Exhibition Experiences and Adult Interactions in Youth Livestock Projects

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Abstract

Livestock projects enable youth to build valuable life skills while growing their knowledge in a livestock animal species by competing against other livestock exhibitors. Traditionally, livestock projects are meant to provide youth exhibitors with learning experiences through its competitive nature and through the cooperation with adults. While youth-adult interactions in a livestock project are intended to provide positive exhibition experiences for youth, youth-adult interactions can also shape the way youth view competition in their livestock project, and impact the skills are learned or developed. The purpose of this study was to identify exhibition experiences and adult sources of livestock knowledge of livestock project exhibitors. A survey was administered to youth livestock exhibitors (*N* = 159) who were enrolled in a high school agriculture course and who also exhibited a beef, sheep, swine, or goat project. Findings indicated youth exhibitor's parents were the main source of livestock knowledge and skills in their livestock project and the youth perceived adults modeled highly positive behaviors when working with youth in a livestock project. Youth exhibitors also agreed competition was a driving force behind their motivation to strive for excellence in their livestock project and viewed competition in livestock exhibition to be a positive event. Assessing the interaction youth have with their adult mentor in their livestock project could allow adults and educators to better understand youth exhibitor's beliefs and views of their livestock project.

Introduction

Youth-adult interactions act as a critical feature to the development, psychology and engagement of youth (Zeldin et al., 2013). The 4-H Youth Development Program has historically aimed for an environment of empowerment for youth. The organization is formally structured for youth and adults to share power in an effort to foster development of leadership and life skills for the youth (Anderson and Sandmann, 2009; National 4-H Council, 2015). Though the 4-H organization is a youth serving organization that invests in the lives of youth, one critical aspect of that empowerment of development is the role of adults in the program (Anderson and Sandmann, 2009). Competitions, workshops and other related activities engage youth in interactions with Extension Educators and 4-H volunteers; however, the interactions with adults from outside the program can be the most significant for youth (Jarrett et al., 2005). However, in interactions with adults, the adults can over power the youth. Adults often possess authority over youth causing the youth to feel nervous and uncomfortable (Jarrett et al., 2005). Therefore, in order for youth-adult interactions to be successful, the youths' and adults' role needs to be equal and more focused on the development and goal achievement of the youth (Camino, 2000).

Safrit and Auck (2003) studied youth 4-H participants and their interaction with adults and community service. They found 64% of the respondents participated in service and worked with adult partners through their involvement in

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the 4-H program. Of that group, animal sciences was the most common subject area of 4-H where youth interacted and participated in learning activities with adults. According to Safrit (2002), youth empowerment is a challenging concept for many adults and effectively empowering youth requires an organizational environment that values the contributions of youth and adults personal commitment to bring that environment to life.

One of the most important goals of the 4-H Youth Development Program is to provide educational experiences through competitive events and competitive livestock shows are one of the organization's biggest competitive endeavors (Keith and Vaughn, 1998; Davis, 1998). A major component of the 4-H program is the livestock project. Through participation in livestock projects, youth have the opportunity to interact with parents, feed specialists, expert livestock exhibitors, and other agriculture business professionals to foster the development of knowledge and beliefs about their project. Livestock exhibition is a competitive, but educational activity that satisfies the mission of Extension by teaching youth the responsibility of caring, feeding, managing and showing through exhibiting livestock (Baker, 1991; Kieth, 1997). Youth take their livestock to county fairs and exposition shows each year to exhibit their hard work they put into their animal. Livestock projects are a long-term project and provide a great deal of coordination with adults such as county Extension agents, expert livestock exhibitors, 4-H volunteers, parents and youth (Boleman, 2003). However, the roles of these adults differ within a livestock project. For example, the Extension agent and 4-H volunteer provide information to livestock exhibitors on project rules and livestock show guidelines, whereas the parent and expert livestock exhibitor provide youth with animal stewardship and exhibition knowledge. Researchers have found participating in competitive livestock shows benefit young people as they contribute to their life skill development in areas such as responsibility, decision-making, communication and public speaking (Boleman, 2003; Ward, 1996).

