

## THE IMPACT OF RAISING AND EXHIBITING SELECTED 4-H LIVESTOCK PROJECTS ON THE DEVELOPMENT OF LIFE AND PROJECT SKILLS

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### Abstract

*The purpose of the study was to identify perceptions of Indiana 4-H livestock members enrolled in beef, sheep and swine projects regarding their ability to perform project skills and develop life skills. A questionnaire was mailed to a sample of 420 4-H beef, sheep, and swine members, with a response rate of 41.9%. Members were able to accomplish project skills in the areas of sportsmanship, safety, animal grooming, and animal selection. Respondents are not as confident in their abilities related to animal health care. Members who exhibited at the state fair have higher skill levels in the areas of animal health care, animal grooming and animal selection, than 4-H members who exhibited only at the county fair. Members use the responsibility skills they developed from raising 4-H animal projects to complete homework assignments, be on time at work, and care for younger siblings. These skills are benefiting youth in school, at home, and on the job to be more dependable, confident, and qualified individuals.*

### Conceptual Framework

John Dewey is regarded as the most influential educational theorist of the twentieth century (Kolb, 1984). According to Dewey (1938), "There is an intimate and necessary relation between the process of actual experience and education" (p. 19-20). William Heard Kilpatrick, an educational philosopher and a student of Dewey, believed that education becomes involved in teaching children how to live (Tate, 2001). Kilpatrick was responsible for coining the term "project method". He argued that learning should take place in settings outside of school.

Leadership of the 4-H organization wants its members to receive more from their projects than ribbons, trophies, trips, and monetary gains. More importantly, the 4-H leadership wants its members to acquire

project and life skills. Many 4-H alumni attribute their success in later life to the skills they gained through the 4-H program (Lang, 2000).

4-H members enrolled in animal projects typically develop project skills such as record keeping, health care, proper drug use, ration development, and marketing (Gamon, Laird, & Roe, 1992). According to Sawyer (1987), acquiring knowledge and skill are the most important aspects of successfully raising an animal. Sawyer identified animal science knowledge and life skills developed by Oregon 4-H beef, sheep, and swine members. Researchers determined that knowledge acquired and experience gained in the animal science projects were closely related. More than half of the respondents indicated they had learned about: training and grooming their animals, good sportsmanship, choosing proper equipment

and feed rations, and keeping accurate records. Seventy-five percent of the respondents had applied the knowledge they gained from 4-H livestock projects to: develop a feeding program for their animal, care for a sick or injured animal, and/or calculate the cost per pound of a market animal.

The 4-H youth program is currently focusing on the development of life skills such as leadership, communication, group work, decision-making, self-esteem, and public speaking in order to improve its members' chances of becoming successful adults (4-H Y2K Programs of Excellence, 2000). Hendricks (1996), in the Targeting Life Skills model, defines life skills as abilities that help an individual to be successful in living a productive and satisfying life. Developing life skills through experiential learning is the cornerstone of 4-H youth programming (Boyd, Herring, & Briers, 1992). By developing life skills, 4-H members are learning to work more effectively and efficiently through a 'learning by doing' process (Groves & Groves, 1980). Developing life skills allows youth to cope with their environment by having a better understanding of their values, being able to make responsible decisions, and being better able to communicate with their peers (Boyd et al.). 4-H members develop life skills by taking active leadership roles within their club (Cantrell, Heinsohn, & Doebler, 1989). The same study found that 4-H members who participated in leadership roles beyond the local level had an even greater development of life skills. Boyd et al. (1992) found that level of leadership and life skill development increased when 4-H members increased their level of participation in the 4-H program.

According to Gobeli (1989), youth are born with very few skills and attitudes. Youth need to develop skills to prepare them for life. As life skills develop, youth must continue to use and develop these skills as well as learn to master new skills. Youth develop life skills at their own rate and in their own way.

