250	648	237	0.7	2	1135	36	71	52	18
Union	24	21	45	0	1	0	5	18	23	46	0	26	13	895	459	690	460	230	0	0.9	2	690	43	30	47	21
Van Buren	22	2	24	0	10	0	1	8	9	52	1	45	35	472	227	279	130	150	0	0.5	2	279	34	31	69	17
Warren	65	18	83	2	12	15	6	14	20	36	2	211	298	2400	707	949	453	333	164	2.0	5	949	20	31	10	4
Washington	36	6	42	2	5	5	4	31	35	33	3	139	218	6308	1021	1148	510	338	289	2.0	4	1148	9	32	5	2
Wayne	49	21	70	2	5	14	5	23	28	38	2	54	195	1375	661	872	412	460	0	1.5	3	872	34	31	22	11
Weakley	30	18	48	1	13	7	1	27	28	155	3	112	88	2100	1381	1692	478	659	465	1.9	4	1692	44	60	23	11
White	71	12	83	2	38	0	1	23	24	157	2	136	179	1682	884	1043	623	317	106	1.8	4	1043	35	43	19	8
Williamson	123	25	148	1	14	19	6	43	49	52	4	183	218	2783	1656	1969	647	713	609	2.0	5	1969	35	40	18	7
Wilson	110	72	182	3	56	118	10	32	42	41	2	113	529	2716	1393	1803	805	617	382	2.5	5	1803	34	43	13	7

VITA

Syed Zubair Ahmad was born January 10, 1939 in Monghyr, India where he was reared on a small farm. After graduation from Zila high school Monghyr, he attended the Aligarh University at Aligarh. He got the certificate of intermediate of science.

He attended the Ranchi Agricultural College, Ranchi, India where he received a Bachelor of Science degree in Agriculture. He served in the State Department of Agriculture for a short period. He came to the United States in the year 1966 to work toward a degree in Agricultural Extension. He attended the University of Tennessee, Knoxville, where he will receive his Master's degree with a major in Agricultural Extension, in March, 1969.