In programs such as 4-H, adult volunteers are heavily relied on to extend delivery methods to members of the community in cases where the Extension Educator or Agricultural Educator cannot (Steele, 1994). Adults may include parents, business professionals or other adults who are active throughout the community and provide support and advice for youth within a project area. The Indiana 4-H Youth Development Program relies heavily on youth-adult interactions, as these interactions help in the development of youth across the state in order to provide positive youth development experiences (Purdue University Extension, 2015). Moreover, in the subject area of livestock exhibition, parents are given the opportunity to be a teacher, model, and example for their child to observe and try to develop positive traits (Davis, 1998). The youth-adult interaction in a livestock project shapes and provides a well-rounded experience for livestock exhibitors.

As 4-H members, youth have the opportunity to learn more about a subject matter through completing learn-by-doing activities, also known as 4-H projects. Adult volunteers and Extension staff who are knowledgeable in a subject area often provide assistance in these projects to allow the youth to learn the appropriate knowledge and skills a project entails (Purdue University Extension, 2015). The projects youth participate in are meant to be worked on for several months and are generally exhibited at the county fair, and in some cases the state fair, where the projects are awarded through competitive activities. A 4-H member can sign up for an unlimited amount of competitive 4-H projects in the areas of animal science, communication and expressive arts, engineering and technological science, healthy living, leadership and citizenship and plant and environmental science (Purdue University Extension, 2015).

Conceptual Framework

The conceptual framework of this study was developed based on key factors influencing and shaping youth livestock project exhibitors' exhibition experiences. These factors include: (a) youth-adult interactions (i.e., source of knowledge and positive behaviors), (b) views of competition, (c) cumulative adult sources of livestock knowledge, and (d) youth's perception of livestock exhibition motives. The youth-adult interaction is seen as a source of livestock knowledge and also represents the behaviors exhibited by the adults. This interaction may affect the youth's view of competition or livestock knowledge and youth's overall livestock exhibition experience ultimately, effecting how the youth perceive life skill development.

Theoretical Framework

In this study, self-regulation theory was used as the theoretical framework. Self-regulation contends that thoughts, feelings, actions and goals are all self-generated and that youth learn on their own and take their own responsibility or personal initiative (Zimmerman, 1994). However, in order for these aspects to occur, individuals must be self-motivated as well as self-directed in their learning competence. Therefore, variables such as goal setting, self-beliefs and intrinsic interest have emerged within self-regulation (Schunk, 1994). Self-regulation is not a fixed characteristic of an individual, rather it is a context specific feature that arises when an individual wants to succeed (Zimmerman, 1989). According to Zimmerman (1994), self-regulation relies on self-regulatory practices such as time management, self-consequences, help seeking and goal setting and are not only measured in the academic setting, but once mastered are used throughout life in different contexts and at home. For this study, self-regulation was chosen to better understand how youth livestock exhibitors regulate and take action in their own learning and motivations for two primary reasons. First, livestock exhibitors must have the capacity to learn the skills needed to be successful with their livestock project. Exhibitors must set-goals, take responsibility and manage their learning in order to succeed in the project. Second,

self-regulation was used to understand youth's motivations for exhibiting livestock and their intrinsic interest in livestock exhibition. The parent's motive was also used as an approach to assess youth's motivation (i.e., exhibition motives).

Purpose

The purpose of this descriptive exploratory research was to identify exhibition experiences and adult sources of livestock knowledge of livestock project exhibitors. The research questions that guided the study were:

1. What were youth exhibitors' livestock exhibition experiences?

2. Which adults (i.e., parent/guardian, expert livestock exhibitors, 4-H volunteer), according to the youths' perceptions, served as sources of livestock knowledge and modeled positive behaviors regarding livestock exhibition?

3. What were youth exhibitors' views of competition in livestock exhibition?

Methods

Participants

The Purdue University) Institutional Review Board approved this study (IRB Protocol #1608018030). Data presented in this manuscript was collected part of a larger study focused on adult interactions among livestock exhibitors. The target population for the study were high school agriculture programs that included students who participated in livestock projects. This group was targeted because they have a focus on teaching agricultural sciences and include many livestock project exhibitors. Indiana State Fair livestock show results, 4-H/FFA livestock related CDE results and the USDA census were used to determine counties used in the study. After determining counties, one agriculture program from that county was chosen to participate in the study. Study participants also had to meet the following criteria in order to be included in the final data analysis: 1) were a full-time student enrolled in at least one high school agriculture class, 2) were a member of 4-H and 3) participated in either a beef, sheep, swine or goat project. Students who did not meet this criteria were unable to complete the entire survey, and were excluded from the data analyses. There were 159 participants who met the criteria and were included in the final data analyses.

