

Predicting Youth Life Leadership Skills Development Among Senior 4-H Members: A Tri-State Study

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Leadership development has been and continues to be a major goal of most youth programs. The 4-H youth development program of the Cooperative Extension Service is no exception. The 4-H program states its mission as, "To help youth and volunteers in their development through educational programs using the knowledge base of the land grant universities of the United States (United States Department of Agriculture, 1986, p. 4)." Commitment to the mission involves support of specific program objectives including helping youth develop leadership capabilities, personal standards and values, positive self-concepts and effective communication skills. (United States Department of Agriculture, 1986, p. 5). As the world enters the 21st century, many youth programs, including 4-H are focusing on the effectiveness of their leadership training. A general perception prevails that participation in a variety of activities or programs such as public speaking or holding office develops leadership life skills and self-understanding. The question remains - How accurate is this perception?

Miller (1976, p. 2) defined youth leadership life skills development as self-assessed and organization-specific "development of life skills necessary to perform leadership functions in real life." Boyd, Herring, and Briers (1992) found that the level of 4-H participation was a significant predictor of leadership life skills development scores among 4-H youth in Texas. They observed higher leadership life skills development for 4-H members and nonmembers. According to Miller (1987), 4-H alumni were more likely to become involved in community activities than nonalumni. Mueller (1989) found a positive relationship between participation in 4-H leadership activities and youth leadership life skill development. A Michigan study (Cooperative Extension Service, 1976) found that leadership skills were learned through participation in 4-H activities and projects that provide youth the opportunity to participate in leadership roles.

Level and degree of participation is a factor to consider in the development of leadership life skills. Heinsohn and Cantrell (1986) found in a study involving 761 Pennsylvania 4-H youth that only 41 percent indicated involvement in leadership roles at the county level, 17 percent at the state level, whereas 92 percent of the leadership roles took place with the club program. They concluded that the greatest impact on leadership life skill development would be made by increasing youth involvement in leadership experiences beyond the community club level.

Other variables have been shown to have a relationship with youth leadership life skills development. Included are achievement expectancy (Dormody & Seevers, 1993) self-esteem (Blackwell, 1990; Mueller, 1989), years in the youth program (Miller, 1987; Orr & Gobeli, 1986; Waguesback, 1983), age (Boyd, et. al., 1993), ethnicity (Blackwell, 1990; Dormody & Seevers, 1993), gender (Luft, 1986; Orr & Gobeli, 1986; Dormody & Seevers, 1993; Waguesback, 1983), and place of residence (Heinsohn & Cantrell, 1986).

Existing research in agricultural and extension education on youth leadership life skills has concentrated on 4-H members. Many of these studies did not complete the task of conceptualizing, operationalizing, validating and assessing the reliability and dimensionality of measures of life skills development as it relates to youth leadership. These steps were completed by Seevers and Dormody (1992), beginning with integrating and cross-validating conceptualizations proposed by Harp (1984), Miller (1975), and Waguesback (1986). Validation procedures and assessment for reliability and dimensionality resulted in a summated scale of measuring the leadership life skills development of both 4-H and FFA members (Dormody, Seevers, & Clason, 1993). Use of the scale with 4-H members in an ethnically diverse geographical setting would

provide a needed source of data to further strengthen the theoretical base for a relationship between participation in 4-H leadership activities and leadership life skills development. Generations of such knowledge could also assist youth professionals and leaders in developing more effective 4-H leadership development programs.

Purpose and Objectives

The purpose of this study was to determine predictors of youth leadership life skills development among 1992-1993 senior 4-H members in Arizona, Colorado, and New Mexico. Specific objectives of the study were to:

Describe 4-H members by their youth leadership life skill development, participation in 4-H leadership activities, achievement expectancy, self-esteem, years in 4-H, age, ethnicity, gender, and place of residence.

Determine the predictors of leadership life skills development from among participation in 4-H leadership activities, achievement expectancy, self-esteem, years in 4-H, age, ethnicity, gender, and place of residence.

Procedures

1992-93 senior 4-H membership rosters were obtained from the State 4-H offices in Arizona, Colorado, and New Mexico. From the rosters, the population of 4-H members in the three states was calculated to be 8,257. At a 95 percent confidence level a sample size of 367 was needed to represent the population (Krejcie & Morgan, 1970). This number was rounded up to 400. A random sample of senior 4-H members, stratified proportionally by state to ensure representation was generated.

The study used descriptive survey methodology. The dependent variable was youth leadership life skills development, the main independent variable was participation in 4-H leadership activities. Other independent variables included as control variables were: (a) achievement expectancy, (b) self-esteem, (c) years in 4-H, (d) age, (e) ethnicity, (f) gender, and (g) place of residence.

All parts of the instrument and a parallel instrument for FFA were assessed for content and face validity by a panel of experts consisting of two faculty members in vocational education, two state cooperative extension service administrators, a faculty member in educational administration, and two faculty members in research and statistics. The 30-indicator, unidimensional Youth Leadership Life Skills Development Scale (YLLSDS) was used to measure the dependent variable (Dormody, Seevers, & Clason, 1993). During its development, the YLLSDS had been assessed for reliability following a pilot test with 262 senior 4-H and FFA members in New Mexico (Seevers & Dormody, 1992). Cronbach's coefficient alpha for the scale was .98. Scores on the YLLSDS can range from 0 to 90.

