

Self-Perceived Career and Interpersonal Skills Gained from Participation on a Collegiate Livestock Judging Team

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Abstract

Collegiate livestock judging is primarily an extracurricular activity that reinforces concepts taught in the classroom. Previous research has determined that participating on a livestock judging team can aid in the development of perceived life skills. Participants of this study indicated that their experience on a collegiate team helped them develop professional public speaking skills, learn the value of hard work and dedication, and be task and goal-oriented.

Introduction

Livestock judging has long been a part of the 4-H organization and the middle and high school agricultural education program. Starting around 1920, boys who were 4-H members were encouraged to participate in livestock judging contests and received instruction from Extension Agents (Murray, Tabor, Driftmier, Bennett, King, & University of Georgia Agricultural Alumni Association, 1975). Then in 1926, the American Royal Livestock Show extended an invitation to vocational agriculture students to participate in the National Livestock Judging Contests in Kansas City, Missouri (National FFA Organization Records, 2013). The Future Farmers of America (FFA) would later be established in 1928 at this same contest (National FFA Organization Records, 2013).

Not only has livestock judging been a part of the 4-H and FFA organizations, it has also been a long-established sector of the collegiate curriculum. Within land-grant universities, the curriculum often includes courses that teach “practical work in stock judging” (Wheeler, 1948). Livestock judging is primarily an extracurricular activity that reinforces concepts taught in the classroom such as conformation, soundness, and breed characteristics (Cavinder, Byrd, Franke, & Holub, 2011). From its initial foundation in 4-H and FFA, livestock judging on the collegiate level has become a highly competitive and prestigious activity. In 2013, twenty-five junior college teams and thirty-one senior college teams competed for top honors at the American Royal Livestock Judging Contest (American Royal College Contests, 2013).

As defined by Kays (1937), “Livestock judging consists of making a careful analysis of animals and measuring them against a standard commonly accepted as the ideal” (p. 177). This ideal is referred to as the *type* for each species of livestock (Kays, 1937). Animals are grouped into a set of four and participants must rank the animals from most desirable to least desirable as they compare them to the ideal. Each set is comprised of the same species, sex, and purpose (e.g., a set of four Angus steers). The purpose of livestock judging is to critically evaluate livestock in order to bring about improvement for future progeny (Kays, 1937; Nash & Sant, 2005). Participants must consider a variety of factors in order to correctly rank the livestock. Phelps and Shanteau (1978) determined that livestock judges simultaneously utilize nine to eleven pieces of information when evaluating livestock. The participants must then utilize this information to form a set of oral reasons that establishes and justifies their ranking, and then present these reasons to a judge. Although Kays (1937) pointed out the value of oral reasoning for livestock judging events, oral reasons were not a part of many contests until much later. Correct placing along with appropriate and fluent livestock terminology is essential. This includes numerous interpersonal skills.

Previous studies have been conducted to evaluate the benefits of livestock judging through youth organizations in the development of interpersonal skills, such as oral communication and decision-making. According to Rusk, Martin, Talbert, and Balschweid (2002), the top four skills 4-H alumni claimed as being a result of their participation in livestock judging were "... the ability to verbally defend a decision, livestock industry knowledge, oral communication, and decision-making" (p.5). Nash and Sant (2005) discovered that livestock judging improved animal industry knowledge of 4-H members and was "moderately influential on the development of communication, decision-making, problem-solving, self-discipline, self-motivation, teamwork, and organization" (p. 1). Additionally, 4-H participation in general was linked to participants having a greater development of perceived life skills (Boyd, Herring, & Briers, 1992). Although these studies provide evidence that livestock judging participation through youth organizations can lead to the development of interpersonal and life skills and impacted participants' lives, further investigation on a collegiate level is needed to fully validate the value of livestock judging participation.

The current study investigates the value of collegiate livestock judging participation on interpersonal and life skills. A 2011 study conducted at Texas A&M University evaluating the effects of collegiate livestock judging participation on life skill development found that the experience had a positive influence on participants' career and interpersonal skills (Cavinder, Byrd, Franke, & Holub, 2011). The career component included skills such as communication, time management, and self-assertiveness (Cavinder et al., 2011). The interpersonal skills component included areas such as confidence with authority, task and goal priority, and ability to work well with others (Cavinder et al., 2011). The ranking of these skills in each of these areas by participants was positively related to livestock judging participation (Cavinder et al., 2011).