Of the 159 total students who met the study criteria (enrolled in a high school agricultural education course, were a member of 4-H, and exhibited a livestock (i.e., beef, sheep, goat or swine) project); 96 (60.4%) of the participants were male, and 63 (39.6%) were female. Thirty-eight (23.9%) of the 159 participants were in the 12th grade and 35 (22.0%) of the participants were in the 9th grade. The mean age of the participants was 15 years old (*SD* = 1.84) and the mean number of years in 4-H was 6.72 (*SD* = 2.19).

Procedures

Participants were recruited through the agriculture educator at each of the selected agricultural programs. The agricultural educators were asked to send a letter home to students' parents explaining the study and to get permission in an attempt to make the students feel more comfortable with responding to the questionnaire and to increase the response rate. Through a series of emails between the researcher and the agricultural educators, the researcher visited each agriculture program for one school day to administer the questionnaires to all agriculture classes. Information regarding the researcher's contact information along with a statement of confidentiality was given out at that time. No identifiable information was available to the researcher through the survey, thus the survey was completely anonymous.

Demographic Characteristics

The demographic section of the instrument solicited information about the study participants and his/her livestock project. These items included: participants' age, gender, school grade, whether or not they were a member of 4-H and if they participate in a livestock project. Additionally, the instrument solicited information about the participant's livestock project and included items such as: the number of years each species was shown, the species of livestock shown the most, how often (e.g., one show, two shows, three shows, etc.) and where (e.g., county fair, state fair, open show, national show) the participant exhibits his/her livestock, the level of achievement in the livestock project (e.g., class winner, breed champion, grand champion, etc.), and the type (e.g., market animal, breeding animal) of animal shown, as well as where the exhibitors receive their animal (e.g., other producers, show jock, etc.).

Sources of Livestock Knowledge

The Sources of Livestock Knowledge section of the instrument included 13 items regarding which adult (e.g., parent/guardian, expert livestock exhibitor, 4-H volunteer) was the primary source for teaching participants a specific livestock skill. The 13 items were developed based on the Indiana Department of Education (2016) Advanced Life Science Animals course standards and the National 4-H Curriculum (2016). Example items from this section included: "Explain the steps to properly groom my animal in preparation for show," "Identify facilities needed to house and care for my animal safely and efficiently," and "Explain the purpose and benefits of feed additives." Participants were asked to indicate which adult acted as a source of knowledge for each specific skill by checking a box that corresponded with: "*Parent/Guardian*," "*Expert Livestock Exhibitors*, or "*4-H Volunteer.*" If the participant did not learn a specific skill, he/she checked: "*Did Not Discuss*."

Competition

The Competition section of the instrument focused on participants' perceptions of competition in related to

their livestock project. This section was developed based on the modification of items from two previous surveys developed by Harris and Houston (2010) and Radhakrishna et al. (2006) that focused on competition in sports and 4-H activities. A four-point Likert-type response scale ranging from: (1) Strongly Disagree to (4) Strongly Agree was used. The 18 items were randomly ordered and evenly divided with both positive competition statements and negative competition statements. Example of item statements were: "Competition in livestock events is beneficial to my positive development," (positive) and "Competition in livestock exhibition encourages cheating," (negative). Higher scores indicated a higher level of agreement to competition as a driving force for a livestock project and competition as a hindrance to livestock projects. The 18 items were slightly modified from the original scale to fit the overall language of this study for the participants. For example, "Competition is an incentive for me to participate in 4-H" was changed to "Competition is an incentive for me to participate in livestock exhibition."

The instrument was administered in person at all participating agricultural programs. It took participants 15 to 20 minutes to complete the instrument. The instrument was found to be valid by a panel of content experts consisting of five faculty members and one graduate student who were chosen based on their knowledge on survey development and livestock project knowledge and experience. For the instrumentation sections previously described, only the Competition section required an assessment of its reliability. The Cronbach's alpha coefficient for this section was .73, which according to Nunnally (1978) is considered acceptable.

