

WHAT IS THE MEANING OF LIVESTOCK PRODUCTION FOR LONG-STANDING  
4-H MEMBERS?

A HERMENEUTIC PHENOMENOLOGICAL STUDY

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by

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4-H MEMBERS?  
A HERMENEUTIC PHENOMENOLOGICAL STUDY

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## **DEDICATION**

This dissertation is dedicated to generations of livestock producers who have diligently pushed through the “joys and sorrows” of livestock production, often unnoticed.

## ACKNOWLEDGEMENTS

*“Animals are unpredictable things so our whole life is unpredictable. It’s a long tale of little triumphs and disasters and you’ve got to really like it to stick to it.”*

-James Herriot

Where do I even begin? Although the actual research project itself presented here was only about a year in the making (marked by the 2018 and 2019 lambing seasons on our farm), I truly feel like it is a lifetime of work. And if I am honest, it is much more than just my lifetime; it is also the lifetimes of my parents, my grandparents...even my great grandparents. I am livestock production and livestock production is me; it is impossible to completely separate this phenomenon from my being. I believe that the same can be said of many youth who have been raised around livestock production; it is deeply embedded into their identity and in many cases, has been a part of their family’s way of life for generations. I am honored and humbled to be able to generate an interpretation of the meaning of livestock production.

To my great grandparents and grandparents, who worked tirelessly through the years to feed their families; my parents, who sacrificed so much through the years to maintain and grow our family farm; my brother and his family, who aren’t afraid to be innovative to earn their living and raise their children on this same farm; thank you all.

To my husband, who understands just how deeply farming is embedded in me. He knew I was serious when I said “Yes, I’ll marry you...but only if I can bring my cows”. You have sacrificed your time and energy to support my dream of raising our sons in livestock production, even when it created so much extra work and so many

challenges. Somewhere along the way “my dream” became “our dream”, and I will always love you for this. Thank you also for doing so much more than your share of the work around our place for the past year as I worked to complete this study.

To my sons Andy and Aaron; it has been a delight for dad and me to raise you with the assistance of the 4-H and FFA programs. I am looking forward to continuing to work together and supporting each other as family members on all of the livestock projects that have lived on well beyond all of our 4-H and FFA years. I know you guys have some great ideas of what the future needs to look like on our farm; I can’t wait to see where you go with your plans! Thank you for listening to me ramble on about this project for the past year and letting me bounce ideas around with you. You have affirmed some of my thoughts, and challenged me to think about other issues in a new way.

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It is my deepest desire that readers who are livestock producers will walk away from reading this with a sense of “Aha, that’s it.....I have never been able to put it into words; but yes, that’s what it means”. I also hope that those who haven’t experienced livestock production as part of their lives will be left with thoughts like, “Wow, how interesting! I never thought of it that way before! I am so curious to know more”.

Although my role in *writing* this interpretation is complete, the voices of the youth involved in this project will continue to live on as readers ultimately rely on their honest and open words to create interpretations of the meaning of livestock production in their own minds.

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What is the meaning of livestock production for long-standing 4-H members?

A hermeneutic phenomenological study

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## **ABSTRACT**

Raising livestock for food production is a unique cultural phenomenon. It has been well documented that showing livestock as part of 4-H (a positive youth development program operating in 50 nations around the world) contributes to practical skills, knowledge, and life skills. While it is common to view livestock production through skills-based or economic lenses, there are subtle nuances of the phenomenon, the social, cultural, and emotional aspects that are harder to capture.

The purpose of this study was to generate an interpretation of the meaning of livestock production for long-standing 4-H livestock project members, as well as to uncover how these project experiences manifest in other aspects of members' lives. This project answers the question, "What does it mean to be a livestock producer?" Based on the assumption that understanding is rooted in lived experience, a Heideggerian Hermeneutic approach was used to examine transcripts of in-depth audio recorded interviews with 4-H members who are high school juniors or seniors and have been enrolled in livestock projects throughout their entire 4-H careers. In an additional photo elicitation activity, participants' reflections on livestock photographs from their childhood were examined. Two overarching patterns, paradoxical in nature, were

uncovered: a) *Livestock Production as a Culture of Care and Connection*; and b) *Livestock Production as a Culture of Loss and Misunderstanding*.

Patterns illuminated in this research will help inform and enhance both formal and non-formal educational experiences surrounding youth livestock production. This study will also add to agriculture industry's understanding of how youth experience growing up in livestock production. Finally, this study provides insight into the importance of continuing to explore the ways livestock producers engage with consumers about agriculture.

## **Chapter I: INTRODUCTION**

### **Background**

More than 6 million youth ages 8-18 are enrolled in 4-H programs across the nation (4-h.org). The phenomenon of producing livestock as a member of a 4-H program is closely tied to 4-H's early agricultural roots. Around the end of the 1800's, researchers began realizing that adults in the agricultural community would not easily consider or adopt new innovations that could be useful on the farm. However, they discovered that if they could reach the youth, the young people could begin introducing new agricultural technologies to their family farms and communities (4-h.org). Many early 4-H projects focused on raising livestock in the most efficient, practical and cost-effective ways possible.

Deeply rooted in agriculture, the over a century old youth development program has adapted significantly to meet the needs of today's changing world. Today, 4-H is present in rural, urban, and suburban communities in all fifty states. Projects range from livestock to rocketry and from foods to computer science. In addition to the traditional 4-H club model and shorter term clubs that focus on a specific topic (known as SPIN clubs), 4-H now offers after-school programs as well as in-school enrichment programs.

According to the national 4-H website, "4-H'ers are tackling the nation's top issues, from global food security, climate change and sustainable energy to childhood obesity and food safety" (4-H.org). STEM opportunities are highlighted, with the goal of improving "the nation's ability to compete in key scientific fields and take on the leading challenges of the 21st century" (4-H.org).

Currently, nearly 230,000 young people are enrolled in Missouri 4-H programs (4-H Center for Youth Development, 2016). This number includes 4-H clubs, special-

interest programs such as conferences, distance learning programs, day camps and school-age day care; and even educational programs presented during the school day (4-H Center for Youth Development, 2016).

In spite of this change in focus, many 4-H youth continue to enroll in agricultural projects. Although the United States has only 2.1 million farmers (usda.gov), nationwide there were 3 million agricultural 4-H projects in 2017 (4-h.org). In the state of Missouri alone, 4-H youth enrolled in 7,962 4-H cattle, hog, sheep, and goat projects (B. Dickey Personal communication, November 30, 2017).

Numerous studies have investigated the impact livestock projects have on knowledge and life skill development of 4-H members. Livestock projects provide real-life, long-term learning experiences that help youth gain scientific and agricultural competencies (Smith, Meehan & Dasher, 2009). In particular, knowledge gained from raising 4-H livestock projects has been credited with assisting students in their understanding of biology, physiology, and genetics (Rusk, Summerlot-Early, Machtmes, Talbert & Balschweid, 2003). 4-H members attribute livestock projects to teaching them responsibility (Ward, 1996, Rusk et. al, 2003; Boleman, Cummings & Briers, 2005). A variety of other life skills including self-confidence, critical thinking, motivation, goal setting, money management, public speaking, and record keeping, also surface in studies that investigate impact of livestock projects on youth. Rusk, Early, Machtmes, Talbert & Balschweid (2003) suggest that communication skills, leadership experiences and other life skills learned in 4-H livestock programs are important in helping youth grow into productive members of society. It has been well documented that showing livestock as

part of the 4-H program contributes to practical skills and knowledge, as well as life skill development.

Literature on social and emotional benefits of regular animal interaction in youths' formal learning environments provides another angle that may help inform this study. Research indicates that allowing animals to play an active part in the elementary classroom has resulted in students interacting more frequently and positively with their peers (Daly & Suggs, 2010). Students tended to show less aggression toward their classmates when animals were involved in the classroom (Hergovich, Monshi, Semmler, & Zieglmayer, 2002 ). Animals have also helped students overcome negative outbursts and extreme shyness (Flom, 2005). Improving young people's affective skill development is one way to decrease problem behaviors in school (Johnson & Johnson, 1996). Several studies (Arkow, 1998; George, 1998; Levinson, 1969) suggest that making animals part of young people's lives is particularly effective in developing morality, empathy, self-esteem, self-control, and responsibility.

High school students who learned technical skills through daily instruction that was facilitated by interaction from a live animal wanted to come to school, understood animal dispositions and temperaments, and learned life lessons about patience, responsibility, and dealing with birth and death (Bird, Martin, Tummons & Ball, 2013). Animals elicited emotional responses and contributed to student empowerment as the youth became "experts" on animals and became aware of their career goals (Bird, Martin, Tummons & Ball, 2013).

In spite of these studies, research on youths' interactions with animals that fall under the category of livestock is extremely limited (Ellis & Irvine, 2010). This is not surprising, since our understanding of socio-affective relationships between humans in general and livestock has been minimally explored (Wilkie, 2006). However, Digard (1994) suggests that domestication of livestock not only involves technical factors, but also ideological, cultural, social, and technical factors.

### **Statement of the Problem**

It is well documented that livestock projects positively contribute to practical skill development, agricultural/scientific knowledge, and life skill development (Smith, Meehan & Dasher, 2009; Rusk, Machtmes, Talbert & Balschweid, 2003; Ward, 1996; Shih & Gamon, 1997; Boleman, Cummings & Briers, 2005; Gamon, Laird & Row, 1992; Sawyer, 1997). Research also suggests that the presence of animals in educational settings contributes positively to emotional and social skill development (Daly & Suggs, 2010; Hergovich, Monshi, Hemmer & Zieglmayer, 2002). While it is common to view livestock production through skills-based lenses or economic lenses, there are subtle nuances of the phenomenon; the social, cultural, and emotional aspects, that are much harder to capture.

Little is known about the *meaning* of livestock production to those involved in the phenomenon. Although anecdotal stories from livestock producers are frequently found in agricultural magazines or on websites supported by the agriculture industry, little rigorous and systematic research has been conducted.

Various studies suggest that young people become involved in livestock projects because parents who were involved with livestock projects encourage them to do so

(Meeks & Jones, 2013, Weikert, 2014, Gill, Ewing & Bruce, 2010, Ricketts, Walker, Duncan & Herren, 2003). But what makes livestock projects so meaningful that when 4-H alumni raise their children, they are willing to invest time, financial resources, and energy into helping the next generation be involved with livestock projects? One unique project that may help to illuminate meaning is a study of the social, cultural and economic aspects of livestock production of ranchers in the Santa Fe and Carson National Forests (McSweeney & Raish, 2012). Many participants in this project reported that they couldn't even imagine a life without livestock. They also reported multiple generations of livestock ownership, with some of them saying that their families had "always" been livestock producers.

Livestock producers often indicate that they couldn't ever remember not working with livestock (Hoffett, 2015). The way farmers relate to their livestock is rooted in traditions and connection to their rural lifestyle (Hoffet, 2015). Multiple studies report that it is common for agricultural producers to say that they became involved with livestock "as soon as they could walk" or "as soon as they could ride a horse" (Hoffett, 2015; McSweeney & Raish, 2012). Caring for animals and the land gives ranchers a reason for being, work they enjoy doing, and satisfaction at the end of the day (McSweeney & Raish, 2012).

However, extant literature is void of the meaning of livestock production to the *youth* who are involved in livestock production. What is the meaning of livestock projects to the young people who have spent their childhoods raising livestock? How do they explain what it is about this phenomenon that keeps them coming back for more? How does being involved in producing livestock affect other areas of their lives? It is the aim

of this project to uncover the deeper meaning and subtle nuances that surround youth livestock production in a way that is scholarly, systematic and rigorous. Illuminating this phenomenon will help to provide a deeper understanding that will enhance the experience of livestock production for those who live within the phenomenon. It will also provide insight about what is needed to more effectively communicate with those who live outside the culture of livestock production.

### **Need for the Study**

Extant studies conducted about youth livestock projects have included investigations of: economic impact of livestock projects (Harder & Hodges, 2011); the project skills 4-H members learn in livestock projects (Sawer, 1987; Gamon, J.A. Laird, S., & Roe, R.R., 1992), factors that influence involvement and enrollment in 4-H livestock projects (Weikert, 2014; Meeks Baney & Jones, 2013, Gamon & Dehegehus – Hetzel, 1994); the impact of livestock projects on life skill and leadership development (Rusk, et al, 2003, Nash & Sant, 2005; Boleman et al 2005; Weikert, 2014;), career and production knowledge (Shurson & Lattner, 1991); and the value of competition (Kieth & Vaughn, 1998). These studies lay a foundation for understanding the impact and perceived impact of being involved in livestock projects. Other studies look deeper into the phenomenon, exploring reasons 4-H'ers become involved with livestock projects (Fuson, 2016); and 4-H'ers relationships with their livestock (Ellis & Irvine, 2010).