Life skills developed through livestock judging are among those most desirable to employers. A National Association of Public and Land-grant Universities (APLU) study of seven soft-skill clusters consisting of communication, decision-making/problem solving, self-management, teamwork, professionalism, experiences, and leadership skills was conducted to determine which soft skills employers seek in new college graduates (Crawford, Lang, Fink, Dalton, & Fielitz 2011). Of these seven clusters, the top two ranked by employers were communication and decision-making/problem solving (Crawford et al., 2011). Within the communication cluster are skills such as listening effectively, communicating accurately and efficiently, and effective oral communication (Crawford et al., 2011). The decision-making/problem solving cluster includes recognizing and analyzing problems, taking effective and appropriate actions, and realizing the effects of those actions (Crawford et al., 2011). Following these two clusters is the self-management cluster, consisting of working efficiently, self-starting, and well-developed work ethic, integrity and sense of loyalty (Crawford et al., 2011). As evidenced in the 2011 APLU study, there are a cadre of items related to "soft-skills" that new hires should be capable of performing in the work place. The current study will seek to identify which of the aforementioned cluster items may be gleaned from participating on a collegiate livestock judging team.

Theoretical Framework

As previously mentioned, participants on a livestock judging team are required to experientially identify and argue their placings of livestock based on a set of industry standards. Experiential learning has long been the foundation of youth organizations such as the FFA and 4-H as well as a central component of the college curriculum. As defined by Kolb (1984), "...[experiential] learning is described as a process whereby concepts are derived from and continuously modified by experience" (p.26). After evaluating similar previous theories set forth by Lewin, Dewey, and Piaget, Kolb formulated a model illustrating the process of experiential learning as seen in Figure 1 (Kolb, 1984).

The four primary steps within this model are concrete experience, reflecting on an observation, forming abstract ideas, and active experimentation (Walker, Morgan, Ricketts, & Duncan, 2007). Although those participating in experiential learning may enter the cycle at different stages, the sequence must be followed as illustrated in Figure 1 (Kolb, 1984; Walker et al., 2007). The focus on implementing experiential learning in youth organizations such as the FFA is perhaps best illustrated by their motto, "Learning to Do, Doing to Learn, Earning to Live, Living to Serve" (National FFA Organization Records, 2013).

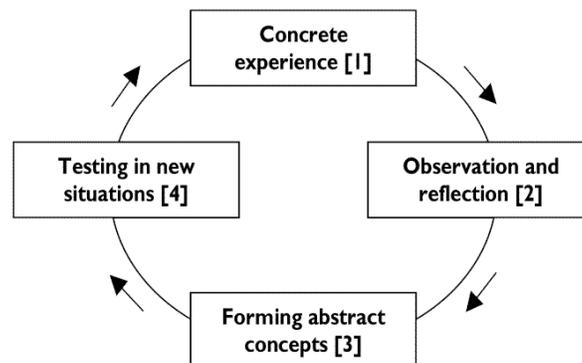


Figure 1. The Experiential Learning Cycle (Kolb, 1984)

Livestock judging fits nicely into the experiential learning model. Participants evaluate sets of animals as previously described and quickly decide their beneficial attributes as well as those that may make the livestock less functional for a producer. This fulfills the concrete experience stage as well as the observation and reflection stages of Kolb's Experiential Learning Cycle (1984). Participants must then form an oral set of reasons that accurately describes the attributes of each animal and provides validation for the rank of each animal within the set; this completes the stage of forming abstract ideas. Lastly, participants must give this analysis to a panel of judges that evaluate their accuracy, competency, and fluency in terms of livestock. The presentation of these oral reasons to a judge completes the experiential learning cycle with active experimentation. The decisions participants made, and the terms they utilized in their oral reasons will determine the score they receive from the judge. Through livestock judging, participants are continuously participating in the experiential learning cycle.