The Oregon study (Sawer, 1987) identified the following life skills being developed by 4-H beef, sheep, and swine

members: responsibility, decision-making, communication, getting along with others, and leadership. More than 70% of the respondents related the life skill of responsibility to cleaning pens and stalls as well as feeding, watering, grooming, and training their animal(s). Life skills were also acquired by participating in judging contests, determining a balanced ration for their animals, working on a community service project, giving a presentation before an audience, and serving as a club officer or a committee member. Sawer concluded that 4-H livestock members showed a progression of development the longer they were enrolled in the project.

### **Need for the Study**

The overarching question addressed by this study was: Does participation in selected 4-H livestock projects contribute to the respondents' development of project and life skills? The purpose of the study was to evaluate the perceived level of project skill development by Indiana 4-H livestock members enrolled in beef, sheep and swine projects. The researchers also wanted to compare project skill development between Indiana 4-H beef, sheep, and swine members who did or did not exhibit at the Indiana State Fair. The hypothesis was that state fair exhibitors would perceive themselves to have a higher level of project skill development. The basis for this hypothesis was the researchers' belief that a higher level of project skill development would be required for 4-H members to compete at the state level than at the county level. The researchers were unable to find evidence in the literature to support or reject their belief. The researchers were also interested in learning about the life skills being developed from raising and exhibiting 4-H livestock projects. An extensive review of the literature revealed only one study that had examined the association between completing animal projects and life skills. The objectives of this study were to:

1. Compare perceived levels of project skill development by Indiana 4-H beef, sheep, and swine members who exhibited at the county fair only and those who exhibited

- at the county fair and the Indiana State Fair.
2. Describe ways that 4-H members were utilizing project skills learned in the beef, sheep, and swine projects to develop life skills.
  3. Identify ways 4-H beef, sheep, and swine members are using these life skills in their everyday lives.

### Methodology

The population consisted of the approximately 10,000 Indiana 4-H beef, sheep, and swine members who were at least 14 years of age and exhibited their animal projects at the county fair in 2000. A stratified sample of 210 Indiana 4-H members who exhibited at the county fair only and 210 Indiana 4-H members who exhibited at both the county fair and the Indiana State Fair was selected based on equal specie representation among beef, sheep, and swine. A sample size of 410 allowed for a precision of  $\pm 4.9\%$ . According to Lauer and Asher (1988), "Sample sizes do not have to be large to have precision." The sampling frame for the state fair exhibitors was obtained from the Indiana State Fair Entry Department. A comparable sampling frame for county fair only exhibitors did not exist. Therefore, the researchers randomly selected 10 Indiana counties to provide names of 4-H beef, sheep, and swine members who exhibited their animals at the county fair only. From this list, the researchers randomly selected 210 names stratified by beef, sheep, and swine. After data were collected and analyzed, the researchers found that 28% of the respondents exhibited all three species and 41% exhibited two of the three species (see Table 2). Therefore, no comparisons between species were made and the data were collapsed into one data set. The Committee on the Use of Human Research Subjects' reference number for the research reported here is REF #01-218.

#### *Development of the Instrument*

An instrument was developed to determine the demographic characteristics of survey respondents, what project and life

skills they perceived they had acquired from raising their 4-H animal project(s), and how they were using these life skills in their everyday lives. Seven demographic questions were used to define and describe 4-H beef, sheep and swine members' age, gender, grade in school, participation in animal science class(es) in school, participation in FFA, years enrolled in 4-H beef, sheep and swine projects, years of showing beef, sheep and swine projects, and participation in showmanship or livestock judging.

Items relating to project skills were developed using a review of literature, researchers' expertise and pilot test results. The 19 items were grouped into five project skill areas that focused on animal health care, animal grooming, safety of people and animals, selection of animals, and sportsmanship of the exhibitor to determine the self-reported skill level of each respondent. Content validity was established using an expert panel. The 19 statements included on the instrument were to be answered using the following Likert-type scale: 1 = cannot do it, 2 = much help needed, 3 = little help needed, and 4 = can do it. A neutral option was purposely not included to force respondents to choose one of the four skill levels listed on the survey. This article reports on results from the three project skill areas of animal health care, animal grooming, and selection of animals. Cronbach alphas ranging from .62 to .76 were obtained for these three project skill areas. Based on a review of literature and a pilot test, five open-ended questions were developed to discover how respondents were using life skills developed from raising and exhibiting 4-H animal projects.