Data Analysis

Date were analyzed using the Statistical Package for the Social Scientist (SPSS), Version 23. In particular, means, standard deviations, frequencies, and percentages were used to address each of the three research questions.

Results

Research Question 1: What were youth exhibitors' livestock exhibition experiences?

The Youth Livestock Exhibition Experiences Survey (Johnson, 2017) contained seven items regarding youth livestock exhibitor's exhibition experiences. Participants' based their responses to items that allowed them to reflect on their exhibition experiences with their livestock species. Participants were asked to indicate the number of years they had shown each of the four livestock species and which species they showed the most in the last 12 months (Table 1). Participants had exhibited swine an average of 3.64 years, sheep 1.89 years, beef 1.77 years and goats 1.06 years. Seventy-five (47.2%) of the 159 participants indicated that they have shown swine the most in the last twelve months over the other three species, 38 (23.9%) of the participants had shown beef the most in the last 12 months, 27 (17.0%) of the participants had shown sheep the most in the last 12 months, and 19 (11.9%) of the participants indicated that they had shown a goat the most in the last 12 months.

Based on the one species the participants showed the most in the last 12 months (Table 2), participants were asked to indicate the number of shows they have exhibited their livestock species in the last 12 months. Fifty-six (35.2%) of the participants only showed at one show, 27 (17.0%) of the participants showed at two shows, 24 (15.1%) of the participants showed at three shows, and 52 (32.7%) indicated they had shown their livestock species at four or more shows in the last twelve months.

Research Question 2: Which adults (i.e., parent/guardian, expert livestock exhibitors, 4-H volunteer), according to the youths' perceptions, served as sources of livestock knowledge and modeled positive behaviors regarding livestock exhibition?

Table 1. Years Showing Livestock Species and Species Shown the Most

Species	*M* (years)	*SD*	*f*	%
Beef	1.77	2.96	38	23.9%
Goat	1.06	2.34	19	11.9%
Sheep	1.89	2.95	27	17.0%
Swine	3.64	3.45	75	47.2%
Total			159	100%

Table 2. Number of Shows Attended in the Last 12 Months

Number of Shows	*f*	%
One Show	56	35.2%
Two Shows	27	17.0%
Three Shows	24	15.1%
Four or more Shows	52	32.7%
Total	159	100%

The Youth Livestock Exhibition Experiences Survey (Johnson, 2017) contained items regarding which adults (i.e., parent/guardian, expert livestock exhibitors, 4-H volunteer) served as sources of livestock knowledge according to the youth's perceptions. Participants' responded to 13 items by indicating which adult was the primary source of teaching them each skill (Table 3). One hundred thirty-four (84.3%) of the 159 participants indicated they discussed the cost of raising their animal with their parent, 12 (7.5%) discussed the cost of raising their animal with their expert livestock exhibitor, four (2.5%) discussed the cost of raising their animal with their 4-H Volunteer and nine (5.7%) did not discuss the cost of raising an animal. Twenty-one (13.3%) of the participants did not discuss withdrawal periods of medication with an adult; however, 95 (60.1%) participants discussed withdrawal periods with their parent/guardian. Ninety-three (58.9%) of the participants discussed the common types of feedstuffs fed to their animal with their parent, 34 (21.5%) discussed feedstuffs with their expert livestock exhibitor, 16 (10.1%) discussed feedstuffs with their 4-H volunteer, and 15 (9.5%) did not discuss common feedstuffs for livestock animals. Of the 13 livestock skills, participants' mean score for a parent/guardian as a source of knowledge was 8.21 (*SD* = 4.46). Participants' mean score for an expert livestock exhibitor as a source of knowledge was 2.50 (*SD* = 3.58). Finally, participants' reported the 4-H volunteer as being the least source of knowledge when it came to learning livestock skills and gaining knowledge about their project (*M* = 0.94, *SD* = 2.11).

Research Question 3: What were youth exhibitors' views of competition in livestock exhibition?