However, the majority of livestock project studies that have been conducted are empirical in nature. With predetermined categories and indicators (deductive), these research projects and program evaluations tell us what we think we need to know. However, this type of research does not allow us to be led by participants into the realm

of *what we may not even realize we need to know* (Davies & Dart, 2005). Current research in the 4-H livestock project area has not considered the way youth interpret the meaning of, or make sense of, the work they are doing in their 4-H projects. Weikert (2014) recommended that work be done to investigate how parent professions, living situations, and other factors are associated with the way the 4-H livestock tradition passes from generation to generation. The current study aids in uncovering and unpacking information to help answer these questions.

Finally, most extant studies have focused on the impact of *showing* animals. Researchers have not focused on youth who *produce* their own livestock throughout their entire childhood. Boleman, Cummings and Briers (2004) reported that parents of 4-H and FFA youth perceive that the longer children actively engage in livestock projects, the more likely they are to develop life skills that will help them to be more productive adults. However, the impact of young people being involved in the life cycle of multiple generations of their own livestock throughout childhood is not known. The use of hermeneutic phenomenology for this project will include participants making sense of the livestock production experience after the many years it has occurred (an inductive approach).

Understanding the deeper meaning of livestock production to young people may assist with communicating more clearly with those who are not familiar with animal agriculture. Rural-urban demographics and societal relations have altered perceptions, attitudes, and opinions toward agriculture (Irani & Doerfert, 2013, p. 8). With much of the U.S. population several generations removed from the farm, many consumers have limited experiences and little understanding of how food is produced. Indeed, we have a

“farm-to-plate” knowledge gap as well as a lack of confidence in the food supply (Anderson, 2000; Blaine & Powell, 2001; Verbeke, 2005).

Additionally, this project uncovers clues that help us understand how and why working with animals can impact social and emotional skill development, along with allowing youth voices to illuminate ways that adults and older youth can lead, teach, and mentor youth involved in livestock projects most effectively. Finally, this research adds to the extant literature that explains how youth are impacted by participating in livestock projects. The utilized methodology helps address gaps that exist in 4-H livestock literature, and is expected to include complex, “messy” and timeless findings about the phenomenon of youth livestock production.

### **Purpose, Research Question and Specific Aims**

The purpose of this study was to generate an interpretation of the meaning of livestock production for long-standing 4-H livestock project members, as well as to uncover how these project experiences manifest in other aspects of members’ lives. Essentially, this project provides an interpretation of the phenomenon of 4-H youth livestock production.

Narratives from youth involved in this project will be valuable in helping those who have not had experiences with livestock gain a deeper understanding of the meaning of livestock production. This project enhances understanding of how the human-animal connection influences affective skill development for youth. Information uncovered in this study is useful for the evaluation of current non-formal educational practices surrounding livestock production. Finally, it may help to refine the 4-H program or other

positive youth development programs for the future by providing insight on what contributes to meaningful experiences for youth.

The aims of this study are to:

1. Generate an interpretation of the meaning of livestock production for long-standing 4-H livestock project members.
2. Uncover how 4-Hers' livestock production experiences manifest in other parts of 4-Hers' lives.

### **Assumptions**

1. 4-H livestock projects are a valuable addition to the 4-H program and are grounded in experiential learning.
2. The structure of the 4-H program may influence participant learning and expected outcomes.
3. 4-H Livestock project members involved in this study were able to reflect on and share the meaning of their experiences in an articulate fashion.
4. Observations at the 4-H livestock events are representative of normal occurrences.
5. Youth livestock producers enrolled in 4-H projects find meaning in their experiences.

### **Limitations**

1. Researcher presence may affect participant behavior and responses to interview questions, particularly when they are aware of her personal experience and philosophical underpinnings. The researcher positioned herself clearly in Chapter 3 to help account for this influence.

2. This study was limited by a geographical area of central Missouri. This population is not representative of the entire population of high school seniors in the United States who have been enrolled in 4-H livestock projects for 8-10 years.

### **Strengths**

This study provided a great deal of narrative evidence of the meaning and influences of 4-H livestock projects on members' lives. This information can contribute depth and richness to extant knowledge about 4-H livestock projects while providing an interpretation of the meaning of livestock *production* for long-standing members. This study uncovers implications to positive youth development programs as well as implications to the agriculture industry.

### **Definition of terms**

4-H- a program set up by the United States Department of Agriculture, originally in rural areas, to help young people become more productive citizens by assisting them in experiencing practical skills (such as agriculture, animal husbandry, and food preparation), performing community service, and assisting in personal development (4-H.org)

4-H clubs- long-term educational experiences where members learn life skills such as decision making, public speaking, and working with others. Members learn by doing under the guidance of adult volunteers who teach projects ranging from aerospace and arts to veterinary science and sport fishing. Clubs also involve children and teens in community service, camping, and educational trips (Missouri 4-H Center)

4-H school enrichment programs- short-term educational experiences that supplement learning in the classroom. Most are led by teachers or 4-H volunteers (Missouri 4-H Center).

4-H special-interest programs- includes conferences, distance learning programs, day camps and other educational activities such as school-age care. They often reach youths with special needs, such as those living in group homes or youths who are physically or mentally challenged. (Missouri 4-H Center)

adolescence-the multifaceted set of maturational sequences and elements that impact on life for people moving from childhood to adulthood (Bahr & Pendergast, 2007); the “bridge” from childhood to adulthood (Dent, 2008)

affective skills- “skills that are dimension of the educational process which is concerned with the feelings, beliefs, attitudes and emotions of students, with their interpersonal relationships and social skills" ( Lang, 1998, p. 4 ).

bracketing (epoche)-investigators set aside their experiences, as much as possible, to take a fresh perspective toward the phenomenon under examination. Found in transcendental phenomenology. (Moustakas, 1994).

complexity- an ontological position for understanding that asserts much of the world consists of complex systems, and that if we want to understand it we must first understand those systems (Byrne, 1998)

experiential learning-A process of knowledge creation through interaction between the learner and environment, engagement in concrete experiences, and reflection upon those concrete experiences (Kolb, 1984).

Heidegger, Martin (1889-1976) - German philosopher whose main interest was the study of being; ontology. Greatly contributed to phenomenology, hermeneutics, political theory, psychology, and theology (Klorab-Karpowicz, n.d.)

hermeneutic phenomenology- a scholarly approach that can be used to interpret meaning of everyday lived experiences. Capturing the essential nature of the phenomenon is sought as the researcher and participant co-create the story during the interview. (Vandermause, 2011)

life skills- abilities that help an individual to be successful in living a productive and satisfying life (Hendricks, 1996)

livestock- traditional farm animals that have a monetary value. For this project, the term livestock includes cattle, sheep, hogs, and goats only.

livestock judging- Livestock judging contests consist of market and breeding animals, including beef, meat goats, sheep, and swine. Participants rank the animals in the classes, answer questions on chosen classes, and deliver sets of oral reasons from memory (ext.vt.edu)

livestock producer- for this study, someone who owns and is responsible for breeding, birthing, feeding and health for cattle, hogs, sheep and goats

long-standing 4-H livestock project member-for this study, youth enrolled in at least one 4-H livestock project for between 8 and 10 years

plasticity- potential for systematic change throughout development that exists as a consequence of mutually influential relationships between the developing person and his

or her biological, psychological, ecological (family, community, culture) and historical niche (Lerner, 2005).

positive youth development- a framework that views young people as resources to be developed rather than problems to be managed (Damon, 2004; Larson, 2000; Lerner, 2005)

Skill-A-Thon- the content of these contests provide a framework for youth to learn a variety of topics related to the production and management of beef cattle, meat goats, sheep, and swine. Participants in these events will learn about different breeds of livestock, external parts of livestock, skeletal anatomy of livestock, feedstuffs used in livestock diets, equipment using in raising and showing livestock and in processing meat, wholesale and retail cuts of meat derived from livestock, expected progeny differences (EPDs), common calculations used to measure animal performance and profitability, judging hay, judging meats, and judging performance classes of livestock (uky.edu).

youth development organization-Programs that contain: a). positive and sustained relationships between youth and adults; b). activities that build important life skills; and c). opportunities for youth to use these life skills as participants and leaders of valued community activities (Blum, 2003; Lerner, 2004; Roth & Brooks-Gunn, 2003)

## **Chapter Two: Review of Literature**

The following literature review positions this study as interdisciplinary scholarship. The fields of agriculture, human development, education, psychology, and sociology all surround this phenomenon. This literature review was conceptual in nature, with the goal of gaining a deeper understanding of the issues that are woven into the phenomenon of livestock production. Extant literature does not bring together this particular complex set of information. The purpose of this study was to generate an interpretation of the meaning of producing livestock for long-standing 4-H members, as well as to uncover how this experience manifests in other aspects of members' lives.

Findings from this study may be used in a variety of ways. Narratives from youth involved in this project may be valuable in helping those who have not had experiences with livestock gain a deeper understanding of precisely what it is that makes this phenomenon meaningful to those who are involved. Furthermore, results of this project will contribute to understanding how the human-animal bond may attribute to social and emotional skill development, as well as provide insight on the unique characteristics of farm families. Finally, this study may be used to examine the current formal and non-formal educational practices surrounding youth livestock experiences.

### **Introduction**

A lack of understanding of the meaning of livestock projects for young people prompted this exploration. The majority of livestock project studies that have been conducted are empirical in nature. With predetermined categories and indicators (deductive), these research projects and program evaluations tell us what we think we

need to know. However, this type of research does not allow us to be led by participants into the realm of *what we may not even realize we need to know* (Davies & Dart, 2005). Current research in the 4-H livestock project area has not uncovered the stories behind the data and considered the way youth make sense of their experiences with livestock production.

Decades of studies with livestock project youth, parents, and leaders show that they perceive these experiences positively impact young people within the 4-H program. In hopes of helping to illuminate how youth understand their livestock production experiences, the following questions were posed to youth livestock producers who had been enrolled in 4-H livestock projects for between eight and ten years:

- 1).What does it mean to be a livestock producer throughout your years in 4-H?
- 2). How does the experience of being a livestock producer manifest in other areas of your life?

This chapter includes a brief introduction to 4-H from its earliest roots to present day, as well as an explanation of the educational and human development research that underpins this century-old program. Topics include experiential learning, ages and stages of youth development, positive youth development, mentoring, and youth socialization. Finally, the literature review will conclude with an exploration of research on farm families, human-animal attachment, and extant livestock studies.

## **4-H: Past and Present**

### **History of 4-H Livestock Projects**

The 4-H organization has been in existence for well over a century. Looking back to the early roots of this organization is fascinating, as its birth is as complex as the program itself is today. Around the end of the 19<sup>th</sup> century, rural families began expressing concern that the content being taught in public schools was irrelevant to their children. Their concerns included the lack of understanding of nature as well as the lack of meaningful agricultural education (Enfield, 2001). Parents felt that schools should be providing practical education for their children, and that they were falling short. As a result of these concerns, Dr. Liberty Hyde Bailey from Cornell began publishing nature leaflets for distribution throughout New York that eventually led to his founding of Nature Study clubs at the end of the century ([historypreservation.com](http://historypreservation.com)).

Many miles away, A.B. Graham started the first youth program in Clark County, Ohio in 1902. Originally called the “Tomato Club” or the “Corn Growing Club”, the goal was to extend new agricultural practices to rural areas. Other similar clubs around the country included Hog Clubs, Canning Clubs, and Gardening Clubs, which were separated by gender (Reck, 1951, Wessel & Wessel, 1982). By 1912 such clubs became officially known as 4-H clubs.

Simultaneously, agricultural researchers all over the country were plagued with a seemingly unsurmountable obstacle; farmers were not adopting new agricultural practices that were being developed on university campuses. Researchers eventually discovered that in order to change behavior in agriculturalists, they needed to reach young people (4-

H.org). 4-H was a vehicle used to extend the teaching of the land-grant college to the nation's farmers by way of youth.

In 1914, the passage of the Smith-Lever Act created the Cooperative Extension Service and nationalized the 4-H organization. Rasmussen (1989) suggests that early 4-H clubs were the building blocks for the Cooperative Extension Service. This model not only provided the practical, hands-on programs that parents desired, but also provided an avenue for parents to become more interested and involved in adopting efficient practices if their children were engaging in these practices (Rasmussen, 1989).

At first, school superintendents or USDA Agricultural Demonstration Agents organized 4-H clubs and worked with the members. Farmers and superintendents frequently partnered to sponsor crop and livestock production contests. Soon, parents of the members began acting as volunteer leaders of the clubs, with Extension agents providing training and supplementary materials.

In the early days of 4-H, members carried out their work at home and on the farm, except for when they met together at county or state fairs. Large public events provided an opportunity to share their work with others. The original goal of the 4-H organization was to encourage agricultural practices that would increase productivity. Competitive activities (such as livestock shows) and 4-H club participation, which still exist today, can be traced back to these earliest agricultural contests and clubs for youth that were created around 1900 (Wessel & Wessel, 1992).

In the state of Missouri, 4-H was originally built around one objective: encouraging boys and girls to use more productive methods in carrying out a home

responsibility (Duncan, 1970). Common responsibilities that boys and girls worked on included raising a calf or litter of pigs, preserving garden produce, or beautifying a room of the house. The focus of 4-H in the earliest days until the end of World War I was on the project; particularly on what the child could grow or make (Duncan, 1970).