To ensure face and content validity of the instrument, it was pilot tested on 11 4-H livestock members at a 4-H junior leader meeting in May 2001. Discussions held with the pilot test respondents resulted in the following adjustments to the survey instrument: three questions were reworded, one question was deleted, and one question was added. A Flesch-Kincaid Grade Level readability test performed on the instrument yielded a reading level of 6.3.

### *Data Collection*

Dillman's (2000) Tailored Design Method was used to collect data. Following the initial mailing of the questionnaire, researchers sent a replacement questionnaire and two reminder postcards to nonrespondents. Because the response rate was less than 90% (Miller & Smith, 1983), the researchers conducted a telephone survey of 20 non-respondents (8% of the non-respondents, selected randomly) to check for non-response bias. According to Lindner, Murphy, and Briers (2001):

The most acceptable method of addressing non-response bias historically, has been to sample non-respondents, work extra diligently to get their responses, and then compare their responses to other (previous) respondents. We recommend this method be used if a minimum of 20 responses from a random sample of non-respondents can be received (p. 52).

Telephone surveys allow for immediate feedback and eliminate repetitive mailings. During the telephone survey, respondents were asked to answer the demographic and Likert-type scale questions. A t-test revealed no significant differences between mailed questionnaire respondents and the telephone survey respondents; therefore, the telephone surveys were included in the quantitative data analysis. These procedures resulted in 176 out of 420 surveys being returned for a total response rate of 41.9%. Due to the low response rate, the researchers would caution using the results to generalize to an audience other than the population studied herein.

### **Data Analysis**

Descriptive parameters including frequencies, means, medians, modes, ranges, percentages, and standard deviations were used to summarize, organize, and interpret the data. Data comparing county fair only exhibitors and Indiana State Fair exhibitors were analyzed using a Mann-Whitney test, which measures the statistical significance of the difference between two groups, when

the data are measured on an ordinal scale. According to Lauer and Asher (1988), the Mann-Whitney test is a non-parametric equivalent of the *t* test. A significance level of .05 was set a priori.

The qualitative data were typed verbatim and organized by question and respondent into a Microsoft Word document. The responses were sorted by themes according to the questions. Open-ended survey questions allowed the respondents to reply in their own words and to present their own viewpoint. Content analysis was used to create categories from the responses. The data were then coded according to the category, tabulated, summarized, and reported according to the procedure described by Borg and Gall (1989).

## **Results**

### *Demographics*

Overall, 53% of the 176 respondents were female and 47% were male. The mean birth year of respondents was 1984, with a range from 1981 to 1987. The mean grade just completed in school by the respondents was 10<sup>th</sup> grade. Of the respondents who had been in high school, 45% had completed an animal science class. Each of the 176 respondents had exhibited at their local county fair, and 114 (65%) had also exhibited at the Indiana State Fair. The mean number of years of exhibition at the county fair was 7.16 years, while the mean number of years of exhibition at the Indiana State Fair was 6.18 years. Ninety-one percent of the respondents had competed in county fair showmanship classes for an average of 5.69 years. Seventy-two percent of the respondents who showed at the Indiana State Fair had participated in state fair showmanship classes for an average of 3.63 years. Thirty-five percent of the respondents had competed in county and area livestock judging contests, while 17% had competed in the state livestock-judging contest.

Demographics of the 4-H members who exhibited at the state fair and the county fair only are shown in Table 1. State fair exhibitors were more likely to have taken an animal science class in high school, been a

member of the FFA, and participated in sports. Table 2 shows that state fair exhibitors to a greater percentage exhibited in two or more of the three projects (beef,

sheep, and swine) and were much more likely to have enrolled in all three projects than the county fair only exhibitors.