The Youth Exhibition Experiences Survey (Johnson, 2017) measured participants' perceptions of competition based on their involvement with their livestock project. Participants' responses on their perception of competition was based on a 4-point rating scale: (1) Strongly Disagree to (4) Strongly Agree. One hundred and four (65.4%) participants "strongly agreed" that competition in livestock exhibition motivates them to strive for excellence and ninety-seven (61.0%) "strongly agreed" that competition allows them to set goals in livestock exhibition (Table 4). None of the participants indicated competition was not beneficial to their positive development and that they disliked competition. Eighty-seven (54.7%) participants indicated they were happy for others that win and 92 (58.2%) participants agreed competition provides them with better learning experiences. The grand mean indicated participants "agreed" to the items regarding competition in livestock projects (*M* = 3.17, *SD* = 0.32).

Discussion

Participants in this study showed a variety of different livestock species and a majority of participants showed at multiple livestock shows. According to youths' perception, adults served as the primary source of livestock knowledge and modeled positive behaviors regarding livestock exhibition with a majority indicating they discussed the cost of raising their animal with their parent. The conclusion that parents are the major source of livestock knowledge and skills is also connected to previous literature regarding youth-adult interactions as a resource necessary to development (Jarrett, 2003). Adults are given the opportunity to serve as a mentor in a livestock project which supports Williams and Kornblum's (1985) contention that when adults are given the opportunity to serve as a role model, youth's academic and interpersonal skills are enhanced. Finally, a majority of participants "strongly agreed" competition in livestock exhibition motivated them to strive for excellence and with a majority also having "strongly agreed" that competition allows them to set goals in livestock exhibition. This finding contradicts several studies that view competition as a negative factor of a livestock project (Kieth, 1997; Radhakrishna et al., 2006). These researchers found that competition in livestock exhibition can lead to unethical or unhealthy characteristics and parental involvement in a livestock project can create improper attitudes and poor sportsmanship values. However, the majority of participants in this study indicated that competition in livestock exhibition does not lead to unethical practices. When examining the larger picture, findings from this study indicate that

Table 3. Sources of Livestock Knowledge Across Adult Role

Item	Parent/ Guardian *f (%)*	Expert Livestock Exhibitor *f (%)*	4-H Volunteer *f (%)*	Did Not Discuss *f (%)*
1. Explain the steps to properly groom my animal in preparation for a show.	106 (66.7%)	39 (24.5%)	10 (6.3%)	4 (2.5%)
Identify the optimal environmental conditions (e.g., climate, bio-security, temperature, etc.) for my animal.	100 (62.9%)	27 (17.0%)	10 (6.3%)	22 (13.8%)
3. Identify facilities needed to house and care for my animal safely and efficiently.	118 (74.2%)	24 (15.1%)	9 (5.7%)	8 (5.0%)
4. Choose an animal that would be successful in the show ring.	102 (64.2%)	39 (24.7%)	9 (5.7%)	8 (5.1%)
5. Explain the purpose and benefits of feed additives (e.g., fat, minerals, rolled oats, Paylean, Optaflexx, etc.)	95 (60.5%)	42 (26.8%)	9 (5.7%)	11 (7.0%)
6. Determine the common types of feedstuffs (e.g., corn, soybeans, hay, forage, etc.) and the roles they play in my animal diet.	93 (58.9%)	34 (21.5%)	16 (10.1%)	15 (9.5%)
7. Know the proper dosages (cc) of medications to give my sick animal.	93 (58.9%)	35 (22.2%)	15 (9.5%)	15 (9.5%)
8. Know the withdrawal periods (days) of medications I administer to my animal.	95 (60.1%)	30 (19.0%)	12 (7.6%)	21 (13.3%)
9. Discuss the cost of raising my animal (e.g., cost of animal, feed, supplies, etc.).	134 (84.3%)	12 (7.5%)	4 (2.5%)	9 (5.7%)
10. Define and describe the estrous (heat) cycles of my breeding animal.	95 (59.7%)	19 (11.9%)	13 (8.2%)	32 (20.1%)
11. Compare and contrast different reproductive technologies (e.g., embryo transfer, artificial insemination) and predict which would be most successful for my animal.	87 (54.7%)	21 (13.2%)	9 (5.7%)	42 (26.4%)
12. Identify common diseases, parasites, and illnesses that affect my animal and know how to detect them.	96 (60.4%)	25 (15.7%)	20 (12.6%)	18 (11.3%)
13. How to best present my animal to the judge in the show ring.	92 (57.9%)	51 (32.1%)	13 (8.2%)	3 (1.9%)
Grand Mean (*SD*)	8.21 (4.46)	2.50 (3.58)	0.94 (2.11)	

