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Research In Brief

The Factors That Influence the Involvement of Youth in Pennsylvania 4-H Extension District 16 Livestock Programs

Abstract

The study reported in this article determined the factors that influence the involvement of 4-H members in Pennsylvania 4-H District 16 livestock programs. The study used a descriptive research design. A survey was distributed to all 4-H livestock club (beef, sheep, swine, and goat club) members within the counties that comprise Penn State Extension District 16 (Adams, Franklin, and York counties). The major findings of the study align with previous research as parents were found to be the most significant influence in their children's involvement with 4-H. The financial cost of participation was the biggest limitation of involvement.

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Introduction

4-H livestock projects provide youth with knowledge, leadership skills, and a deep sense of personal responsibility and accomplishment that can be seldom achieved by other means (Smith, Meehan, & Dasher, 2009). These projects also provide youth with experiential learning environments and experiences that help them to acquire new scientific and agricultural competencies (Smith et al., 2009). While much research has been done to assess the programmatic challenges of the 4-H program, as well as the factors that influence children's involvement in youth organizations, very little research has been done to specifically investigate what influences the involvement of youth in designated 4-H livestock programs.

Enrollment of youth in 4-H livestock programs has been fluctuating nationally for many years (Harder, Lamm, Lamm, Rose, & Rask, 2005). In Pennsylvania, 4-H Animal Science program enrollment dropped from 69,978 in 2009, to just 58,892 in 2010 (Pennsylvania 4-H Statistics).

There are many factors that can play a role in the decisions that youth make about whether or not to join a youth organization. Many of the factors are socially based (Hoover, 1990). But some of the factors may also be financial limitations or limitations of other resources. If youth do not get involved with 4-H livestock programming, future agricultural leaders are missing out on an array of development opportunities. Rusk, Early, Machtmes, Talbert, and Balschweid (2003) state that communication skills, leadership capabilities, and other skills learned in 4-H livestock programs are imperative to developing youth into key members of society.

Purpose and Objectives:

The primary purpose of the study reported here was to identify the factors that influence the involvement of Pennsylvania Extension District 16 4-Hers in 4-H livestock programming. The following objectives guided the study:

- Determine the demographic and program profile of PA Extension District 16 4-H livestock members;
- Identify the factors that influence the involvement of 4-H livestock members in PA, Extension District 16;
- Identify the learning and leadership experiences that youth in the population have participated in; and
- Identify the factors that limit youth participation in 4-H livestock programs in PA, Extension District 16.

Methods

Population, Sample, and Study Design

The target population for the study was all 4-H members (N=150) enrolled in livestock projects within Adams, Franklin, and York Counties in South Central Pennsylvania. These counties comprise Penn State Extension District 16, which is located in South Central Pennsylvania. This district also housed the position of the researcher at the time of the study.

A list of names and contact information was acquired from Penn State Cooperative Extension 4-H educators. Data for the study were collected through a website-based survey. Dillman's tailored design method was used to collect data and assure that an optimum number of surveys were returned (Dillman, 1991). Ninety-five surveys were returned, for a response rate of 63.3%.

Instrumentation, Data Collection, and Analysis

The survey contained both multiple-choice questions and Likert scale type questions that were developed to determine factors affecting the involvement of the target population within the 4-H livestock program.

The survey was based on a template designed by Gill, Ewing, and Bruce (2010). The instrument was

reviewed for face and content validity by a panel of experts consisting of faculty members from the Departments of Agricultural Economics, Sociology, Education, and Animal Science at The Pennsylvania State University. The Institutional Review Board of the Pennsylvania State University approved the study.

The instrument was pilot tested using a population of 4-Hers in Garrett and Alleghany Counties in Maryland. These counties were chosen based upon the willingness of Extension professionals in those counties to participate. Cronbach's alpha of 0.9 or greater was found for each of the scaled items and the survey was deemed to be reliable.

Findings

Objective One—Demographic and Programmatic Profile

Of the ninety-five study respondents, 100% indicated their race as white/Caucasian. The gender of study respondents was near equal, with 47% of respondents being male and 53% being female. Respondents ranged in age from 8 to 19 years old, with an average age of 14.8 years. The vast majority of respondents indicated that they lived either on a farm or in a rural, non-farm location (93.8%). Over two thirds of study respondents indicated that their parents were 4-H members.

The researcher developed a programmatic profile of 4-H projects maintained by the youth. The majority of the respondents (58.6%) indicated that they participate in only one livestock project area. The second most populous were involved with two different livestock projects (27.6%).

Over half of the respondents participated in market and breeding animal projects (56.5%). The youth indicated that they enjoyed "both market and breeding animals equally" (40%). Beef projects had the highest number of participants (48.4 %). Sheep projects represented the lowest level of participation (22.1%). 4-H members who participate in only livestock breeding animal projects represented only 5.3% of respondents.