Table 1  
*Demographic Characteristics of Selected Indiana 4-H Livestock Members*

Variable	State Fair Exhibitors <sup>a</sup>		County Fair Only Exhibitors <sup>b</sup>	
	<i>n</i>	%	<i>n</i>	%
Gender				
Male	58	50.9	25	40.3
Female	56	49.1	37	59.7
Took an animal science class	51	45.9	16	27.6
FFA member	64	56.1	12	19.4
Participated in sports	92	80.7	42	67.7

<sup>a</sup> *n* = 114

<sup>b</sup> *n* = 62

Table 2  
*Project Enrollment by Selected Indiana 4-H Livestock Members*

Project	State Fair Exhibitors <sup>a</sup>		County Fair Only Exhibitors <sup>b</sup>	
	<i>n</i>	%	<i>n</i>	%
Beef	82	71.9	23	37.1
Sheep	75	65.8	33	53.2
Swine	96	84.2	37	59.7
Two of the three	49	43.0	23	37.1
Beef, sheep, and swine	45	39.5	4	6.5

<sup>a</sup> *n* = 114

<sup>b</sup> *n* = 62

#### *Project Skills Development*

Respondents were asked to rate statements related to project skill development in the areas of animal health care, animal grooming, and animal selection. Respondents indicated they only needed a little help in completing project skills in each of the three areas. The results show the

highest mean score was for animal grooming skills, indicating the respondents had the most confidence in their ability to perform these skills. The lowest mean score was in the area of animal health care, where respondents indicated they needed help taking their animal's temperature. Table 3 lists the responses.

Table 3

*Rating the Project Skill Development of Responding Indiana 4-H Beef, Sheep, and Swine Members Enrolled in 2000*

Project Skill	<i>n</i>	<i>M</i>	<i>SD</i>
Animal grooming	175	14.33	1.78
Animal health care	176	13.47	2.10
Animal selection	176	14.14	1.95

*Note.* Scale means range from 4 to 16.

Table 4 lists differences in ratings of skill areas between those respondents only exhibiting at the county fair and those exhibiting at the county fair and the Indiana State Fair. Those 4-H members who

exhibited at the Indiana State Fair ranked their skill level higher ( $p < .05$ ) in the areas of animal grooming, animal health care, and animal selection than those 4-H members who exhibited at the county fair only.

Table 4

*Comparison of Project Skill Areas Between County-Only and Indiana State Fair Respondents in Indiana 4-H Beef, Sheep, and Swine Projects*

Project Skill Area	State Fair Exhibitor	<i>n</i>	<i>Mean Rank</i>	<i>Sum of Ranks</i>	<i>Mann-Whitney</i> $\mu$
Animal grooming	Yes	109	95.78	10440.0	2095.0*
	No	60	65.42	3925.0	
	Total	169			
Animal health care	Yes	113	95.05	10740.5	2593.5*
	No	61	73.52	4484.5	
	Total	174			
Animal selection	Yes	114	104.55	11918.5	1704.5*
	No	62	58.99	3657.5	
	Total	176			

\* $p < .05$ , two-tailed.

#### *Qualitative Responses*

4-H beef, sheep, and swine members were asked to respond to five open-ended questions, intended to identify how the survey respondents were using life skills (developed from raising 4-H beef, sheep, and swine projects) in their everyday lives at home, in school, and throughout their

community. The responses for each question were sorted by themes, then categorized, and summarized. One complete response from a single respondent often fit into several categories. Of the 176 respondents, 149 provided qualitative comments.