Following World War I, local 4-H clubs became independent from the schools. 4-H relied more heavily on volunteers. Additionally, the 4-H program became more focused on community club activities, with competitions being held between clubs in the counties as they worked together to achieve a common goal. Examples of this type of competition were a club pen of steers or community flower garden competitions. The focus shifted from a finished product to the learning process that created that finished product (Lindsay, 1968). More emphasis was placed on building character in addition to knowledge and skills that would help young people live fuller lives and carry out the responsibilities that a democratic society requires (Lindsay, 1968). Under this community club model, 4-H developed programs such as safety, conservation, grooming, and health.

### **The 4-H Program Today**

Today 4-H is the nation's largest youth development organization. The goal of the organization is to "help young people and their families gain the skills needed to be proactive forces in their communities and develop ideas for a more innovative economy" (4-h.org). Through the years, the focus of 4-H has changed from the individual to the community club, and then to the larger community as a whole.

There are currently more than 25 million 4-H alumni in the U.S. (4-h.org). Today, more than 6 million youth ages 8-18 are participating in 4-H programs across the nation.

Additionally, more than 600,000 adults and older youth volunteer their time and effort to the 4-H organization. (4-h.org). Missouri 4-H offers around 180 projects, ranging from aerospace to clothing, and foods to leadership (4h.missouri.edu). Perhaps today's largest challenge for the 4-H program is in maintaining its mission and tradition, while addressing the needs of today's youth in an ever-evolving and diverse society (Borden, Perkins & Hawkey, 2014).

### **Experiential Learning**

“Learning by doing” has been a cornerstone of the 4-H program since its inception around the turn of the century, and can be traced back to the early work of John Dewey. In a day when learning was centered on rote memorization and an authoritarian teacher, John Dewey began laying the foundation for today's theory known as experiential learning (Dewey, 1938). Motivated by the memories that useful approaches to his own learning involved occupational activities, and further driven by the adoption of a child with special needs (Dewey, 1939), he worked feverishly to explore how students learn meaningfully and share the message with educators around the country.

Dewey emphasized that providing an experience alone does not mean that learning is experiential (Dewey, 1938). Rather, he believed that teachers should be designing educational experiences in a manner that encouraged students to bring their own backgrounds and previous experiences into the classroom. Furthermore, Dewey believed that when children are allowed to learn within a context that makes sense to them, they develop a sense of purpose.

Well over a century later, Dewey's philosophy was developed into the grand theory of experiential learning (Kolb, 1984). Kolb argues that academic content is made meaningful when hands-on, real world experiences are incorporated into learning. Kolb proposed that:

1. Learning is a process, not a product.
2. Learning is re-learning.
3. Effective learning involves reconciling differences and conflicts.
4. Learning is holistic.
5. Learning involves interactions between individuals and the environment.
6. Learned is constructed and knowledge is created and re-created.

Based on these six statements, Kolb's Cycle of Experiential Learning consists of four stages: Concrete experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation (Kolb, 1984). The 4-H organization has adapted this Kolb's Cycle of Experiential Learning into its own experiential learning model (Norman & Jordan, 2016).

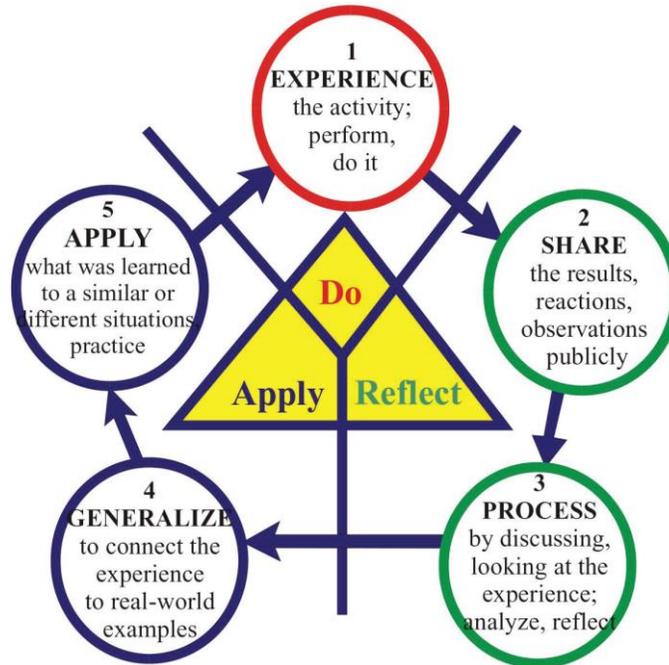


Figure 1. 4-H experimental learning model (Norman & Jordan, 2016)

The steps of the 4-H Experiential Learning Cycle include: a). experience b).share c).process d). generalize, and e).apply. While learners can enter this learning cycle with any step, they need to flow through the five steps sequentially in order to maximize learning. 4-H relies on the experiential learning model to teach life skills (Norman & Jordan, 2016).

### **Ages and Stages of Youth Development**

Since 4-H projects are open to youth between the ages of 8-18, it is important to carefully consider the ages and stages of youth development. The child who completes 10 years of 4-H has changed extensively throughout the course of his 4-H involvement. Part of this change may be due to opportunities he/she has been involved in through the program, but a great deal of this change has occurred simply because he/she has grown older and is maturing.

Erik Erikson (1902-1994) proposed an eight stage model of human development that all typically developing children move through as they move from infancy through adulthood (Erikson, 1968). His theory focuses on nature and the development of identity. Each stage is described by a crisis that requires confronting a fundamental question. The stages of Erikson's psychosocial development (1968) include: trust vs. mistrust (0-18 months); autonomy vs. shame and doubt (18 months-3 years); initiative vs. guilt (3-5 years); industry vs. inferiority (5-13 years); identity vs. role confusion (13-21 years); intimacy vs. isolation (21-39 years); generativity vs. stagnation (40-65); and ego integrity vs. despair (65 and older). Erikson's theory has been foundational for positive youth development; indeed, the ages and stages of development are grounded in his model of human development. It is interesting to note that youth of 4-H age actually encompass two stages of Erikson's model; industry and identity, which adds to the challenges of appropriate programming.

Although every child is unique, youth of similar ages often are in a similar place in intellectual, social, emotional and physical development. Understanding how these age groupings typically look is important for understanding the most appropriate ways to work with young people. Youth development professionals refer to these groupings as the ages and stages of youth development. For this discussion, we focus on young people ages 8-18, since 4-H livestock projects are limited to young people in that age range.

### **Middle childhood (8-10 years of age)**

As children become old enough to enter 4-H livestock projects, they are starting to gain coordination, strength and balance and are physically active with a great deal of energy. At this age, girls may be physically more mature than boys. Youth in this age range

see adults as the ultimate authority and usually follow rules out of respect for authority figures (McFarland & Huebner, 2008). They enjoy and feel loyalty to their club or group, but usually identify much more closely with others of the same sex. They are beginning to be able to use logic and reasoning to problem-solve, negotiate with others, and compromise. They are at an age where they are ready to explore the world, but they may not stick with one interest very long.

Young people in the 8-10 year old age range typically have the same beliefs as their parents or close family members, but are beginning to question their parents' authority. They benefit from involvement with caring adults outside of their own immediate family, and tend to greatly admire and try to be like older youth (McFarland & Huebner, 2008).

### **Early adolescence (11-13 years of age)**

Young people in this age range (middle school students) are rapidly changing. Physically, they may be going through a very awkward time. Their confidence may wane along with all of their physical changes.

Youth in early adolescence are beginning to be interested in interacting with members of the opposite sex, and are starting to rely heavily on peers. They are often looking for an adult role model, because they are beginning to separate from their parents and question their authority (McFarland & Huebner, 2008). However, they don't want an adult "telling them what to do". Rather, they enjoy looking for their own solutions. Youth of this age tend to think the world is looking at them; they can be self-centered and spend time comparing themselves to others.

In many ways, characteristics of youth in this age range are contradictory. They want to be important, but become easily embarrassed; seek privacy from adults, but need information to make decisions; strive for independence, yet need help. Cognitively, middle school youth are starting to care about justice and equality. They can think in more abstract terms, reason, apply logic and solve problems. They are now ready for in-depth, long-term experiences and like to think about their life goals (McFarland & Huebner, 2008).

### **Adolescence (14-18 years of age)**

Youth between the ages of 14 and 18 are usually high school students. They are often busy with a variety of activities, but this is an age where they have the ability to make commitments and follow through. They desire adult leadership roles and respect, and are likely to reject goals that others set for them (McFarland & Huebner, 2008). Peer groups are important to 14-18 year olds, and they are now able to see themselves from another's point of view. They are at an age where they are exploring their own identity, and frequently distance themselves from their parents while simultaneously becoming more involved in relationships outside of the immediate family (Fulgini & Eccles, 1993).

Cognitively, high school students are capable of a great deal. They can think in abstract terms, enjoy showing others new things they have learned, and create theories and new possibilities from information (McFarland & Heubner, 2008). However, they quickly lose patience and have little desire to participate in activities that don't have meaning to them (McFarland & Heubner, 2008).

It is important to note that the ages and stages of youth development assume that young people are typically developing. All youth develop differently, so naturally some

variation is expected. However, young people with special needs such as developmental delays or learning disabilities may not always do things during the same stage as their typically developing peers.

### **Positive Youth Development**

In the United States, youth (adolescents in particular) have historically been viewed in terms of what they lack compared to mature adults. For decades researchers and clinicians held the underlying assumption that adolescents were “at risk” for getting in trouble simply because they were adolescents. Young people were thought of as “problems to be managed” (Roth & Brooks-Gunn, 2003).

In the early 1990’s, this perspective began to shift. Social scientists began looking at young people through a systems theories lens (Lerner, 2005). Systems theories allow us to look at how individuals and their world interact and function throughout the lifespan. A key difference of this focus was the belief that adolescents’ trajectories are not “fixed”; rather, they can be impacted by families, schools, and communities (Lerner, 2006). This concept is commonly referred to as plasticity. This is an important aspect of positive youth development, which views young people as resources to be developed instead of as problems to be managed (Damon, 2004; Larson, 2000; Lerner, 2005).

Positive youth development is built on the premise that all young people have strengths, and that when strengths and resources align, positive results are more likely to occur. Focusing on developing assets instead of “fixing problems”, positive youth development work goes far beyond prevention. Instead, it helps provide the services, opportunities, and support needed to enhance a young person’s environment and increase

his abilities to achieve positive outcomes (U.S. Department of Education, 2007).

Prevention and promotion work hand in hand to increase positive outcomes (Lewin-Bizan, Lynch, Fey, Schmid, McPherran, Lerner & Lerner, 2010).

4-H falls under the umbrella of “positive youth development programs” along with other organizations such as FFA, Boy Scouts, and Girl Scouts. The term “positive youth development” is a concept that has been used in a variety of related ways during the past several decades, including a developmental process, a philosophical approach to programming, and when referring to fostering healthy development (Hamilton, 1999). A key approach that has emerged to understanding the concept of positive youth development has focused on the “Five C’s”: competence, confidence, connection, character and caring/compassion (Lerner et al, 2005). Social scientists suggest that there are 5 C’s that encompass the psychological, behavioral, and social characteristics of positive youth development (Lerner, 2004). A child who develops competence, confidence, connection, character and caring/compassion is considered to be “thriving”. A young person who is thriving tends to develop a sixth C; contribution.

Researchers have identified the three most critical elements of positive youth development experiences to facilitate thriving (Blum, 2003; Lerner, 2004; Roth & Brooks-Gunn, 2003):

1. Positive, sustained relationships between youth and adults.
2. Activities that build life skills.
3. Opportunities for youth to apply life skills as a participant and community leader.

## Mentors

Although the words mentor and role model are sometimes used interchangeably, there are some distinctions. According to Bowers, Rosch & Collier (2015), role models are those with experience who help to empower young people to develop leadership through displaying certain behaviors, qualities, or successes. Mentoring involves a caring and supportive relationship between a youth and a non-parental adult (Rhodes, Spencer, Keller, Liang & Noam, 2006). In some cases, role models may also be mentors.

In 2011, DuBois, Portillo, Rhodes, Silverthorne & Valentine conducted a systematic assessment of evidence about mentoring. Their meta-analysis included 73 separate evaluations of mentoring programs between 1999 and 2010. Their findings show that mentoring can be effective for improving outcomes in the behavioral, social, emotional and academic domains of youth development. In other words, mentoring can make a difference in the lives of youth.

Research suggests that it benefits a youth when mentors who are assigned to work with them through programs are supportive and emotionally in tune with the young person (Deutsch & Spencer, 2009; Keller & Pryce, 2010; Spencer & Rhodes, 2005; Thomson & Zand, 2010). However, Hamilton & Hamilton (2010) provide a word of caution: they suggest that close connections are usually the by-product (not the focus) of mentoring relationships. It may actually be counterproductive when a mentor's primary focus is developing a close relationship (Hamilton & Hamilton, 1992). Mentoring relationships that lack structure and are unconditionally supportive are not valuable (Langhout, Rhodes & Osborne, 2004). Instead, youth tend to trust and admire mentors

who work alongside of them on a task that includes a goal (DuBois, Portillo, Rhodes, Silverthorn & Valentine, 2011).