Objective Two—Factors That Influence the Involvement of 4-H livestock members

Previous studies have shown that parents play a role in involving their children within 4-H programming (Gill et al., 2010). Within the livestock portion of the 4-H program, this seems to be a continuing theme. Over 89% of respondents answered that their parents had "some or great influence" over their involvement in 4-H livestock programs (Table 1).

Table 1.

People Who Influenced Involvement in the 4-H Livestock Program

Who influenced you to join 4-H?	n	No Influence (*f*) %	Little Influence (*f*) %	Some Influence (*f*) %	Great Influence (*f*) %
Parents	85	3 3.5%	6 7.1%	16 18.8%	60 70.6%

Friends	78	26 33.3%	14 17.9%	22 28.2%	16 20.5%
Siblings	77	36 46.8%	13 16.9%	10 13.0%	18 23.4%
4-H leader	77	22 28.6%	10 13.0%	28 36.4%	17 22.1%
Other	10	-	-	-	-

Ten respondents selected "other" influences. Of those 10, nine of the responses indicated that other family members (such as aunts, uncles, or cousins) had significant influence over their decision to be involved with 4-H Livestock Programs.

The personal reasons for the youth to be involved with the 4-H livestock program were examined using a seven point Likert scale (Table 2). 43.8% of respondents indicated that the most important reason they were involved is because of their interest in the projects. Desire to work with animals was indicated by 54.9% of respondents as their most important reason. Youth also indicated that they joined 4-H livestock programs because it looked like fun (33.3%). Respondents indicated that leadership (13.8%) and public speaking (9.9%) factors were some of the least important factors influencing their decisions. The respondents indicated moderate levels of wanting to make money, win prizes or awards, or pursue a career in animal sciences.

Table 2.

Personal Reasons for Joining a 4-H Livestock Program

Reasons for joining	**n**	***1(Least Important) %**	***2 %**	***3 %**	***4 (somewhat important) %**	***5 %**	***6 %**	***7 (most important) %**
Hangout with friends	81	28.4	9.9	12.3	23.5	7.4	8.6	9.9
Interested in the projects	80	0.0	1.3	3.8	17.5	5.0	28.7	43.8
Wanted to make money	82	13.4	4.9	8.5	28.0	9.8	20.7	14.6
Work with animals	82	1.2	0.0	1.2	9.8	4.9	28.0	14.6
Improve speaking	82	13.4	8.5	8.5	24.4	19.5	13.4	12.2

skills								
Desire to lead	81	22.2	8.6	16.0	21.0	12.3	8.6	11.1
Desire to win awards	82	13.4	8.5	8.5	24.4	19.5	13.4	12.2
It looked fun	81	2.5	2.5	2.5	16.0	12.3	30.9	33.3
A parent made me join	80	51.2	15.0	3.8	12.5	2.5	5.0	10.0
Family already involved	83	28.9	5.3	4.8	12.0	4.8	14.5	28.9
Desire to do community service	82	12.2	17.1	14.6	30.5	4.9	11.0	9.8
Desire to develop leadership skills	80	6.3	16.3	13.8	27.5	10.0	11.3	13.8
Learn how to speak publically	81	21.0	17.3	13.6	21.0	4.9	12.3	9.9
Interested in animal science career	82	19.5	11.0	6.1	15.9	2.4	18.3	26.8

*1=least important, 4= somewhat important, 7= most important

Respondents were asked how often they encounter leadership and learning experiences on a scale from one to five (one being never, five being very often). One third of respondents (38.6%) felt they "often" made important decisions, while only 2.4 % said they never make important decisions in their 4-H livestock program. Almost one third (30.5%) of respondents stated they "often" participated in planning 4-H activities, while 29.3% of the same respondents said they "seldom" plan 4-H activities. This makes for an inconclusive stance on this question. Almost half (43.9%) of respondents indicated that they "often" work on developing their own skills in 4-H livestock programs. Another third (34.1%) of respondents indicated they "often" feel like they are making a contribution, while only 1.2% felt

that they never made a contribution.

Objective Three—Learning and Leadership Experiences of 4-H Livestock Members

The respondents have a variety of regional and state activities available to them. The data shows an average of 47.2% of livestock program members never participate in these activities. While some counties require the youth to give an annual presentation/show and tell, 32.9 % of the participants indicated that they seldom gave a public presentation. This shows the varying characteristics amongst programs in each county (Table 3).

Table 3.