### *Responsibility Skills*

Forty-four percent (65 of 149) of the respondents indicated they had used the responsibility they learned from raising 4-H animal projects to complete homework assignments and school projects on time. Examples of these responses included: "Watching for deadlines in this project has also helped me to watch for deadlines in school." "Success in school can only be achieved through making the same kinds of sacrifices and putting forth the same kind of effort that is required in 4-H." "The responsibility I learned, I use all the time through school clubs, especially being student council president. The time management skills I've learned, I use in everyday life." "Yes, I use the responsibility learned from my livestock projects everyday. At school it has helped me to get my homework done on time. At home, I complete the jobs that need to be done completely and thoroughly."

A total of 44% (65 of 149) of the respondents indicated their 4-H animal projects had taught them to be committed and dedicated to projects they have begun. Some of their responses include "I have used skills learned from my livestock projects in many situations. I have learned to be honest and set priorities. Having livestock has made me more responsible with my friends, relationships, and parents. I have also learned to work hard and set goals." "I have learned to be more responsible in every aspect of my life. I have learned that if something is worth doing then it is worth doing right."

Eighteen percent of the respondents (27 of 149) indicated they used their responsibility skills to help them get to work on time. Some responses include: "I get to work on time and do my job to the best of my ability." "By taking responsibility for my animals (i.e. feeding schedules, walking, show prep, etc.), I have learned time management and am able to get duties done on time without any shortcuts. This enables me to be more productive in school, at the workplace, and at home." "From showing and raising livestock, I have gained much responsibility. Being taught at a young age the importance of caring for livestock, I am now more responsible in other tasks as well."

At home and at my job, I am able to see what things need to be done and do those chores without being asked by my parents or employer."

Fourteen respondents (9.3%) indicated they relate the responsibility of caring for animals to taking care of their family or a child. Examples of these responses include: "When I am on my own and have a family, I will have the same type of responsibilities and this project will have prepared me for that." "Taking care of an animal is a huge responsibility. I have a little brother who needs about the same care as an animal."

### *Animal Knowledge Skills*

Respondents were asked to identify ways they had used information learned about their 4-H animal project(s) in their school science classes. Thirty-two percent (47 of 147) of the respondents indicated they had used information about animal physiology in their science classes at school. Some of the responses include: "In biology, my 4-H animal experience has given me more of a hands-on approach to various life processes like reproduction, birth, death, disease, etc. What many kids read in books I've seen and done. With the animal science class I took in the Agricultural Department I could easily share my production experience." "The basic concepts of animal nutrition have been the most influential. The science classes I've been in have been mostly biological, so understanding energy requirements and energy conversion is crucial." "During my junior year in advanced biology class, we came across a couple of chapters that dealt with the body parts and digestive system of a larger animal. I was able to relate to the class what I already knew from being involved with my own 4-H livestock and I was able to fully understand what was being taught."

Eleven (7.4%) respondents indicated they had learned about the genetics and pedigrees of animals. Example responses include "It helped me when learning about genetics in AP Biology this past year. Some of my lambs are black where others are white. It's interesting to see the dominant color genes, which has helped me to relate to other genes and characteristics." "When talking about genetics I already know a lot

about them from studying pedigrees and things.” “In biology, I have been able to apply what I know from helping my father with the breeding of our animals, and thus, I was able to figure out the genetics much easier than before.”

#### *Self-Confidence Skills*

Fifty-one percent (76 of 149) of the respondents indicated their self-confidence had increased because of their involvement with 4-H animal projects. Some examples of the responses include: “Raising animals has really boosted my self-confidence.” “Since I started showing sheep and beef, my self-confidence has improved so much. I am no longer shy and love getting in front of people in the show ring.” “When I first began showing animals, I was very shy and lacked confidence in myself. After completing 10 years of showing livestock, however, I am the complete opposite without a doubt.” “My self-confidence level has increased greatly because I have learned that if I work hard I can accomplish my goal.”