Rhodes (2002, 2005) proposed that mentoring works through three processes: 1). Helping the youth develop social relationships and emotional well-being, 2). increasing the youth's cognitive functioning through teaching and conversational exchanges, and 3). encouraging identity development as the youth tries to emulate their role models and people who advocate for them. This set of processes works in tandem, and is impacted by the time and quality of relationships between the youth and the mentor. In general, longer-term engagement with mentors provides a greater impact on youth (DuBois & Rhodes, 2006; Grossman, Chan, Schwart, & Rhodes, 2011; Grossman & Rhodes, 2002; Herrera et al., 2007; Karcher, 2005; Slicker & Palmer, 1993).

### **Youth Socialization**

Every young person grows up within a context. Whether an adolescent has been raised in an urban area or on a farm, they have been influenced by the unique situation in which they have been raised. This occurs both formally and informally, through an ecologically interdependent system that includes both schools and parents (Seidman, 1988; Vincent & Trickett, 1984).

Bronfenbrenner argues that the entire ecological system where one's growth occurs must be considered to understand human development (Bronfenbrenner, 1994), and proposes that human development takes place through continuously more complex interaction between an individual and other people, objects, and symbols in the environment over an extended period of time (Bronfenbrenner, 1984). These lasting forms of interaction are called proximal processes. Examples of proximal processes at

work are a child learning to read or play the piano. Due to the nature of the 4-H program, raising and/or exhibiting livestock over a period of years allows for extensive interactions and influences from youth and community volunteers, other 4-H members, parents, livestock shows and other events, and even livestock itself. The lasting impact of these interactions on a long-standing 4-H'er is an example of a proximal process.

### **Farm Families**

A farm is defined by the USDA based on the production of at least \$1000 of agricultural products within a year; there are approximately 2.05 million farms in the United States today. (USDA, 2017). This means that only about 2% of the United States population lives on a farm (AFBF, 2017). This is a sharp contrast to the number of farm families in America in the early 1900's, when nearly 1/3 of the population lived on farms (Lobao & Meyer 2001: 103). Today there is an increasing chasm between farm families and those who are not involved in agriculture. With mainstream America several generations removed from the farm, most people have not experienced what day-to-day life on a farm is like. It can be argued that farm families have their own culture. Culture can be defined as:

*“the totality of ideas, beliefs, values, activities and knowledge of a group or individuals who share historical, geographical, religious, racial, linguistic, ethnic or social traditions, and who transmit, reinforce and modify those tradition”* (Davis, B.M., 2012, p. 4).

As suggested in an evaluation of farmers involved in the AgrAbility program, the culture of farm families is unique because daily farm work is embedded in the family, or

family is embedded in daily work on the farm; it is hard to say which (Mott, Keller & Funkenbusch, 2017). Working together to provide the necessary labor, farm families develop identities that are not limited by boundaries of age or time. Rather, the next generation is informed of traditions in agricultural production and meanings attached to the family farm (Arnold, 2017).

It is important to have some understanding of what life is like for the young people who are raised in farm families. One interesting characteristic that Elder and Conger (2000) identified in a longitudinal research project on adolescent development that included nearly 400 farm youth and their family members was a web of interdependency. Farm families tend to work together to achieve family goals, which contrasts with greater individualization of members in non-farm families (Elder & Conger, 2000). When family business needs, such as putting up hay, calving, or harvesting occur, the farm work is prioritized. It is common for everyone in the family (including young children) to “drop everything” and help because they are counted on and needed to achieve a specific goal. These goals are often time-sensitive. For example, if a cow is having trouble calving, she must be helped immediately; this can’t wait until a more convenient time for family members. The situation is, indeed, a matter of life or death.

Since family farms typically rely on family members to provide labor, children learn about obligations through chores and voluntary assistance. These tasks become progressively more complex as the child ages and contribute to a child’s sense of responsibility and significance (Elder & Conger, 2000). It is common for young people to contribute to the farm’s labor, in turn developing a strong work ethic and experience

(Stieger, Eckert, Gatrell, Reid & Ross, 2012). Work on the farm that is embedded in a supportive family context is associated with positive developmental outcomes (McHale, Bartko, Crouter & Perry-Jenkins, 1990).

Many full time and part time agricultural producers can trace their agricultural heritage back for generations, and they value this heritage and way of life. A farmer's auto-ethnography (Kuehne, 2013) describes his experience of selling his farm, focusing on his feelings of identity loss, meaning, and purpose. Similar thoughts have been shared by farmers who felt they were losing the ability to farm due to a life-altering accident (Mott, Funkenbusch, & Keller, 2017). A farm life represents much more than economic gain; it is indeed part of a farmer's social identity.

For many families, the farm is as much an intergenerational heirloom as a source of revenue (Salamon, 1980). It is common for families who can't make their living on the farm to work off the farm in order to continue to farm. (Elder & Conger, 2000). In fact, only 16 % of farm families rely on the farm for the majority of their household income (USDA 2015). One interesting aspect of farm families where parents rely on off-the farm income is the "frenzied pace" at which they report living life, which is driven by social and economic challenges (Elder & Conger, 2000). Another characteristic is reduced farm efficiency (Goodwin & Mishra, 2004). Life on the farm is not the casual, unhurried, laid back affair that is stereotypically presented on television or in the movies.

Rosmann (2010) proposes that people who make the decision to continue to live and work on the farm in spite of these challenges are motivated by a basic human instinct referred to as the agrarian imperative. Supported by historical, psychological and

anthropological evidence, he theorizes that this genetically programmed instinct drives farmers to work hard, endure hardships, hold onto the land, and take risks.

### **Human-Livestock Attachment**

Although research is limited, some authors have studied interactions and attachment between farmers and animals (eg. Hoffett, 2015; Ellis 2014, Tovey, 2003; Porcher, 2006; Wilkie, 2006). For farmers, taking care of livestock is an important aspect of their identity and culture (Tovey, 2003; Porcher, 2006). In fact, many farmers identify being close to animals and interacting with them regularly as one of the joys of farming (Dockes and Kling, 2006). Those who work most closely with breeding stock are most likely to acknowledge their fondness for the animals (Wilkie, 2005). The career path of livestock seems to be an element that influences to what extent human-animal relationships develop (Wilkie, 2006). Additionally animals that don't fall into the "normal" production process tend to stand out and become more memorable to farmers (Wilkie, 2006). For example, a calf that was born in a blizzard and required extra care in the house might be easily recognized and remembered on the farm. The frequency, intensity, and intimacy of farmers' interactions with an animal also helps to explain how attached a farmer feels to that animal (Wilkie, 2005). Although livestock are categorized differently than pets, research suggests that they can cross over into that category in some instances (Holloway 2001, Wilkie 2005; 2010). The relationship between farmers and livestock can be a complex web of emotional and rational aspects (Hoffett, 2015).

How farmers relate to farm animals is an under-explored and poorly understood phenomenon. Although many people have companion animals in their homes, today very few have the opportunity to interact closely with those that are raised for food (Wilkie,

2005). Furthermore, this socio-affective relationship has received little academic attention (Wilkie, 2005).

## **Extant Youth Livestock Studies**

### **Benefits of Youth Livestock Projects**

Participating in 4-H livestock projects provides opportunities for young people to gain knowledge, leadership skills, psychomotor skills, responsibility, and a sense of accomplishment in a way that few other experiences allow (Smith, Meehan & Dasher, 2009). There is a positive relationship between years of livestock project involvement and life skills development (Boleman, Cummings & Briers, 2005) as well as leadership skills development (Walker, Morgan, Ricketts & Duncan, 2011). In other words, the longer youth are involved in livestock projects, the greater the impact.

The vast majority of the extant studies that involve youth and livestock use a quantitative approach to examine to what extent showing livestock impacted livestock skill, life skill, or leadership skill development. Livestock-related skills developed in livestock projects include training, grooming, and showmanship, selecting proper equipment and feed rations, and record keeping (Gamon et al, 1992; Sawyer, 1987). One study suggests that youth participating in livestock projects become confident in project skills related to showmanship, safety, grooming and animal selection, but are less confident in animal health care (Rusk, Machtmes, Talbert & Baslchweid 2003). 4-H members use these livestock-related project skills to help develop life skills that are necessary to become a contributing adult in the community (Rusk, Machtmes, Talbert & Baslchweid, 2003). Responsibility is an important life skill that livestock projects particularly seem to help develop (Ward, 1996). Responsibility is used by members not

only to care for their livestock, but also to complete homework, be on time for jobs, and care for younger siblings (Rusk, Summerlot-Early, Machtmes, Talbert & Balschweid, 2003). Boleman, Cummings and Briers (2005) determined that livestock exhibitors perceive they accept responsibility and develop confidence and self-discipline through the influence of their projects.

4-H alumni in New Jersey also indicated that participating in 4-H animal science projects positively impacted their life skills development (Ward, 1996). A spirit of inquiry, decision making skills, maintaining records and public speaking made the list of life skills alumni believed they developed through 4-H animal science projects. Shih and Gamon (1997) conducted a study looking at life skills development of youth in the 4-H beef program. They found that honesty, money management, pride in their work, and confidence were skills that 4-H'ers ranked highest. Although the 4-H program was not context for his study, Ricketts et. al (2003) investigated National Junior Angus Association members who showed cattle. His work indicated that youth believe they develop a responsible attitude and the ability to set goals and priorities to a great extent by showing cattle.

In one of few qualitative studies investigating youth livestock projects, Davis, Keith, Williams and Frazee (2000) interviewed 4-H exhibitors, parents, advisors and show officials. They identified six themes that participants believed resulted from competing in livestock shows, including: social relations, character, family, competition, new cultures and environments and finance for education. A similar qualitative study was conducted with a livestock project member who had autism. Similar themes emerged; social

relations, family, responsibility, and knowledge and care for animals (Davis, Keith, Williams & Frazee, 2000).

Multiple studies show that parents are the greatest influence on youth participating in livestock projects (Ricketts et al, 2003; Weikert, 2014; Gamon and Dehegehus-Hetzel (1994) reported that 4-H Swine project members say their parents were their best source of information on the project. Most parents were involved with livestock projects themselves (Meeks & Jones, 2013; Weikert, 2014; Gill, Ewing & Bruce, 2010; Ricketts et al, 2003). Siblings also have an impact on livestock project decisions (Ricketts et al, 2003). Relationships established working with parents, and other youth and volunteers who have similar interests such as theirs, such as livestock production, give participants a sense of affiliation (Gill et. al, 2010). Furthermore, the majority of these project members live on farms (Weikert, 2014; Fuson, 2016).

### **Concerns with Youth Livestock Projects**

One concern that research has surfaced with 4-H livestock projects involves parents and competitive events. In a study involving 250 livestock project youth in the state of Texas, Kieth and Vaughn (1998) identified four main concerns: excessive parent involvement, unethical practices (particularly too much money spent on “show stock”), poor sportsmanship and placing too much emphasis on winning. This is a complex issue because the 4-H program relies heavily on parent volunteers. They are needed to assist with competitive activities but also need to help maintain and reinforce the educational value of the event (Kieth & Vaughn, 1998). The challenges with adult and parent involvement in 4-H competitive events have been a concern in 4-H for decades (Ames & Ames, 1978; Goodwin, 1994). This problem is of great concern because there is evidence

that program quality (which is greatly impacted by its volunteers) influences the benefits that youth receive by participating in the program (Borden, Schlomer & Wiggs, 2011; King & Safrit, 1998).

Although there is much discussion of ways to increase the diversity of youth who enroll and participate in 4-H livestock projects, this is a challenging issue. Studies indicate that the costs associated with purchasing and raising a project animal is a barrier for youth (Weikert, 2014; Fuson, 2016). Additionally, raising livestock is a major commitment and requires a time commitment and cooperation from the entire family. This can also be a barrier for some youth.

Finally, a qualitative study with 45 4-H livestock project members focused on their relationships with their livestock. This study portrays the 4-H program as an emotional apprenticeship where “*children learn to do cognitive emotion work, use distancing mechanisms, and create a redemption narrative to cope with contradictory ethical and emotional experiences*” (Ellis & Irvine, 2010, p. 21). This study also suggests that 4-H’ers tend to become involved in livestock projects because their families raised livestock, and notes that raising livestock can be an important part of a young person’s identity (Ellis & Irvine, 2010).

### **Challenges with 4-H Livestock Project Retention**

Youth in livestock projects tend to drop out of 4-H as they approach early adolescence (Meeks & Jones, 2013; Russell & Heck, 2008; Nutt, 2008; Harder, Lamm, Lamm, Rose & Rask, 2005). 4-H youth indicate that time constraints, getting bored with learning the same things, and disagreeing with rules as reasons they consider dropping

out of 4-H (Meeks & Jones, 2013). Although it is common to claim that other opportunities outside of 4-H (eg. band, FFA, sports, jobs) are the reasons early adolescents drop out of 4-H, most research does not support those claims. However, research suggests that conflicts with other organizations and time constraints are major factors in older 4-H livestock project member retention (Meeks & Jones, 2013).