Learning and Leadership Experiences of 4-H Livestock Club Members

Experience	n	Never %	Seldom %	Periodically %	Often %	Very often %
Participating in a non-meeting event	82	4.9	17.2	32.9	26.8	18.3
Participating in a county event	81	7.4	11.1	33.3	28.4	19.8
Participating in a regional event	81	33.3	21.0	24.7	11.1	9.9
Attending state leadership conference	82	61.0	11.9	9.8	11.9	6.0
Participating in state achievement days	81	54.3	13.6	11.1	9.9	11.1
Planning 4-H activities	82	4.9	29.3	23.2	30.4	12.2
Developing your own skills	82	1.2	9.8	23.2	43.9	21.9
Feeling you make a contribution	82	1.2	11.0	31.7	34.1	22.0
Leading others	81	3.7	22.2	29.7	25.9	18.6
Doing community service	81	3.7	27.2	32.1	26.0	11.1
Giving a public presentation	82	8.5	32.9	31.7	19.5	7.3
Completing challenging tasks	83	4.8	10.8	48.2	24.0	12.2
Making important decisions	83	2.4	7.2	32.5	38.6	19.2

Objective Four—Factors That Limit Youth Participation in 4-H Livestock Programs

Along with the factors that influence youth to become involved in 4-H livestock programming, there are factors that limit participation. Respondents were asked to evaluate statements that reflect limitations in their participation. While none of the study participants indicated that the financial cost played a major limitation, 58.5% of respondents indicated the financial cost of participation was limiting to some degree (Table 4).

This financial cost of participation was significantly higher than the remaining items indicated by the respondents. Availability of resources was the second most limiting factor.

Table 4.

Factors That Limit Involvement of 4-H Livestock Members

What a factors limit your participation in 4-H livestock programming?	**Not a limitation 1 %**	**2(*f*) %**	**3(*f*) %**	**4(*f*) %**	**A major limitation 5 (*f*) %**
Available resources (barn, land, etc.)	53 63.9	6 7.2	15 18.1	4 4.8	5 6.0
Allergies	69 83.1	7 8.4	3 3.6	3 3.6	
A family members allergies	75 90.4	4 4.8	1 1.2	2 2.4	1 1.2
The financial cost of participation	34 41.5	17 20.7	20 24.4	11 13.4	- -
My fear of being in front of a crowd	53 64.6	16 19.5	9 11.0	2 2.4	2 2.4
My parents	71 85.5	7 8.4	4 4.8	1 1.2	- -
My 4-H Leaders	68 82.9	8 9.8	5 6.1	1 1.2	- -
My county 4-H educator	73 88.0	2 2.4	6 7.2	2 2.4	- -
My knowledge of the project	52 62.7	22 26.5	6 7.2	3 3.6	- -
Scale: 1=not a limitation, 5=a major limitation					

Conclusions

Among the 4-H members who responded to the survey (n=95), the average age of respondents was 14.8 years old. More than nine out of 10 respondents indicated that they lived rurally or on a farm or ranch. One hundred percent indicated their race as white/Caucasian. Forty-seven percent of the respondents identified themselves as male and 53% female. Two thirds (63.9%) of survey respondents said that their parents were previously 4-H members.

More than one-half (58.6%) of 4-H livestock members were involved in one project when they participated in the survey. Beef was the most popular species that the respondents were involved in, with 48.4% indicating their involvement in the beef project, and over half (56.5%) indicated that they were active in both breeding and market animal projects.

The influence of friends, siblings, and 4-H leaders all seemed to play a similar role as nearly one-quarter of participants indicated that these groups provided a great influence for their involvement in livestock 4-H clubs. Ultimately, parents play the largest role in getting their children involved. These findings support conclusions of Gill et al., (2010) and Harder et al., (2005).

Survey responses indicate the number one limitation in the 4-H livestock program is the cost of participation. With the beef herd population declining in this country, outbreaks of epidemic swine viruses, and the shrinkage of the national sheep and goat flocks, livestock prices are extremely high (Petry, 2013). This can make starting a 4-H livestock project extremely costly, especially to younger children who do not have a way to earn start up monies. The expense of feed, shelter, and equipment recommended for the success of the project can also be an expensive endeavor that can limit participation.

Recommendations

In order to attain a sustainable amount of animal agriculturalists in the future, the 4-H program needs to do a better job at bringing its livestock projects and experiences to a more diverse audience.

4-H in Pennsylvania reaches more diverse audiences through in-school and after-school programs, as well as in urban 4-H environments. The 4-H livestock program could be transmitted into an in-school or after-school enrichment program (similarly to the "Meet the Plants" curriculum). This would enable knowledge about livestock as well as some of the skills associated with gaining said knowledge to reach a more diverse audience.

With the cost of project animals and projects supplies on the rise, 4-H clubs might want to consider purchasing sets of animals for their club's projects. Volunteers can also make resources available to the youth if they do not have the appropriate facilities to keep the livestock.

4-H leaders should be playing a more active role in advertising and recruiting youth to join their livestock club programs. Only 22.1% of study participants indicated that their 4-H leader had a great influence over their involvement in a 4-H livestock club.

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