Critical thinking is described by Facione (1998) as when a person "...uses a core set of cognitive skills--analysis, interpretation, inference, explanation, evaluation, and self-regulation--to form that judgment and to monitor and improve the quality of that judgment" (p.4). This is congruent with the many processes occurring when individuals participate in livestock judging both at the youth organization level and especially at the collegiate level. Through participants' individual analysis of sets of livestock, they are utilizing all of these cognitive skills described above.

The ability to critically think has been proven as a skill that can be learned (Facione, 1998). Therefore, individuals who participate in livestock judging, an activity that requires critical thinking, are developing critical thinking skills through their participation. The capacity of collegiate individuals to think critically has been significantly correlated with college GPA and reading comprehension (Facione, 1998), and college graduates with strong critical thinking skills are desired by employers.

Methodology

The purpose of this study was to identify which of the soft-skills described by Crawford et al. (2011) result from participating on a collegiate livestock judging team. For the purposes of this study, the researcher modified an existing survey instrument constructed by Cavinder, et al., (2011) who conducted a similar study at Texas A&M University. The two main constructs (career and interpersonal attributes) remained the same for this study but a more extensive demographics section was added to provide a clearer picture of participant characteristics.

The target population for this study was past and present participants on the University of Georgia Livestock Judging team from 2007 to 2013. The reasoning for this time span was that during the 2007-2013 seasons, team members were trained by the same coach at the University. The total number of participants between 2007 and 2013 was forty. A pilot study was conducted to establish reliability and validity of the revised instrument, which therefore eliminated ten participants from being part of the final survey group. Five participants of the pilot study were randomly selected from the 2013 team roster and five alumni were randomly selected. After the initial survey was distributed to the pilot group through an email attachment, the instrument was then coded and responses were entered into a spreadsheet. Seven of the ten completed the pilot survey. Cronbach's alpha values were used as an indicator of internal consistency in responses to constructs on the revised instrument and alphas for the constructs ranged from 0.83 to 0.92. These reliability findings, in addition to feedback from a panel of experts who examined the instrument for face and content validity, informed the minor changes to the final instrument.

The revised survey was entered into Qualtrics and Internet survey distribution techniques were adopted from Dillman, Smyth, and Christian (2009). Prior to distributing the survey to the thirty remaining participants (excluding the 10 from the pilot sample), an introductory email was sent to make participants aware of the survey link to come. Three days later, an email was sent to participants containing an embedded link for the Qualtrics survey. A week later from the date that the embedded link was sent, an email was sent containing a second link and expressing appreciation for those who had already completed the survey and urging those that had not to do

so. A final reminder email was sent a week later to once again thank participants and remind those who had yet to respond to respond soon.

As previously stated, the target population for this study was past and present participants on the University of Georgia Livestock Judging team from 2007 to 2013. Of the 30 eligible participants, 22 completed the survey, resulting in a 73% response rate. An independent sample's t-test was run to compare early and late respondents on the career skills construct. No significant difference was found between early and late respondents on this construct at the $\alpha = 0.05$ level ($p = 0.818$). An independent sample's t-test was also run to compare early and late respondents on the interpersonal skills construct. No significant difference was found between early and late respondents on this construct ($p = 0.809$).

In a review of research literature spanning ten years, Lindner, Murphy, and Briers (2001) concluded that "both early/late comparison and follow-up with non-respondents are defensible and generally accepted procedures for handling non-response error as a threat to external validity of research findings" (p.51). Additionally, Radhakrishna and Doamekpor (2008) indicate that if no significant difference is found between early and late respondents, then the findings from the sample may be representative of the population. Therefore, since there were no significant differences between early and late respondents, the findings of the study may be representative of the larger population of collegiate livestock judging participants at the University.

Results

Participants were composed of eleven males and eleven females. Individuals were an average age of 24.77, with a range of 22 to 29 years. Of those that responded, thirteen (59%) had participated in livestock judging through the FFA or 4-H. The average number of years in FFA or 4-H for those that had judged through these organizations was 6.92 years. Those that had participated in livestock judging at a junior college prior to attending the University of Georgia were also accounted for and totaled four (18%). The majority of those who were part of the livestock judging team at the University of Georgia had not previously judged livestock at a junior college (82%). Eleven participants (50%) currently served as an official judge for livestock exhibitions in FFA and 4-H.