Participation in 4-H leadership activities was measured by a 21-indicator index adapted from Mueller (1989), which listed 4-H leadership activities by various levels of participation ranging from no participation through local, district, state, regional and national participation, depending on the activity. Scores on the participation index can range from 0 to 62. A two-week test-retest procedure with 19 youth who were not a part of the sample yielded a reliability coefficient of .97 for the index.

Achievement expectancy was assessed with a two-indicator summated scale adapted from Canfield (1976). One indicator asked members to indicate the level of evaluation they expected to get on their 4-H activities and projects ranging from outstanding to poor. The other indicator asked them to indicate the level of performance they expected from themselves during 4-H activities and projects, also ranging from outstanding to poor. Scores on the scale could range from zero to eight. The two-week test-retest reliability coefficient for the scale was .67.

Self-esteem, was measured by the Rosenberg Self-Esteem Scale (FSE), a 10 item unidimensional Guttman scale (Wylie, 1974). Split-half reliability assessment of the RSE during pilot testing of the YLLSDS yielded a coefficient of .68 (Seevers & Dormody, 1992).

Data were collected following the Dillman (1978) procedure for mail questionnaire administration. Incentives were sent with the three mailings to increase response rate. A response rate

of 59 percent (n=228) was obtained. Complete data for the regression analysis was submitted by 228 (57%) of the respondents. To check for nonresponse bias, 10 nonrespondents were contacted by telephone. Nonrespondents were compared statistically to respondents by youth leadership life skills development, years in 4-H, age, gender, ethnicity, place of residence and state. No significant differences were found in any of the categories between groups. Miller and Smith (1983) suggest that because the data were similar, respondents can be generalized to the population.

Objective one was analyzed using descriptive statistics (i.e. means, medians, modes, standard deviations, ranges, frequencies and percentages). Objective two was analyzed using step-wise, multiple regression. Due to the exploratory nature of the study, a Type II error was judged potentially as serious as a Type I error. A significance level of 0.15 was set a priori for the regression analysis. Because a large number in independent variables was used in the regression analysis, multicollinearly indices were also analyzed. No serious collinearity problems between independent variables were observed.

Results

Objective One

4-H members' Youth Leadership Life Skills Development Scale (YLLSDS) scores ranged from zero to 90 with a mode of 72 and a median of 69. The youth averaged 67.7 (sd=17.5) on the YLLSDS. Given this mean, standard deviation, and using the formula: percent possible skewness = $\frac{\text{mean} - \text{median}}{\text{standard deviation}} \times 100$, the distribution of YLLSDS scores was determined to be skewed slightly negatively, containing 19 percent of possible skewness (Table 1).

Scores on the participation in 4-H leadership activities index ranged from zero to 51 with a mode of 16, and a median of 18.5. 4-H members averaged 20.5 (sd=11.2) on the index. The distribution of index scores was skewed slightly positively, containing 18 percent of the possible skewness (Table 1).

Scores on the achievement expectancy scale ranged from four to eight with a mode of six (n=60), median of six, and a mean of 6.3 (sd=1.3). The distribution of scale scores was

determined to be skewed slightly positively, containing 23 percent of possible skewness (Table 1).

Scores on the RSE scale ranged from zero to six with a mode of six (n=132) and a median of six. 4-H members averaged 5.3 (sd=.09) on the RSE scale. The distribution of RSE scores was skewed strongly negatively, containing 78 percent of possible skewness (Table 1).

4-H members' year in 4-H ranged from one to eleven with a mode of eight years (n=30) and a median of six years. Members averaged 5.9 years (sd=2.8) in the organization. The distribution of years in 4-H was considered to be nearly normal, containing only 4 percent of possible skewness (Table 1).

4-H members' ages ranged from 12 to 20 with a mode of 16 (n=72). The members averaged 16.3 (sd=1.4) years of age. The age distribution was skewed slightly positively, containing 21 percent of possible skewness (Table 1).

Because of the low percentage of minority 4-H members in the sample (10.5% or n=24), minority categories were combined for analysis. 4-H members that live on a farm or ranch comprised 44.3 percent of the sample. Another 33.3 percent were either rural nonfarm/ranch residents or from a town under 10,000 in population. 4-H members were 59.2 percent (n=135) female (Table 2).