4-H livestock projects in Missouri follow the national trend for youth leaving organizations, with higher participation found in the elementary and middle school age groups. For example, in the Missouri 4-H Sheep project 416 members are between the ages of 8 and 12, 331 members are ages 12-15, and only 187 members are 16 years of age or older (Missouri 4-H Project Enrollment Report). This trend is disappointing, since 4-H livestock members show a progression of skill and knowledge development the longer they are enrolled in the project (Sawer, 1987; Rusk et al, 2003). Youth may be leaving the 4-H program before obtaining all it has to offer them.

This chapter has provided a brief introduction to the 4-H program, including foundational theories on which this positive youth development program is built. A discussion of youth socialization factors, farm families, human-animal attachment, and livestock studies concludes this interdisciplinary literature review and helps to frame the phenomenon of youth livestock production.

## **Chapter 3: METHODOLOGY**

### **Purpose and Research Questions**

The purpose of this phenomenological study was to answer the question: How do long-standing 4-H members experience 4-H livestock projects? Based on the assumption that understanding is rooted in lived experience, a Heideggerian Hermeneutic approach was used to examine transcripts of in-depth audio recorded interviews with 4-H members who are juniors or seniors in high school and have been enrolled in livestock projects throughout their entire 4-H careers. Using a photo elicitation activity to complement the more traditional hermeneutic interviews, participants' reflections on 4-H livestock project photographs from their childhoods were examined. A Heideggerian approach is useful when seeking deeper meaning and uncovering understandings frequently overlooked in existing literature.

### **Research Design**

Five 16-18 year old 4-H members from three different counties in central Missouri were recruited and invited to participate in a photo elicitation activity, interviews, and observations. A team of scholars with methodological and content expertise used a Heideggerian hermeneutic approach to analyze transcripts. The team rendered results from this study in the form of overlapping patterns across participants. This research adds to the extant literature that explains how youth are impacted by participating in livestock projects. What is needed is research that explores evidence on a deeper level and positions it in the ecological system.

The aims of this study were to: a). Generate an interpretation of the meaning of livestock production for long-standing 4-H livestock project members, and b). Uncover how livestock production experiences manifest in other parts of 4-H'ers lives.

### **History and Philosophical Background of Hermeneutic Phenomenology**

The word “hermeneutics” originated with the Greek character Hermes, who was known to deliver messages from the gods to the people (Cohen, Kahn, & Steves, 2000). Throughout history, hermeneutics has dealt with interpretation in a variety of disciplines, including theology and literature (Ramberg & Gjesdal, 2016). The use of hermeneutics is particularly prominent in the interpretation of sacred texts, where context and language are of critical consideration since writings occurred in different parts of the world over thousands of years (Willis, 2007).

German philosopher Wilhelm Dilthey moved hermeneutics forward into philosophy by working to interpret phenomena in a more scientific way (Diekelman, Magnussen & Ironside, 2006). Husserl, Heidegger, Gadamer, and Merleau-Ponty furthered his progress (Creswell, 2013).

Edmund Husserl (known as the father of phenomenology), concluded that being aware of something in the world allows one to study lived experience. He viewed the world with an epistemological perspective, focusing on knowledge. He also practiced reduction, believing that the world can be distilled into a pure phenomenon (Dowling, 2007). These beliefs led to the philosophical practice of bracketing beliefs, personal experiences, and knowledge in order to further distill evidence in phenomenological research (Cohen, Kahn & Steeves, 2000; McConnell-Henry, Chapman & Frances, 2009)

Although Martin Heidegger (1889-1976) was a student of Husserl, it is important to note that there are distinct differences between Husserl's and Heidegger's approaches to phenomenology. Heidegger's philosophy and ontological (meaning-based) perspective is thoroughly discussed in *Being and Time* (1962). Essentially, while Husserl focused on attempting to purely describe what is known about the lived experience of participants living in a particular phenomenon, Heidegger sought to uncover the meaning behind the phenomenon by interpreting an experience (Lopez & Willis, 2004; van Manen, 2011). McConnell-Henry et.al (2012) explains that interpretive phenomenology goes beyond raising awareness about a phenomenon, which occurs through description, to attaining deeper meaning of what the phenomenon means to those who live it. The meaning includes the influence of social-cultural contexts, and realities, as well as how the phenomenon impacts their being (McConnell-Henry et. al, 2012).

### **Heideggerian Hermeneutics**

At the root of hermeneutic phenomenological inquiry is the question, "What is the *meaning* of this phenomenon?" Hermeneutic phenomenological researchers explore questions by interpreting meaning gathered from the voices of the participants and the researcher's own experiences with the phenomenon of interest. Heidegger argued that all descriptions are already interpretations, since in order to "be in the world" we must also understand (Heidegger, 1962; Finlay, 2008). People naturally interpret and find meaning in events and experiences, including how the events affect the context (Heidegger 1962; Wojnar & Swanson, 2007). Interpretive (hermeneutic) phenomenology shifts the focus from describing what is known to uncovering meanings that are frequently missed or passed over.

The voices of the researcher and participants together provide the way that phenomena are illuminated and disseminated. Gadamer calls this philosophical concept *fusion of horizon*. This means that a researcher acknowledges their own background and experiences but simultaneously considers and integrates that perspective with the point of view of the participant. Experiences and knowledge of the investigator become part of the findings, serving as valuable guidelines that add to the meaning of the research (Lopez & Willis, 2004; Humble & Cross, 2010). Indeed, “understanding takes place when the horizon of the other intersects or fuses with ones’ own horizon and changes or extends ones’ range of vision” (Walsh, 1996, p. 235).

To begin to grasp the foundation of Heidegger’s philosophy, one must have an understanding of the concept of “Dasein” (Heidegger, 1927/1993, p. 20). Roughly translated into English, Dasein is “being- in- the -world”. He further explains that being in the world is driven by care. Indeed, “being in the world is essentially caring” ((Heidegger, 2008, 237). Human existence (Dasein) can be interpreted and understood more deeply by examining language, culture, social situations, historical backgrounds and the everyday experience of those being studied (Benner, 1994).

Philosophical hermeneutic phenomenology makes use of an interpretive team, allowing the research team’s own lived experiences (fore-structure) to enter into the interpretive process. Interpretive hermeneutics, therefore, is markedly unique from the descriptive phenomenological approach described by Husserl.

A positivistic scientific approach is not appropriate when it is necessary to look broadly and deeply at a phenomenon. Since the Heideggerian hermeneutic phenomenological approach seeks to understand the meaning of human experience, it

was an appropriate fit for the research question at hand; “What does it mean to be a livestock producer?”

For this project, a team of scholars with methodological and content expertise used a Heideggerian hermeneutic approach to analyze transcripts from five long-standing 4-H livestock project members. Heideggerian hermeneutic phenomenology is an appropriate approach since the research question focuses on meaning. The intention is to illuminate hidden or typically unnoticed aspects of a phenomenon. Results from this study were rendered in the form of overlapping patterns, representing the interpretation of experiences across participants, while striving to uncover and interpret the meaning of livestock projects to long-standing 4-H members. Results are not found by merging the experiences of all youth livestock producers. Instead, their unique stories help us think about aspects of the phenomenon that may be relevant to other youth who raise livestock. Ultimately, examining these stories for patterns causes us to question assumptions surrounding livestock production that have previously been taken for granted (Vandermause, 2011).

### **Positionality Statement**

The goal of qualitative research is to obtain a deeper understanding, capturing frequently hidden nuances and complexity. Establishing researcher positionality also helps readers have greater understanding of the phenomenon (Annells, 1999).

In carrying out qualitative work, it is imperative to embrace bias instead of hiding it. I am aware that how I am positioned by gender, class, age, ethnicity, culture, and multiple other factors impacts how I see the world. This may either enhance or inhibit some of my insights (Swaminathan & Mulvihill, 2018). My own experiences, as well as

the experiences of my interpretive team, impact the interpretation of participant data. If I am completely honest with myself, I don't believe it is possible for me to completely "bracket" my feelings or ignore past experiences I have had, but rather think that my own experiences come into creating a "fusion of horizons" (Gadamer, 1975) between myself and livestock producers who participated in this research project.

I come from a long line of farm families that spent a great deal of time involved with 4-H. My parents were both 4-H livestock project members, and 4-H project leaders as adults (Dad led the Beef cattle project for my brother and me, and Mom was our local club leader in addition to leading Foods, Sewing and Home Environment projects). My brother and I were both involved in 4-H throughout our childhoods, and produced Registered Polled Hereford cattle as part of our 4-H experience. This complemented our experience on the family farm.

My husband and I have gone to great lengths through the years to ensure that our family would be able to continue raising cattle. Although we have moved several times in the past 20 years, a key consideration was always how we would bring our cattle along with us. At times, this has caused a great deal of extra work; it has sometimes meant driving many miles to care for cattle in brutal weather conditions, building "make shift" facilities, and working much harder as a family than we would have without the farm. However, I value this way of life. Although my sons have "aged out" of 4-H and FFA, they are still involved in livestock production and our family farm. These are the experiences that I will bring to the interpretive team in the philosophical hermeneutic research process.

## Population and Sample

Research participants for this study were identified through unique purposeful sampling. Five participants (known of through their involvement with 4-H) who met the inclusion criteria for this study were contacted over a 30 day period through email. These unique students were suitable for a hermeneutic study because of their extreme involvement with the phenomenon of interest (Merriam, 2009). The goal was to find youth who were heavily involved with livestock production because it was anticipated that this strategy would yield deeper understanding and insight about the phenomenon.

The following inclusion criteria were created for purposeful sampling:

- high school juniors or seniors
- enrolled in 4-H livestock projects for between 8 and 10 years (Beef, Swine, Sheep and/or Goats)
- active in livestock *production* (own, breed and raise offspring)

Additionally, participants were required to speak English. The aim was to have a balance of males and females in the study who lived in at least three different Missouri counties. 4-H'ers who were juniors or seniors in high school were selected because they are nearing their last years in the 4-H program and are preparing to make important career decisions. They are able to think abstractly and take the perspectives of other people, as well as analyze situations and reflect on their thinking. Additionally, they are at an age where they can think about the future, consider opportunities, and set goals (Keating, 1990).

## **Data Sources**

This study used a qualitative design that employs photo elicitation, hermeneutic individual interviews with five 4-H livestock project members, and observations /field notes of the five 4-H'ers on the farm and at a livestock event. Using a single method does not adequately shed light on the meaning of livestock production; however, employing multiple methods (photo elicitation, on-farm interviews, and observations at a livestock show) can help facilitate deeper understanding of the phenomenon. This approach also allows for triangulation of data sources. Data from participants were gathered at different points in time, in public and private settings (Denzin, 1978; Patton, 1999). The order of activities for the project was:

1. Photo elicitation activity at participant's home
2. In-depth interview and observations on member's farm (or where they house their livestock)
3. Observation of 4-H'er in action at a livestock show

## **Photo Elicitation**

Photo elicitation is the idea of inserting a photograph (or another visual material) into a research interview (Harper, 2002). Photo elicitation occurred during the first participant-researcher meeting. Having an item to handle and focus can help to "break the ice" between the participant and researcher. The participant was invited to share photos or other artifacts from their early days of livestock projects. The prompt was simply, "Tell me about your pictures (or items)." The follow up question was, "What else do you remember?" Aligning with the Heideggerian hermeneutic approach, the participant's lead was followed as stories unfolded about their pictures, and follow-up questions were asked

for clarification when necessary. With the participants' permission, scans of photos were also taken to assist the researcher in later reflecting on the stories.

Photos promote longer, more comprehensive interviews while helping to alleviate fatigue and repetition (Collier, 1957, p. 58). Additionally, they prod memory and increase the likelihood that participants will share emotional statements (Collier, 1957, p.58). Furthermore, photos promote deep and reflective talk (Harper, 2002). Photo elicitation activities can also promote collaboration between the researcher and study participant (Harper, 2002). This technique fits well into the method of hermeneutic phenomenology, where the researcher and participants co-create a narrative.

### **Individual On-Farm Interviews**

These conversational interviews followed principles of philosophical hermeneutics. They were guided by the researcher, directed by each participant, and co-constructed from the mutual focus of the topic at hand (Vandermause & Fleming, 2011). The opening questions were:

1. Please tell about a situation that stands out for you that truly describes what it means to be a livestock producer who is enrolled in 4-H livestock projects.
2. What has being a 4-H livestock producer from the time you joined the organization been like for you?

Follow-up questions were used *only if* the conversation naturally unfolded in these directions. Examples of these questions are found in Appendix D. Crist and Tanner (2003) explain that as the exchange of language occurs between the researcher and

participant, the narrative text is co-created. Heideggerian hermeneutics requires that a researcher maintain composure and practice patience in attending to an individual's perspective; thus, hearing the concrete experiences.