Twenty-one percent (16 of 76) of the respondents, who indicated they had gained self-confidence skills, said the improvement came as a result of caring for and having knowledge about their 4-H animal project. Examples of these responses include “In showmanship classes, I gained a lot of self-confidence. This is when a 4-H member’s hard work pays off.” “My self-confidence increased greatly because I had a very positive experience at the show, during the fair, and just raising my animal. I met and interacted with many different people.” “My self-confidence has gotten better because I can pick out my animals by myself.” “My self-confidence improved by knowing that I am able to care for animals to the best of my ability.”

#### *People Skills*

A total of 67.7% (101 of 149) of the respondents indicated that caring for their 4-H animal project(s) had improved their people skills. Example responses include “I think my people skills have improved due to my 4-H animal projects.” “Learning to communicate with others through 4-H is a great way to gain experience for college and

the workforce.” “I am better able to have a conversation with someone I have just met without being timid because 4-H has taught me the way to present myself.” “Talking to prospective buyers helps me to prepare for when I go out to interview for jobs, scholarships, student council, etc.”

Sixteen percent (16 of 101) of the individuals who said their people skills had improved as a result of raising 4-H animal projects, credited showmanship classes and/or livestock judging contests with improving their people skills. Some of the responses include “My people skills improved when I had to speak on the microphone during showmanship.” “Giving reasons at livestock judging contests has helped my people skills. I have had to communicate with official judges at these contests and this has helped me to approach people with more confidence.”

#### *Decision Making Skills*

Sixty-two percent of the respondents (85 of 138) said they gained decision-making skills (from raising 4-H animal projects) and had used them in school, at work, or at home. Some of the responses include “I have had to make decisions at home about what semen to buy and what animals to keep or cull from the herd. I have had to make decisions about what qualities I want in my herd.” “Being involved in livestock judging has helped me make quicker and more accurate decisions.” “Livestock judging and showing animals enables youth to practice decision making and at the end of the contest they are rewarded for making good decisions, just like they may be rewarded for making good decisions in life.” “I have bettered my decision-making skills as a result of judging dairy cattle for eight years. I am now able to make quick decisions and support them with accurate reasons. This is effective when trying to decide on new animals for my herd, or when trying to decide what to do on the weekend!”

#### *Problem Solving Skills*

Twenty-three percent (32 of 138) of the respondents indicated they had developed problem solving skills from raising 4-H animal projects. Example responses include “The 4-H animal projects have helped me



learn to think through problems and try to solve them.” “I use problem solving skills at school when I’m certain about some things and use that knowledge to figure out the rest.” “When faced with a decision, I have to think of the advantages and disadvantages of the decision. I learned this skill in 4-H because of all the decisions I was faced with and I also learned from experience.” “From my 4-H projects, I have learned that in order to make a good decision, I have to think through the possible consequences and then make a logical decision.

#### *Sportsmanship Skills*

Forty-three percent (62 of 143) of the respondents indicated they exhibit their animal(s) honestly, play fair, and try to do their best. Some examples of their responses include “Honesty is very important in showing livestock.” “You must compete fairly to have a good show.” “You have to follow rules, whether it’s the 4-H rule book, the speed limit, or the legal voting age. This can be learned and experienced in a healthy way by being involved in a 4-H livestock project.” “I have learned honesty by working with my animals myself and not having my parents do it all for me.” “I have learned that you will be a lot happier in life by doing things the honest way.” “I have learned that hard work and dedication are a 4-H member’s keys to success.” “I am a role model for younger 4-H members who will learn things from others and from me. As they learn, honesty and fair play will help them when they get older and it will help maintain the great reputation the 4-H program has always had.” “The main point I have come to understand is that winning isn’t everything. Learning is the best part of the 4-H experience.”

A total of 33.5% (48 of 143) of the respondents indicated they had witnessed or knew of cheating occurring in the 4-H livestock program. These respondents viewed cheating as falsifying birth dates, using illegal drugs, or altering animals in any way. Examples of their responses include: “I have learned from others in our county that following the rules and being fair makes winning even better. I have also seen the consequences and trouble caused

when people don’t follow the rules.” “I have learned that some people try to win by doing things the wrong way and this is not fair.” “People that cheat are in 4-H for the wrong reasons. 4-H is about making friends, having fun, and learning new things.” “4-H isn’t about winning, but the experience, the fun, the friendships, and the way families are together on show days – is what’s important.”