Objective Two

Four variables--participation in 4-H leadership activities, achievement, ethnicity, and gender -- explained significant amounts of the variance in YLLSDS scores after controlling for self-esteem, years in 4-H, age, ethnicity and place of residence (Table 3). Participation in leadership activities explained approximately 12.6 percent, achievement expectancy 2.0 percent, ethnicity 3.3 percent and gender 1.8 percent. The four-variable solution explained 19.6 percent of the variance in YLLSDS scores. The regression model for predicting youth leadership life skills development from participation in 4-H activities, achievement expectancy, ethnicity, and gender is:

YLLSDS score = 39.9 + (9.5) (ethnicity) + (4.9) [gender (where females are coded

Table 1. Descriptive Statistics for Interval and Ratio Data Variables (n=228)

Variable	Mean	Median	Mode	sd	Range
Youth leadership life skill development (YLLSDS)	65.7	69	72	17.5	0-90
Participation in 4-H leadership activities	20.5	18.5	16	11.2	0-51
Achievement expectancy	6.3	6	6	1.3	4-8
Self-esteem (RSE)	5.3	6	6	0.9	0-6
Years in 4-H	5.9	6	8	2.8	1-11
Age	16.3	16	17	1.4	12-20

Table 2 Descriptive Statistics for Nominal and Ordinal Data Variables (n=228)

Variable	Category	f	%
Ethnicity	White	204	89.5
	Minority	24	10.5
Gender	Female	135	59.2
	Male	93	40.8
Place of residence	Farm or ranch	101	44.3
	Rural non-farm or town <10,000	76	33.3
	Town or city 10,000 - 50,000	22	9.6
	Suburb or city > 50,000	29	12.7

Table 3. Stepwise Multiple Regression Analysis of Youth Leadership Life Skills Development (n=228)

Source of variation	SS	df	MS	F	Prob>F
Regression	698.6	4	3424.7	13.62	0.0001
Error	56080.9	223	251.5		
Total	69779.6	227			

Variables in the equation

Variable	Parameter Estimate	Standard Error T	Prob> T		Partial R square
Intercept	39.9	5.3	7.6	0.0001	0.019
Participation in 4-H leadership activities	0.5	0.9	2.4	0.0190	0.126
Ethnicity	9.5	3.5	2.7	0.0066	0.033
Achievement expectancy	2.0	0.9	4.3	0.0001	0.019
Gender	4.9	2.2	2.2	0.0294	0.017

1 and males coded 0)] + (2.0) achievement expectancy + (.05) (participation in 4-H leadership activities index score).

Conclusions

Participation in 4-H leadership activities had a positive relationship with youth leadership life skills development, explaining 12.6 percent of the variance in YLLSDS scores. This is an increase in predicted variance over other studies

reporting participation in leadership activities as a predictor of YLLSDS. Boyd, Herring and Briers (1992) found 4-H participation explained 3.3 percent of the variance in leadership life skills development scores among Texas 4-H youth. Dormody and Seevers (1993) found that participation in FFA leadership activities explained 2.3 percent of the variance in Youth Leadership Life Skills Development (YLLSDS) scores.

Minority 4-H members were found to have

higher youth leadership life skills development scores than nonminority members, explaining 3.3 percent of the variance in YLLSDS scores. These results are different than those found by Blackwell (1990) who found no differences in life skills gain between Anglo and Hispanic 4-H members and found the Native American group had significantly lower life skills gain scores than either Anglo or Hispanic members.

Achievement expectancy, or a combination of the level of evaluation 4-H members expect from others and the level of performance they expect from themselves in 4-H activities and projects, had a positive relationship with youth leadership life skill development, explaining 1.9 percent of the variance in YLLSDS scores. In a similar study, Dormody and Seevers (1993) found achievement expectancy of FFA members explained close to 14 percent of the variance in YLLSDS scores.

Gender was found to predict 1.7 percent of the variance in YLLSDS scores among senior 4-H members. Female members had higher youth leadership life skills development scores than males.

Leadership life skills development was not related to self-esteem, years in 4-H, age, or place of residence.

Recommendations

Youth should be encouraged to join 4-H and participate in leadership activities regardless of self-esteem, years in 4-H, age, or place of residence.

4-H professionals and volunteer leaders should not only continue to involve and encourage participation in leadership activities at the club/county levels but provide opportunities and support for involvement at higher levels.

Further research should be conducted to determine why participation in leadership activities appears to be a stronger predictor of youth leadership life skills development among senior 4-H members than among FFA members, (Dormody & Seevers, 1993), whereas achievement expectancy appears to be a stronger predictor of youth leadership life skills development among FFA members (Dormody & Seevers, 1993), than among senior 4-H members. Are these differences

real? Is 4-H more leadership oriented in its activities than FFA? Is FFA more achievement oriented in its activities than 4-H? If so, what can these organizations learn from one another?

Further research should be conducted to determine why specific 4-H activities were determined as the most effective in developing leadership life skills development.

The Extension Service - USDA and the 4-H Youth Development Program are equal opportunity/affirmative action institutions. Minority 4-H members were found to have higher youth leadership life skills development scores than nonminority members. Minority membership in 4-H represents a small percentage of the total enrollment. Minority youth should benefit from participation in the 4-H program and 4-H leadership activities. Further research is recommended related to membership and participation in leadership activities by ethnicity and gender.

The prediction model determined by this study explains only 20 percent of the variance in youth leadership life skills development. Further research should search for other predictors.

Further research on leadership life skills development is recommended with other youth serving programs and in other geographical areas.

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