Qualitative researchers use observations to view rich, unique moments that reveal complexity (Stake, 1995). Youth were accompanied and observed as they did their chores on the farm and worked with their livestock. Their on-farm interviews were audio recorded either during the chores or in the barnyard area immediately upon completion of the activities. This procedure is similar to the walking interview or walking methodology. Kusenbach (2003) talks about this approach as a “go-along” method that feels more conversational and less intense than more formal interviews. Each farm visit ended with the closing question, “*What else do I need to know?*” Brief field notes were taken during this visit, and reflection on the observation, conversations, and recorded memos occurred immediately after leaving the farm.

### **Observation at a livestock show**

Participants were observed at a livestock show “in action” with their livestock, families, friends, and environments. Field notes gave allowed for the tracking of demeanor, appearance, vocalizations, body language, and interactions that would not otherwise be recorded in a narrative (Crist & Tanner, 2003). After completing these observations, time was spent reflecting on the field notes, and memos were written.

## Procedure

The aim of this Heideggerian hermeneutic phenomenological study was two-fold:

**Aim 1:** Generate an interpretation of the meaning of the meaning of livestock production for long-standing 4-H livestock project members.

**Aim 2:** Uncover how 4-Hers' livestock production experiences manifest in other parts of 4-Hers' lives.

As described in detail above, data sources included photo elicitation at the participant's home, in-depth individual interviews on the farm, and observations at a livestock show. Reflexivity was an ongoing process throughout all phases of this project. It was critical to continually consider my own experiences, beliefs, and position regarding livestock production in addition to reflecting on data from my participants. Five youth from three different central Missouri counties participated in this research project. Findings were analyzed using Hermeneutic Phenomenological Analysis, which included the assistance of an interpretive team.

### **Expected Results:**

*Evidence* of how being a youth livestock producer involved in 4-H livestock projects made an impact even beyond the livestock project for long-standing members, common experiences, perspectives

*Understanding* of what long-standing 4-H livestock producers experience and what these experiences mean to them, as well as the influence the projects have on other aspects of participants' lives

*Strategies* for improving livestock project experiences for youth, evaluating livestock projects, connecting with youth, and communicating the essence of livestock production to agriculturalists and non-agriculturalists

### **Data Analysis and Interpretation**

Involving an interpretive team in brainstorming, discussion, and analysis of results is one way to add a more scholarly and systematic approach to hermeneutic interpretive phenomenology. Interpretive team members were identified and recruited because they had expertise or experience in the content area of inquiry or are methodological experts (Crist & Tanner, 2003). Mackey (2005) refers to this pre-understanding or awareness one should possess before interpreting a phenomenon as *fore-structure*. Heidegger explains that interpreting phenomenon should be a process of moving back and forth between a backgrounds of shared meaning and looking at a more focused experience (Mackey, 2005).

In addition to me, the interpretive team for this project consisted of a university agricultural education and leadership faculty member who is also a livestock producer. This individual's children are involved in livestock production and members of 4-H. An undergraduate student from the university who grew up raising and exhibiting livestock through the 4-H and FFA programs also served on this team. Finally, a methodological expert in Heideggerian hermeneutic phenomenology with content expertise in the field of Nursing rounded out this team. Each team member brought with them a pre-understanding of the phenomenon based on their background, life experiences, and expertise. The interpretive team met via Zoom after each interview had been transcribed verbatim and compared with audio recordings.

The steps recommended by Crist & Tanner (2003) and others as cited were used to guide the interpretive process. It is important to note that the steps and phases may overlap, since interpretive phenomenology is not linear. The interpretive team played a significant role throughout all five phases of the interpretive process.

#### Phase I: Early Focus and Lines of Inquiry

- Discuss transcripts of the first informants' initial interviews with the research team.
- Critically evaluate the researcher's interview and observation techniques.
- Note missing or unclear concepts.
- Discuss the informants' activities.
- Determine further questions (lines of inquiry) from this interpretation (Benner et.al, 1996)

#### Phase II: Central Concerns, Exemplars & Paradigm Cases

- Research team identifies central concerns and unfolding meanings from interviews
- Researcher presents participants' current experiences to research team.
- Research team explores linkages between participant's earlier experiences and the present situation
- Researcher begins asking research team to review summaries; exemplars and paradigm cases may emerge.
- Written commentary on exemplars and paradigms is distributed and discussed

- Research team participates in the “naming” process; conceptualizing and coding central concerns and exemplars (Benner et al., 1996)

#### Phase 3: Shared Meanings

- Shared meanings are observed as participants’ central concerns clarify in the summaries
- Research team develops a written interpretive summary that shows connections and/or patterns between meanings found within and across stories (Diekelmann, 1993).

#### Phase 4: Final Interpretations

- Research team continues reviewing interpretive notes and summaries to find lines of inquiry for new narratives and future sampling
- In-depth interpretations of excerpts and summaries develop
- Researcher conducts final interviews and observations following lines of inquiry

#### Phase 5: Dissemination of the Interpretation

- Research team reviews recommendations and decisions (Rodgers & Cowles, 1993)
- Research team assists in refining interpretive manuscripts (iterative process that employs narratives, field notes, and discussion)
- Minutes of all meetings become part of the research log to provide an audit trail.

This process used by the interpretive team is often referred to as the “hermeneutical circle”. This circle can be further described in terms of parts and the whole. Charles Taylor (1985: 18) explained:

We are trying to establish a reading for the whole text, and for this we appeal to readings of its partial expressions; and yet because we are dealing with meaning, with making sense, where expressions only make sense or not in relation to others, the readings of partial expressions depend on those of others, and ultimately of the whole.

To earnestly understand a passage, it cannot be examined in a vacuum. The team must look at participant interviews in their entirety, considering each individual interview passage in light of the narratives collected throughout the entire research project. Results from a philosophical hermeneutical analysis are intended to stimulate new, previously unattended thinking that generates questions and recognizes the hidden or overlooked (Vandermause, 2012).

At the conclusion of these five phases of analysis, careful consideration was taken to address whether concerns about the phenomenon had been answered (Packer & Addison, 1989). However, interpretation is truly an unending process, since individual readers of reports make the final decision on how they see the phenomenon (Diekelmann & Ironside, 1998b).

### **Rigor and Trustworthiness**

In order for readers to follow the rationale of researchers, authors must carefully explain every step of the research process (Sandelowski, 1986). Utilizing a framework such as deWitt & Ploeg's (2006) helped ensure that explanations are thorough and accurate. This type of careful and intentional scholarly approach can add to the credibility of phenomenological research. De Witt and Ploeg's framework (2006) was used to ensure rigor and address trustworthiness. This framework consists of five constructs; balanced integration, openness, concreteness, resonance and actualization (deWitt and Ploeg, 2006).

## **Balanced Integration**

In order to express balanced integration, the researcher's positionality, philosophical approach, and research topic must align. My philosophical beliefs were explained in the methods section of the study. Additionally, I attempted to achieve a balance between my own beliefs and the voices of study participants (deWitt & Ploeg, 2006) by using an interpretive team. The diverse backgrounds and experience of the interpretive team helped contribute to balanced integration. The individuals on this team have real-life, practical experiences with the topic they are investigating and/or methodological expertise. In order to further express balanced integration, literature was brought in from previous studies that contrasts with my own philosophical stance and contradicts with the meaning of experiences I uncovered in working with my participants.

## **Openness**

In addition to being in tune with the phenomenon at hand, the goal was to demonstrate an understandable process that includes a decision trail. Being systematic, transparent, and accountable contributes to the expression of openness in a study (deWitt & Ploeg, 2006). I was intentional about describing materials, interview process, and analysis methods. Field notes and reflective memos were taken for documentation throughout the entire research and writing process, which contributes to confirmability and dependability.

## **Concreteness**

A study that is concrete will be presented in a context, and be a useful product that is applicable to practice (deWitt & Ploeg, 2006). The context of the study at hand

was 4-H livestock projects in 3 different central Missouri counties. Cultural and social conditions are similar, yet unique for each of the five 4-H members. While striving to uncover and interpret the meaning of experiences to livestock project members and see how this project affects other areas of participants' lives, the over-arching long-term goal of this research was to offer insights that could help examine the current educational practices surrounding youth livestock experiences.

It also uncovers clues that help explain how youth in agriculture interact with the world around them. Additionally, it helps to unveil and describe the complex human-animal bond and how this contributes to social and emotional skill development. This study may be useful for engaging in conversations with those both inside and outside of the agricultural community. These are the practical uses for findings from this research project.

### **Resonance**

Ideally, an interpretive phenomenology should resonate with a reader. Participants' meaningful stories and descriptions of their experiences were included that will leave the reader with a new understanding, or an "epiphany" of the phenomenon. The epiphany is something that readers will remember for a long time; perhaps something here will color the lens through which a reader views the phenomenon of livestock production. Stories from these young producers may resonate with the reader in a way that empirical data does not. Resonance may be described as telling the story of the participants in a way that "tugs at the heart" of the reader.

## **Actualization**

The expression of actualization occurs when authors show the potential a study has for making an impact in the future. A study that has strength in actualization makes a difference that lasts long after the study is complete. The expression of actualization helps to answer “So what?” and “Why is this research important anyway?” The intention is that this study will: a). offer insight that can help evaluate the current educational practices surrounding youth livestock experiences; and b). help start conversations that could begin to bridge gaps between those inside and outside of the agriculture industry.

### **Strengths and weaknesses of method**

It is critical to address both the strengths and weaknesses of the Heideggerian hermeneutic analysis to contribute to the openness, trustworthiness, and rigor of this study. Open ended interviews that follow the lead of participants typically contain rich, in depth information for analysis, when done appropriately (Vandermause, 2008). With this wealth of data and multiple participants in the analysis team, the interpretation of the text is more likely to be accurate in its identification of themes (Benner, 1994). The interpretive team for this study included members who had experienced the phenomenon in different ways. This caused questions to surface and discussion to emerge around viewing certain aspects of the phenomenon through slightly different lenses. Additionally, this study was designed so that the participants were interviewed and/or observed in their natural settings (home, farm, and show ring) three different times. This helped to provide confirmability of what was appearing.

Opponents of this approach may view what is perhaps this approach’s greatest strength (the open-endedness) as a weakness because interviews are not standard from

participant-to-participant. While some would say this methodological approach is not objective, others (Palmer, 1969) argue that the philosophy that supports this method causes researchers to be aware of their preconceptions while simultaneously striving to communicate an honest interpretation of the phenomenon with the collaboration of the interpretive team. Additionally, those with a more positivist perspective fault the methodological approach for lack of absolute truth and conclusions (Willis, 2007).

### **Data and Interpretation Management**

Audio recorded interviews used pseudonyms, and identifiers were removed and transcribed verbatim in Microsoft Word documents. De-identified interviews were stored on a password-protected computer in a locked office. The digital recordings will be kept for seven years, and then destroyed. Word documents of de-identified transcripts will be kept for future analysis and use. All of these materials will be filed in a private locked office. Linking identifiers to audio recordings and transcripts were kept in a master codebook in a locked filing cabinet. Hard copies of transcribed interviews were stored and maintained in a private locked filing cabinet in a locked office.

### **Ethical Considerations and IRB Approval**

The study was reviewed by the University of Missouri IRB Board and received an exempt status. All participants received email invitations to participate in the study and could withdraw at any time without any penalty. The participants were interviewed only signed consent forms were reviewed. Parental consent forms were required for participants who were under the age of 18.

## **Risks and Benefits**

Potential risks to study participants included: a). possible embarrassment or emotional distress b).loss of confidentiality. The following techniques were used to protect against the loss of confidentiality: a). using pseudonyms in electronic and transcribed data, b). storing data on password-protected computer in a locked office, c). storing the master list of demographic information in a separate locked cabinet from the narrative data.

## **Chapter Four: Findings**

Chapter Four describes the findings of the hermeneutic phenomenological interpretation of this study. Each of the five young people involved in this project shared their stories and experiences that explain what it means to be a livestock producer throughout childhood. Their words help inform the specific aims of this study, which are to: a). Generate an interpretation of the meaning of livestock production for long-standing 4-H livestock project members; and b). Uncover how livestock production experiences manifest in other parts of 4-H'ers lives. Allowing Heidegger's philosophical underpinnings to not only guide the methods, but also weave through the discussion of findings, adds rigor to this research on the meaning of livestock production that is grounded in Hermeneutic phenomenology.

### **Background and Demographics**

A total of five youth between the ages of 17 and 18 were interviewed for this study. This number of participants meets the guidelines that Creswell (2013) recommends to ensure adequate saturation. However, it should be stated that in hermeneutic phenomenology the focus is not on the number of participants, but rather on the depth of information in the interview. All five participants were 8-10 year members of the Missouri 4-H program, and gave written as well as verbal consent for the interviews and Photo Elicitation Activity per Institutional Review Board (IRB) guidance. Additionally, parental consent was received for participants under the age of 18. Interviews were audio-recorded and transcribed. Interview transcripts were shared, interpreted and discussed according to the guidelines provided in Chapter Three of this research. Following all of the interpretive sessions, all audio recordings were destroyed.