#### **Conclusions and Implications**

Indiana 4-H beef, sheep, and swine members are able to accomplish the project skills evaluated by the instrument. In particular, the members are competent in sportsmanship, safety, animal grooming, and animal selection skills. This supports Sawyer (1987) who determined that acquiring knowledge and skill are the most important aspects of successfully raising an animal. Also, it is consistent with the literature showing that 4-H livestock members develop project skills related to training, grooming, sportsmanship, selecting proper equipment, choosing feed rations, and keeping accurate records (Gamon et al., 1992; Sawyer, 1987).

Respondents are not as confident in their abilities related to animal health care. They are not confident taking their animal’s temperature and need help understanding animal diseases and the withdrawal times of animal medications. Fortunately, however, almost all are able to provide adequate shelter, clean bedding, and fresh water for their animals without assistance.

4-H members who exhibited at the state fair have higher skill levels in the areas of animal health care, animal grooming, and animal selection than 4-H members who exhibited animal projects at the county fair only. Whether this difference in ability is real or just perceived, Indiana 4-H livestock members who exhibit at the state fair are more confident in their ability to perform certain project skills. The difference in ability might be due to the experience gained from additional participation in the 4-H program, or to a deeper level of commitment to learn the project skills need to compete at a higher level of competition. Regardless of the reason, this is consistent

with Sawyer (1987) who concluded knowledge acquired and experiences gained were closely related and Boyd et al. (1992) who found skill development increased when 4-H members increased their level of participation. No difference exists between the two groups' ability to perform projects skills in the areas of sportsmanship and safety, which is encouraging since these skills are important to every 4-H livestock member, regardless of their level of participation in the 4-H program.

The qualitative findings of this study led to several conclusions. Indiana 4-H beef, sheep, and swine members are using project skills to further enhance the development of life skills necessary to be successful adults in their communities. The raising of 4-H animal projects helps them increase their self-confidence and improve their people skills. The mastering of project-related skills also works to increase self-confidence. In addition, participation in livestock judging and/or showmanship classes leads to an improvement in both people skills and public speaking ability. Sawyer (1987) reported similar findings with Oregon 4-H livestock members and concluded these individuals showed a progression of development the longer they were enrolled in the project.

Indiana 4-H beef, sheep, and swine members use the responsibility skills they developed from raising 4-H animal projects in their daily lives to complete homework assignments and school projects, be on time at work, and/or care for a younger sibling or other child. The decision-making and problem solving abilities of the members improved because of raising 4-H animal projects. The respondents' knowledge of animals has helped them with various classes and projects at school. In particular, knowledge gained from raising 4-H animal projects was credited with assisting students in their understanding of biology, physiology, and genetics.

Respondents indicated they exhibit their animals honestly, 'play fair' and try to do their best when showing 4-H animal projects. The researchers believe this does not indicate the remaining respondents are dishonest and cheat, but instead shows that many felt strongly enough about this life

skill to report it. Several respondents suspected other people of cheating (falsifying birth dates, using illegal drugs, or altering animals) in the 4-H animal program, but said they understand that "people who cheat are in 4-H for the wrong reasons." As one respondent said, "You must compete fairly to have a good show."

Several implications can be drawn from this study. Because 4-H members who exhibited at the state fair are more competent in animal health care, animal grooming, and animal selection Indiana 4-H should develop project materials and activities that allow project members exhibiting only at the county fair to fully develop these three project skill areas. Respondents are able to relate how raising and exhibiting their livestock project helped them gain valuable life skills. These skills are benefiting youth in school, at home, and on the job to be more dependable, confident and qualified individuals. Improved problem solving and decision making skills, along with enhanced people skills, make alumni of the 4-H animal projects valuable citizens at work and in their communities.

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