All of the participants had received training from the same coach while they participated on the livestock judging team at the University of Georgia. Of the twenty-two that responded, all had received or were currently pursuing a Bachelor's Degree. Areas of study included Animal Science, Agricultural Education, Agricultural Engineering, and Agricultural Communication. Of the twenty-two that responded, nine earned or were currently working towards earning their Master's Degree (41%). The majority of these Master's Degrees were in an agricultural field with one in Adult Education and Community Leadership. There were four that had received or were currently pursuing a Doctoral Degree (18%). Areas of study included Veterinary Medicine and Ruminant Nutrition. Additionally, the majority of respondents were also livestock producers (59%). Beef cattle were the primary species produced followed by dairy cattle (92% and 8% respectively). The scale of these operations ranged from 15 to 300 animals. Additionally, current career positions of respondents included high school Agricultural Education teachers, employees of Agriculture Industry Companies, professors, and farmers.

The instrument contained two constructs with moderately strong reliabilities. The Cronbach's Alpha for the career skills construct was 0.787, and the Cronbach's Alpha for the interpersonal skills construct was 0.887. There were nine items in the career skills construct. Participants indicated their level of agreement with each statement in reference to their experience on a collegiate livestock judging team. Each of these items was on a scale of one to five (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree). Therefore, the minimum summed score for this construct was nine and the maximum summed score for this construct was forty-five. The item with the highest mean within the construct was the statement "I developed a professional public speaking ability, which can be used to reach a variety of audiences" with a mean of 4.76. The second highest item was "I learned the value of hard work and dedication to a common team goal" with a mean of 4.57. The item with the lowest mean was "I built my self-esteem" with a mean of 4.14. However, although the statement "I learned to interrelate with a diverse personality group" had a mean of 4.24, it brought down the construct more significantly than any other items within the construct. If this item were to be deleted, the Cronbach's Alpha for the career skills construct would have increased from 0.787 to 0.844. The ranking of each item can be seen in Table 1.

Table 1

Career Skills Construct

Cronbach's Alpha	0.787		
<i>Item</i>	<i>Mean</i>	<i>St. Deviation</i>	<i>Cronbach's Alpha if Item Deleted</i>
I developed a professional public speaking ability, which can be used to reach a variety of audiences.	4.76	0.436	0.766
I learned the value of hard work and dedication to a common team goal.	4.57	0.507	0.768
I learned how to be self-assertive.	4.43	0.598	0.753
I learned to control anxiety in stressful situations while maintaining my composure and focus.	4.33	0.658	0.749
I developed the ability to respect others' opinions.	4.33	0.658	0.737
I learned how to maintain my personal opinion while still being open minded to the suggestions of others.	4.33	0.577	0.764
I developed strong time management skills.	4.33	0.658	0.729
I learned to interrelate with a diverse personality group.	4.24	0.831	0.844
I built my self-esteem.	4.14	0.910	0.768

Note: Scale 1-5 (1=Strongly Disagree, 5=Strongly Agree)

The Cronbach's Alpha for the interpersonal skills construct was 0.887. This construct consisted of eight items, and participants indicated how much their participation on a collegiate livestock judging team helped to develop abilities in each area. The scale for each item was a numeric value of one to ten (1= low influence and 10= high influence). This gave the interpersonal skills construct a minimum summed score of eight and a maximum summed score of eighty. The interpersonal skill that was ranked the highest was the ability to "Communicate verbally with others" with a mean of 9.38. The ability to "Be task and goal oriented" with a mean of 9.00 ranked second. The interpersonal skill with the lowest mean score was the ability to "Be patient" with a mean of 6.67. The removal of this item would have actually brought up the Cronbach's Alpha of the construct to 0.915 (Table 2).