Youth enrolled in this study were between the ages of seventeen and eighteen years of age, and had completed either their junior or senior year of high school. They had been enrolled in the 4-H program for between eight and ten years. Participants included three females and two males, and all participants were Caucasian. All participants lived in a two-parent household and had either one or two siblings. Four of the five participants lived on the farm; one lived in town and had livestock housed at a separate site. All of the participants were heavily involved in not only 4-H, but also FFA. Collectively, they had served as officers on the local, regional, and state levels of those positive youth development operations. Participants have all shown livestock on the county and regional levels. Several have also shown at the state and national levels. Although the youth in this study had some distinctions in backgrounds and experiences, patterns and exemplars surfaced based on their shared experiences as livestock producers involved in the 4-H program throughout childhood.

### **Common Patterns and Exemplars**

Two patterns were identified by the interpretive team through the five interviews and five photo elicitation activities analyzed. Under each pattern are sub-patterns seen within the pattern. The first overarching pattern that emerged was *Livestock Production as a Culture of Care and Connection*. Sub-patterns that were illuminated included: *Caring in Families throughout the Generations*, *Feeling Supported by the Agriculture Community*, and *Connecting to Opportunities that Impact one's Future*. The second overarching pattern was *Livestock Production as a Culture of Loss and Misunderstanding*. Sub-patterns that contributed to the second overarching pattern were:

*Dealing with Loss and Disappointment and Balancing between Two Worlds.* The main patterns and sub-patterns are shown below.

<b>Pattern 1</b>	<b>Livestock Production as a Culture of Care and Connection</b>
Sub-pattern 1	<i>Caring in families throughout the generations</i>
Sub-pattern 2	<i>Feeling supported by the agriculture community</i>
Sub-pattern 3	<i>Connecting to opportunities that impact one's future</i>
<b>Pattern 2</b>	<b>Livestock Production as a Culture of Loss and Misunderstanding</b>
Sub-pattern 1	<i>Dealing with loss and disappointment</i>
Sub-pattern 2	<i>Balancing between two worlds</i>

*Figure 2. Patterns and Sub-patterns*

**Pattern 1: Livestock Production as a Culture of Care and Connection**

It is not easy to talk about a phenomenon that has been embedded into your life for as long as you can remember or articulate feelings about why and how you care so deeply about it. However, the youth involved in this study did just that; they laid out their stories willingly and openly, even eagerly. Throughout these dialogues, it became

clear that at the center of the meaning of livestock production is a culture wrapped in care and connection.

Various levels of care and connection are extended and reciprocated by agriculturalists that span across the generations. This culture of care and connection is evident not only in the way livestock producers relate to each other, but also in how they relate to their livestock. However, this may not be easily apparent to those who live outside of the phenomenon. Furthermore, those living inside of the phenomenon tend to take this culture for granted because it is simply part of the daily routine of being involved in livestock production.

### **A Paradigm Case**

A paradigm case identified was Ben, who is a hog, cattle, goat and sheep producer and preparing for his freshman year in college at the time of these interviews. Paradigm cases are used in philosophical hermeneutic phenomenology when a participant shares a particularly meaningful and poignant experience that relates to all other participant experiences and themes identified in the analysis and interpretation (Benner, 1996; Crist & Tanner, 2003). Ben's words, shared on the front porch of his house on a stifling July night, paint a picture of the culture of care and connection that surrounds livestock production.

*The relationships you build and networking is always gonna affect you in your life. And some of those relationships you build at the fair sweating over a hundred degree day trying to get pigs ready to show or whatever, uh, you aren't gonna forget those very often. Uh, you don't get a chance to make old memories like that again. For sure. But yeah, the money is nice. Those kids they see.. a lot of people put it toward college...toward schooling, and whatever they plan to do for their project next year. I've always gotten more out of it (than the money) .....Just seeing all the emotion in that place (the county fair livestock sale)...how much people care for the kids that*

*do it.. and what the kids are doing with their animals. That means a lot more to me than the check at the end of the day* (BH on farm interview, 1 32-43).

Ben was quick to point out that it is not the money that stands out to him as the most meaningful aspect of the fair. Rather, he values the care, support, and emotional investment of the families and community members who are involved. To each of the participants in this study, the phenomenon of livestock production is about much more than just livestock.

### **Caring in Families throughout Generations**

The first sub-pattern that emerged was *Caring in Families throughout Generations*. Four of these five participants had at least one parent who had grown up exhibiting livestock through 4-H and/or FFA programs. Additionally, they had aunts, uncles, and cousins who were also involved with livestock. Although neither of Shana's parents had been in these organizations, both of her grandmothers had. In fact, during the Photo Elicitation activity, she shared photo albums that one of her grandmothers had made for her; these albums contained not only Shana's 4-H photos and ribbons, but also photos and ribbons of both of her grandmothers. Their artifacts were laid across from Shana's items on each page of the album.

Krista's interview is representative of the intergenerational family connections that are common in the phenomenon of livestock production. She speaks about how her aunts and uncles began showing livestock in 4-H and shares that it is now a family tradition.

*Yeah, so my dad and his three brothers and one sister started showing when they were 4-H'ers. They mainly showed cattle and sheep. Umm...they didn't..one of them, I think my Dad's oldest brother, showed hogs then. But they primarily*

*showed cattle and sheep and were pretty successful with their sheep. Ummm, they had Champion at the State Fair. And then as they got older, my dad and his oldest brother both got onto hog production and so that's what they were primarily doing. So then my dad's oldest brother's kids started showing hogs, ummm...and then that kind of passed down through them and my dad's sister and my dad's older brother ahead of him and then us. Umm...so it's definitely something that we've been doing for a long time. Umm, I have cousins who their kids have now started showing. They're doing it now. So it's just a big cycle in my family, of going to the state fair...We call it the Smith Family Reunion at the fair. We have all our pens together and we kind of take up a whole aisle and yeah, it's...it's...it's a good time for our family (KS photo elicitation, 1 100-114).*

She added that the family takes extra pride in the fact that many of the animals they show are home raised or raised by other extended family members. While showing livestock is a family tradition, showing what they have bred, owned, and raised themselves is perhaps an even more important tradition.

*Umm...I think just a common theme that you can see in all the pictures is that there's just family in all of them. You know, it's just very much a family tradition for us to show these animals. And a lot of these animals are home raised. And it's something that our family or others in are family have bred umm... and so that's something that we take a lot of pride in (KS photo elicitation, 1 377-380).*

Jon also talked about the pride and satisfaction that his family feels in raising and selling goats to other exhibitors. His family is proud to breed and raise what they call “*high-low goats*”; animals that are of enough quality to make a decent showing, but that are low enough priced that a young person can afford to purchase them.

*We've had reserve and grand home raised. But there's also that satisfaction of looking out across the champion drive and seeing more than half of em come from you. Even if you didn't feed em out, they come out of that pen over there (points to pen). Went on, won their classes, beat people that spent a lot more money on goats (JP on farm interview, 1 110-113).*

*I mean, I sold...from the time we started sellin' we had several people that came back from the time they started showin' till the time they aged out. Every year they came back. ...I mean, a little bit of pride...I mean, they...I have good enough*

*stock that they keep comin' back. And I have...over the years we've had several people win the fair. I don't seem to ever "win" win... but my goats have won (JP photo elicitation, 1 280-286).*

It is interesting to note that although the youth in this study own and raise their livestock, the word “we” frequently creeps in when they talk about the phenomenon. Livestock production is a family affair; much of what these young people do has been learned alongside their parents, grandparents, aunts, uncles, or cousins. In the early childhood years, a great deal of assistance is required to ensure quality care for the livestock and safety for the youth. Additionally, livestock belonging to the youth is often raised and housed alongside of livestock that belongs to other family members. It is common for much of the work to be done together as a family.

Although the youth in this study were all at least seventeen years old and capable of performing caregiving completely unassisted, there was still extensive evidence of the complex web of interactions surrounding livestock work. When visiting with the youth on the farms, parents were often working parallel to the young people. At some farms, they were taking care of their own livestock (such as checking cows in the pasture). At other places, they were performing tasks that may have included some of the young person's livestock, but also some of the rest of the family members' animals. For example, when pulling up to one farm, a scoop shovel could be heard scraping concrete in a barn. After meeting with the participant, her mother was eventually cleaning out farrowing pens in another barn. Family members often pitch in together with limited regard to which livestock belongs to which particular family member.

Although the tradition of producing and showing livestock is meaningful to the participants, they also clearly communicate that there is pressure and tension that accompanies the pride they take in this phenomenon.

*Oh yeah, it's definitely...you feel like everyone's kind of looking at you so you want to do really well and you've got to perform when you're out there, uhh...and so. Having it be such a family tradition, it's definitely something that as a little kid you take it seriously...And you want to do really well (KS photo elicitation, 1 129-133).*

There are many benefits to working and living so closely with family members, but these complex interactions also can present challenges for youth raised in livestock production. High expectations from family members were referred to several times by the youth. Several mentioned with a chuckle that their parents could be “*control freaks*” or “*perfectionists*”. These comments usually occurred after the audio recorder was shut off, frequently when the youth were in the middle of chores or show preparation. Jon mentioned perfectionism in his photo elicitation activity, explaining that in 2017 he had raked a lot of his grandpa’s hay. However, he said,

*Grandpa ( who's in his 90's) cut all the hay this year, raked all his hay this year, and baled all his hay this year. I didn't do any of it this year. Last year I cut some hay, and let other people rake...cuz he's particular (JP photo elicitation, 1 369-371).*

Tension in families can increase as young people grow up and take on more decision making both on the family farm and with their own livestock projects. It was a struggle to carry out the Photo Voice activity with one participant because the mother continually inserted herself into the interview. As we headed to the barn to look at livestock, the participant’s mother yelled from the porch, “*Do you want me to come along?*” The participant yelled back, “*Stay out of this, Mom. This is supposed to be my*

*thing.*” This exchange exemplifies the struggle that can occur between parents and children involved in livestock production, particularly during the teen years.

As youth age, they take over more decisions regarding feeding, health care, purchasing and selling. Yet parents don’t always approve of these choices. For example, as Krista guided a moderate sized, but very well made barrow out of his pen she mentioned to me that her dad was “*mad that I had bought the hog*”. “*That was at first*”, she added. “*But now Dad likes him*”. Parent-child relationships can face challenges as youth become increasingly independent with their livestock projects.

Brandy also provides a story that illustrates this tension. It is important to understand the context behind this story; Brandy and her older brother attended the 2017 State Fair alone because her mother had been seriously injured in a vehicle accident just two weeks prior to that event. Her father was needed at home to care for her mother.

*And now after that (Mom’s accident), now this year, mom and dad kinda realize.... that we can handle the responsibility. We’re not little kids anymore. At the beginning of state fair this year mom was like, “Brandy, you need to go do this. Brandy you need to go do that.” And I kind of had to take a step back and say, “Mom, I get what you’re wanting me to do. I did this last year all on my own and we did okay. You just have to trust me”. .....You have to trust the process. And so we had a heart to heart at that point in time and she realized I could take the responsibility handling everything. And being a responsible adult at state fair ( AF on farm interview, 1 173-180).*

It is important to mention that these on-farm interviews, observations, and photo elicitation activities demonstrated that there is an extreme amount of variation regarding the extent to which the youth are “in charge” of their own projects. While several of the youth in this study seemed to be making nearly all of their own decisions regarding

feeding, health care, preparing for shows, buying, and selling, others still relied heavily on their parents to help them make decisions or carry out tasks.

Brandy proudly mentioned her involvement on the board of the Junior Cattlemen's organization. Her description of her own cattle project was this, however:

*Yeah, I'm doing just a little bit. This is just new. We bought, oh, I don't know how long ago, we bought them. Just this year. Dad bought those and registered them in my name. And we are just testing it out to see how it goes (BR photo elicitation, l 253-255).*

She continued,

*We haven't put the bull in yet, so they're not supposed to calve this year...but next year we will. Sometime. I don't know when we'll put the bull in (BR photo elicitation, l 259-260).*

The cows are Brandy's in name only; her dad made the investment in the cattle and appears to be making the decisions regarding breeding. During her on-farm interview, however, Brandy explained that she desired to do more than she was being allowed to do on her own currently.

*I've harped on him [my brother] this show season...and dad...next year I want to start taking the truck and trailer to places that I want to go. I can handle the responsibility. Ummm, kind of just...do my thing basically (BR on farm interview, l 126-128).*

However, in observations on the farm, I noticed that Brandy routinely consulted her dad before making any decisions regarding feeding. In show ring preparation, it appeared that her dad and brother were in charge. These examples provide evidence that there is a gap between what Brandy *says* about wanting to be independent in her livestock production projects and what she *does* independently with her livestock.

Sharply contrasting with these stories are several participants I observed going to livestock shows without parents. Once at the show, they worked alone and sought out assistance from other exhibitors if they were carrying out a task that required two people. Usually those they sought out to work with were other exhibitors who had also come by themselves. It is not known to what extent these differences in how youth raise and exhibit livestock are linked to hesitation by the child or unwillingness of the parents to take a step back from the young person's projects.