Note. The grand mean and standard deviation was calculated for the 13 items.

youth view competition as a positive attribute to livestock exhibition. These findings support the theoretically-based premise that competitive events are associated with positive outcomes for youth (Hansen, Larson, & Dworkin, 2003). Simply, competition allows youth to self-evaluate themselves and build character, as well as elicit positive educational or occupational outcomes for youth (Eccles et al., 2003).

Summary

This study is one of the few that has focused on youth livestock exhibition experiences of youth. However, this study is novel in that it explored the role of the adult in a livestock project and how adults' behaviors can influence life skills and the overall exhibition experience for youth in a livestock project. In sum, there is an opportunity for additional research to be pursued in this area. One such example could include collecting data from the parent or adult mentor's perspective on livestock exhibition experiences in order to determine if adults have the same feelings or beliefs about livestock exhibition as the youth and to further explain how youth's beliefs in a livestock project are shaped.

Table 4. Frequencies and Percentages of Participants' Perceptions of Competition in Livestock Exhibition

Item	Strongly Disagree *f (%)*	Disagree *f (%)*	Agree *f (%)*	Strongly Agree *f (%)*
1. Competition is beneficial to my positive development.	0 (0%)	5 (3.1%)	78 (49.1%)	76 (47.8%)
2. Livestock exhibition places too much emphasis on competition.*	18 (11.4%)	75 (47.2%)	59 (37.3%)	6 (3.8%)
3. Competition provides me with better learning experiences.	1 (0.6%)	9 (5.7%)	56 (35.4%)	92 (58.2%)
4. Competition encourages cheating.*	54 (34.6%)	47 (30.1%)	40 (25.6%)	15 (9.6%)
5. Competition is an incentive to participate in livestock exhibition.	8 (5.1%)	31 (19.9%)	82 (52.6%)	35 (22.4%)
6. Competition promotes aggressive behaviors.*	47 (29.9%)	71 (45.2%)	31 (19.7%)	8 (5.1%)
7. Competition motivates me to strive for excellence.	2 (1.3%)	7 (4.4%)	46 (28.9%)	104 (65.4%)
8. Livestock shows lead to unethical practices.*	48 (38.2%)	68 (42.8%)	27 (17.0%)	16 (10.1%)
9. I like competition.	0 (0%)	7 (4.4%)	55 (34.6%)	97 (61.0%)
10. Competitive livestock shows lead to unhealthy characteristics.*	41 (25.8%)	76 (47.8%)	36 (22.6%)	6 (3.8%)
11. Competition enhances social and family relationships.	4 (2.5%)	21 (13.4%)	73 (46.5%)	59 (37.6%)
12. Competition encourages improper parental attitudes.*	43 (27.2%)	70 (44.3%)	39 (24.7%)	6 (3.8%)
13. I often try to outperform others.	6 (3.8%)	33 (20.8%)	73 (45.9%)	46 (28.9%)
14. Competition in livestock shows requires too much help from my parents.*	41 (25.8%)	94 (59.1%)	22 (13.8%)	2 (1.3%)
15. Competition helps me set goals.	0 (0%)	6 (3.8%)	56 (35.2%)	97 (61.0%)
16. Livestock exhibitors are considered losers if they do not win.*	73 (46.2%)	64 (40.5%)	13 (18.2%)	8 (5.1%)
17. I am happy for those that win.	6 (3.8%)	15 (9.4%)	87 (54.7%)	51 (32.1%)
18. The competiveness of livestock exhibition decreases my motivation to do well.*	72 (45.3%)	60 (37.7%)	18 (11.3%)	9 (5.7%)
Grand Mean (*SD*): 3.17 (0.32)				

Note. Items were reverse coded in the Grand Mean *(SD)* analysis only. The grand mean and standard deviation was calculated for the 18 items. Scale: (1) Strongly Disagree to (4) Strongly Agree.

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