Table 2
Interpersonal Skills Construct

Cronbach's Alpha	0.887		
<i>Item</i>	<i>Mean</i>	<i>St. Deviation</i>	<i>Cronbach's Alpha if Item Deleted</i>
Communicate verbally with others.	9.38	1.024	0.860
Be task and goal oriented.	9.00	1.612	0.867
Be confident in social situations.	8.95	1.359	0.872
Be confident as a leader.	8.76	1.513	0.857
Be confident with authority figures.	8.67	1.461	0.862
Work well with others.	8.19	1.365	0.874
Be assertive with others.	7.76	1.546	0.871
Be patient.	6.67	1.880	0.915

Note: Scale 1-10 (1=low influence; 10=high influence)

An independent sample's t-test was run to compare participants who had judged at a junior college prior to competing on the University of Georgia livestock judging team and those that had not previously judged at a junior college for the career skills construct. No significant differences were found between the two groups [$t=-0.487$, $p=0.631$, mean of yes=40.25, mean of no=39.27 at the $\alpha=0.05$ level]. An independent sample's t-test was run to compare participants who had judged at a junior college prior to competing on the University of Georgia livestock judging team and those that had not previously judged at a junior college for the interpersonal skills construct. No significant differences were found between the two groups [$t=-0.374$, $p=0.713$, mean of yes=69.00, mean of no=67.16 at the $\alpha=0.05$ level]. These values can be seen in Table 3.

Table 3
Junior College Experience Prior to Senior College (T-test)

<i>Construct</i>	<i>Judged at a Junior College?</i>	<i>Number</i>	<i>Mean</i>	<i>St. Deviation</i>	<i>t-value</i>	<i>p-value</i>
Career Skills	No	18	39.27	3.083	-0.487	0.631
	Yes	4	40.25	5.737		
Interpersonal Skills	No	18	67.16	9.463	-0.374	0.713
	Yes	4	69.00	4.242		

An independent sample's t-test was run to compare males and females within the career skills construct. No significant differences were found between the two groups [$t=1.486$, $p=0.159$, mean of males=40.54, mean of females=38.36 at the $\alpha=0.05$ level]. An independent sample's t-test was run to compare males and females within the interpersonal skills construct. No significant differences were found between the two groups [$t=1.959$, $p=0.074$, mean of males=70.90, mean of females=64.09 at the $\alpha=0.05$ level]. These values can be seen in Table 4.

Table 4
Males vs. Females within Each Construct (T-test)

<i>Construct</i>	<i>Gender</i>	<i>Number</i>	<i>Mean</i>	<i>St. Deviation</i>	<i>t-value</i>	<i>p-value</i>
Career Skills	Male	11	40.54	2.067	1.486	0.159
	Female	11	38.36	4.140		
Interpersonal Skills	Male	11	70.90	3.330	1.959	0.074
	Female	11	64.09	11.049		

Conclusions

The sample was comprised of participants who had participated on the University of Georgia Livestock Judging Team from 2007 to 2013. Participants consisted equally of males and females and ranged in age from 22 to 29 years of age. Of these, thirteen (59%) had participated in livestock judging through 4-H or FFA. A total of four participants (18%) had participated in livestock judging at a junior college prior to attending the University of Georgia. Additionally, at the time of the study, eleven participants (50%) had served as an official judge for 4-H and FFA livestock exhibition events in which they judge and place youth livestock projects.

Nearly all participants had received or were currently pursuing a Bachelor's Degree. Nine (41%) respondents had earned or were currently working towards a Master's Degree, and four (18%) had received or were currently pursuing a Doctoral Degree. Current positions of

respondents included students, high school agricultural education teachers, agriculture industry companies, professors, and farmers. Of these, fifty-nine percent of participants were also livestock producers, primarily beef cattle.

In the career skills construct, the order of means of each item indicated the influence of livestock judging on participants' development of career skills. From the data gathered, respondents most strongly developed public speaking ability through their participation in collegiate livestock judging. Following public speaking ability were skills such as hard work and dedication to a common team goal and the ability to be self-assertive. Overall, participants agreed with the items in the career skills construct [4=Agree, $M > 4.00$].

In the interpersonal skills construct, the ability to verbally communicate with others was the skill most strongly developed through collegiate livestock judging. This was followed by the ability to be task and goal oriented. The next three items referring to the development of confidence were all ranked within a very close range of each other ($M = 8.95$ to $M = 8.67$). In order of mean values, these items were confidence in social situations, confidence as a leader, and confidence with authority figures. The item that was ranked least was the ability to be patient with a mean of 6.67. Cavinder, et al., (2011) also had patience as the skill least developed through participation in collegiate livestock judging. Although patience had the lowest mean within the interpersonal skills construct, none of the items within the construct had a low mean (< 5.00), indicating low influence of livestock judging participation.

The skills developed through participation on a livestock judging team in both constructs were related to verbal communication. In the career skills construct, respondents indicated the development of professional public speaking ability. In the interpersonal skills construct, respondents indicated the development of the ability to communicate verbally with others. Oral communication was ranked as one of the top four skills 4-H alumni claimed as being a result of their participation in livestock judging; Rusk, Martin, and Balschweid, (2002) found similar results. In another study conducted by Nash and Sant (2005), Idaho 4-H alumni indicated that their participation in livestock judging was "moderately influential on the development of communication, decision-making, problem-solving, self-discipline, self-motivation, teamwork, and organization" (p. 1). The results of this study support findings of previous studies.

The importance of these skills is not to be taken lightly. In a survey reported in *TIME* magazine, more than 60% of employers stated that applicants were lacking in the areas of "communication and interpersonal skills" (White, 2013). In another survey within the same article, employers were found to have difficulty in finding applicants with skills such as "communication, creativity and collaboration" (White, 2013). In a national study of seven soft-skill clusters consisting of communication, decision-making/problem solving, self-management, teamwork, professionalism, experiences, and leadership skills, employers ranked the communication cluster and decision-making/problem solving cluster as the top two most important (Crawford et al., 2011). The career skills and interpersonal skills developed through participation in livestock judging support these areas deemed as important by employers. Therefore, the skills participants develop through collegiate livestock judging are not only applicable in contests, but also later in their professional careers.

Recommendations for Practice

The data from this study and the data collected in previous studies evaluating similar life-skills developed through participation in livestock judging validate the time, money and efforts put into livestock judging programs, specifically at the collegiate level (Rusk, Martin, Talbert, & Balschweid, 2002; Nash & Sant, 2005; Cavinder, Byrd, Franke, & Holub, 2011). Students in youth livestock judging programs should be encouraged to continue on to eventually compete at the collegiate level. The skills participants obtain are not only beneficial at the time of the contest, but also contribute to success later in life by developing skills in demand by employers.

Additionally, funds for collegiate livestock judging programs should remain in tact and hopefully grow to support student travels to practices and contests. The students' successes should also be highlighted to not only give participants recognition, but also promote the program to other students. By providing support and promotion for livestock judging programs, contributors are aiding students to participate in the experiential learning cycle and enhance their critical thinking skills (Kolb, 1984; Facione et al., 1994; Facione, 1998). This prepares participants to be a marketable individual in the workplace.

Recommendations for Research

In order to gain a more accurate picture of the skills learned through livestock judging in future studies, a few recommendations are made. First, a larger and more diverse sample of students would strengthen the conclusions drawn from this study. A larger sample may also allow for stronger comparisons to be made between students who are demographically similar but did not participate in livestock judging. Second, a deeper investigation of the potential influence of the coach is needed. In this study, all participants had exposure to the same coach. What proportion of student growth can be attributed to the coach versus the livestock judging experience overall? Finally, in reference to Table 5, the t-value for the interpersonal skills construct is on the borderline of indicating a significant difference in males and females ($t=1.959$). To further investigate the differences in development of interpersonal skills from participation in livestock judging, focus groups of each gender are needed. Small focus groups divided by gender would allow researchers to pinpoint the interpersonal skills that females feel they more strongly develop through livestock judging. This should be done with each gender separately so that the female participants are not influenced by and do not influence the males. Focus groups could allow researchers to incorporate or eliminate items from the survey instrument in order to improve instrument validity and reliability.

Implications

Although the Cronbach's Alphas were strong for each construct and the data supported findings in previous studies, one has to recognize that there were a small number of respondents in this study ($N=22$). Additionally, the average amount of time spent practicing as well as the number of contests participants competed in should also have been factored in to determine to what extent participation in livestock judging contributed to the development of particular life skills. Finally, the attributes of the coaches involved should also be factored into future studies.

Certain characteristics of coaches may have a greater influence on participants' development of particular life skills.

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