Parents also play an extremely important role in helping youth who desire to continue in livestock production after they age out of 4-H and FFA programs. Brandy explained that her family's sheep business started in this way; her grandfather kept her father's sheep for him when he went away to college. When her dad came back to the community and bought his own farm, his dad returned the sheep to him.

Ben explained his own plans for his livestock transition:

*I don't know how long I'll stay in show goats or anything like that, but I know that I'll be in cattle for the rest of my life. That's for sure* (BH photo elicitation, 1 332-333).

When asked if he planned to keep them when he went away to school, he explained:

*Yeah, they're a little easier to hold onto than the pigs. Dad's got females...groups of females that are the same age as all of mine, so they can go around together* (BH photo elicitation, 1 335-336).

Ben also mentioned in a later interview that the plan was for his mom to take care of his nanny goats for him while he was away. "Mom really enjoys the goats," he commented.

Krista explains that her cattle will be cared for by her parents while she is in college, and they will receive the profit from the sale of the calves at that time in

exchange for their labor. When she finishes school and finds her own land, her cows will be waiting for her. There is evidence throughout these interviews that parent support is critical in helping youth who raise livestock continue with livestock production into adulthood.

Other challenging transitions occur in families as older siblings age out of youth development programs and move away to attend school. Younger siblings are left to care for livestock without the support and teamwork from their siblings they have been accustomed to throughout their childhoods.

Krista's story described how she and her brother worked as a team throughout her childhood:

*Yeah, well obviously my sister's too old to show. So it's just my brother and I. So we purchase a lot of our pigs and so we definitely make those decisions together and we talk about which pigs we want to show and it's not ...not my brother picks (his pigs) and I get what's leftover. We both make those decisions together now. We both get what we want (KS photo elicitation, 1 216-219).*

She went on to explain that when she was younger, her brother and older sister had worked closely together and made decisions about the livestock. Krista, as the youngest sibling, had tended to get "the leftovers". Age, experience, and her sister's departure to attend college in another state changed the relationship dynamics of the siblings.

Jon talked about the transition that occurred when his older sister left for college:

*When I hit high school, I bought her out and they're all mine now.... Well, let's see here...so when she graduated high school, when she still lived here she helped do chores. But once she graduated I had to do em all. And there's ...at that time, I'm like... Why am I paying her? I mean, she should be paying me! They should just be mine, because I've been taking care of them for...you know, a long time..... And,*

*but it wasn't that much of a transition really...I mean, I'd been taking care of them. And half of them were already mine.....I don't think it was that much of a change...she just got bought out.....Yeah, like, when we got babies on the ground. Like right now, we got a bunch of kids about...yay big...and yay big (gestures). They're lots of fun. I still send her snap chats when they're baby babies (JP photo elicitation, 1 303-325).*

For him, the transition seemed to happen naturally; he picked up more of her work as she left home. Eventually he bought out her half of the herd. Even though his sister now lives in another state, he periodically keeps in touch, sending her pictures of the kids as they are born.

Krista described how her responsibilities caring for show animals changed when her older brother moved away to attend college in a neighboring state.

*So again, it's gonna be kind of the same deal where I get...am responsible for them. And that was something that... really until last summer I never made any of the feeding decisions. That was something my brother really enjoyed doing. He was good at it, so I just kind of let him do it. So that was something I've just kind of gotten to take responsibility of. To decide what pigs need to be get what rations, you know...stuff like that..... I have to send him pictures like once a week and we have a big chalk board where we write everything I'm feeding to them. So he's got to see that and tell me if he thinks I'm doing it wrong or whatever. So, definitely he checks in. But, I'm the one executing the work I guess (KS photo elicitation, 1 340-348).*

When Krista was asked how she handles tasks that are much easier handled with two people than one, she explained,

*Ummm...well, I think it's just kind of made me tougher in terms of just figuring it out. Because my parents don't do a whole lot with it. They want it to be our project, which I appreciate, you know, that they let us have responsibility for it. So it's just kind of something that I've had to figure out and make it work. It'll be okay, you know? It'll be alright (KS on farm interview, 1 323-353).*

It is not surprising that the youth involved in this study talked extensively about how they worked with their siblings through the years on their livestock projects. It is,

perhaps, more surprising how frequently grandparents were present in their stories. It is interesting to note that all of the five young people involved in this project had the opportunity to spend time with grandparents on the family farm as children. The stories the youth shared help to illuminate how family farms and multiple generations of family members become so intertwined that it is hard to determine where one starts and another ends. Livestock memories involve grandparents, and memories of grandparents involve livestock. It seems that the memories are often made up of everyday occurrences; the aspects of farm life that happen naturally.

Jon told about working with his grandpa on the farm:

*When I was little I just got to ride along and do stuff, and I can remember bouncin' across the field when I was 10 or 11. And he said don't hit the hay bales and don't go past 20. And he'd pull out the newspaper....I don't know how he read the newspaper cuz those fields are bumpy...He'd just sit there and read the newspaper and say don't hit the hay bales. (laughing) I never hit the hay bales (JP photo elicitation, 1 375-380).*

Ben shared a colorful story of his grandpa that occurred the year he raised his first pig.

*...And we'd let the lambs out to run and they'd run around the yard. And we let the pig out and she'd chase the lambs around the yard. But ummm.... At that time, Grandpa was living with us. And he was sitting in his wheelchair on the porch one day. And that pig came straight at him. And I was...I just knew that pig was gonna plow him over. And that pig stopped right in front of 'im, and he just reached, petted her head, and said, " Good pig", and then she ran away. (B chuckles) Just stood there and looked at him and he petted her right on the forehead.... Cuz he had pigs too...that was Mom's dad. He had pigs too, and he always liked his pigs (BH Photo Elicitation, 1 305-313).*

Sometimes seemingly ordinary or routine events turn out to be significant when we look back in time. Such was the case with a memory that Krista shared. She held up a picture of herself as a beaming twelve year old standing proudly between her older brother and older sister and explained,

*Ummm....so those are my grandparents...um....My dad's parents. So they had come to watch us that year. I think that was about the last time they watched us. Ummm...so that was a good day, that we all won Showmanship when our grandparents were there. Yep, yeah...that was a good day (KS photo elicitation, 1 252-259).*

Shortly after this special day, the health of Krista's grandparents deteriorated to the point that they could not attend events anymore. Although no one knew it at the time, that day would become very cherished; first of all, because it was a special thing for all three siblings to receive the outstanding showmanship honor; and second, because it would be the last time the older generation would be part of the livestock show atmosphere with the successive generations of the Smith family. Changes in the chronosystem accompany the phenomenon of livestock production; siblings transition in and out of the home, youth transition out of 4-H and FFA livestock projects, and family members who have been involved in livestock production become unable to participate due to aging or death. Yet care is present throughout the generations.

Although the words of family members sometimes express care and concern, many times care is expressed through actions. During a conversation with Krista at the State Fair, it was learned that she'd had a rough time showing her boar. She explained that he had become very aggressive in the ring and that at one point she was pretty scared. Throughout the rest of the fair, when Krista was observed approaching that boar's pen to walk him, wash him, or take him to the arena, another family member was observed abruptly leaving whatever they were doing to hurry over to help her. Sometimes it was an uncle or brother, and other times it was a cousin. Although words were never exchanged, there was clearly an unspoken understanding that extra care was required to

ensure that the boar could be handled in a way that would ensure safety for him, for other hogs in the barn, and for Krista. Actions, not words, communicated the entire family's care for the young livestock producer and her stock.

### **Feeling Supported by the Agriculture Community**

*Feeling Supported by the Agriculture Community* emerged as a sub-pattern. 4-H members who raise livestock do not exist in isolation. Interviews, photo elicitation activities, and observations suggest that livestock projects may help create positive conditions in each of the various layers of the ecological model that can help support young people. The phenomenon of livestock production is situated within its own social and cultural values and occurs over an extended period of time.

In addition to extensive conversations about family members within the context of livestock production, youth frequently mentioned what they referred to as their “*agricultural family*” or “*show family*”.

*Our agriculture family's the biggest thing that I think about. I'm not sure...we've already mentioned that. But you know, being able to go places ummm and know people that are involved in agriculture and know that you have a connection with those people. Even if you don't actually know them personally we can be connected. Because you know, we live on farms...we know what a farm life is like..... Yeah, I don't know. But it's definitely something that...yeah, it is an instant connection with people that are involved in agriculture. We've all kind of ... Part of it you know I think is definitely that we've struggled through bad... you know, low grain prices or cattle prices. And so you know, everybody's sorta been through the ringer at some point or another..... We know that that's kind of helped make us stronger and that ..it's about tradition. We definitely grow through those times and that it's not what's making you the most money. Or you know, the easiest job to do but because we love what we do we continue to do it. But ummm, I think real passion is probably part of the reason too (KS on farm interview, 1 104-116).*

Krista implied that part of what makes agriculturalists feel like a “family” is that they’ve lived through common experiences, such as daily life on the farm or even an economic crisis. She believes that hardships make farm people stronger, and that passion and tradition keep them going--not money.

Brandy talked about her “*show family’s*” help following her mother’s car accident.

*Yes, there were other more important things to focus on other than just state fair. So I personally had my other county fair family...to be a major, major support system. And that was so important to me, just a person. Having and knowing that there’s somebody that’s got your back.....umm, if something happens, especially like this accident. We weren’t expecting it. We weren’t expecting that setback, but you know, life throws its curveballs. And you have to kinda just go with it, and find out ways that you can...you know...get through that.....Yeah, that’s just how life works. You have to go through it and you have your support system that will get you if you fall (BR on farm interview, 1 162-171).*

Brandy knew that she could count on the livestock families she had spent countless hours with through the years in the livestock barns at the county fair to be her support system during an unexpected life crisis. She comments that some of these adults were “kind of like substitute parents” for her during this time.

Participant stories also included mentors, role models and other supporters in the agriculture community. These connections, as well as those that participants refer to as their “*agricultural family*” surround participants within their microsystem (the area most immediately surrounding the individual). Interviews and observations suggest that these participants’ microsystems are very strong; they are surrounded by multiple levels of support.

Each of the youth in this study shared stories of being inspired by role models and mentors. Sometimes, these were older 4-H or FFA members. Other times, they were siblings or extended family members. In some cases, people in the community even became role models or mentors. Ben referred to several different types of role models and mentors in the following vignette:

*Umm, I know for me it happened a lot seeing people that I respected or wanted to be like someday. I ...those older showmen that were 18 and 19. I was like, man I really...I really wanna be like them someday...Like I can't believe he can pick his lamb up with one hand, and then set the back feet legs with the other. And I know I was a short kid, and couldn't do that at all, but I knew someday that I wanted to be a good enough showman to be able to do something like that. And then seeing your local producer who you know has plenty of stuff to do at their house or at their jobs and that...40 hours a week is kinda done by Wednesday at their house...And you see those men and women that come out to the fair after they've had a ten hour day....And you know they put in so much time and effort elsewhere. And they come with a smile on their face ready to help. Not only do just physical labor, but just...take their time and are patient with everybody...teaching them ...anything and everything. If you're....if you'll just ask, you'll get an answer. So if you know someone knows something, if you ask, you'll find the right person eventually. And you'll find the right person that will know. You just have to be willing to....have the questions ready....and a hunger to learn about it...it will be better (BH on farm interview, 1 110-126).*

Brandy explained how members of the agricultural family become mentors over time.

*The thing that comes to mind is that they're always helpful. They're always willing to help you no matter what you're doing. Umm, in the show ring, umm, especially in the sheep industry, we kind of had our little group of people. My brother grew up with the Gunthers, the Stevensons, and all of them... around different areas. But we always went to shows together, so that was kind of always our group. And um, they're now older and in college and graduated from college. And they always had an impact on me cuz they were tryin' to help me in the ring, we were always helping them, you know, set feet, do different kind of things. So those older members really had an impact on me...to be as a person today...how to be to younger members and have an impact on them (BR photo elicitation, 1 290-297).*

Senior 4-H members who have been involved in livestock projects over an extended period of time are “near peers” to younger 4-H members, and resonate with their identities. Relatability is a significant predictor of a young person’s self-efficacy and interest in a subject (Clarke-Midura, 2018). An older 4-H livestock project member making a connection with a younger 4-H member may play an important role in that 4-H’ers future involvement in livestock projects.

These interviews also help illuminate evidence that youth who have been mentored have the desire to mentor others. Brandy stated:

*Umm, actually we just went to the Midwest Junior Preview Show this last month, but, there was a little boy and he was showing in the ring...And anyway, he didn’t really know how to show. And it was obvious that he didn’t really know what to do. And so I went and said hey what’s your name? And he told me his name, and the name of his sheep and he was really excited about his sheep. And then I said, “Okay, I’m gonna show you what you need to do.” And I showed him how to properly show a sheep. And as young as he was it was hard to actually do it, but I showed him just a little bit. And I hope I had an impact on him so he can teach other kids how to do it someday. (BR Photo Elicitation, 1 290-312).*

Ben also talked about stepping up as a mentor as he ages out of youth development programs:

*Oh, I think I’ll always be involved in the sale. Um, as I age out showing, I kinda age into the perfect age to get in there and sweat as ring help, splittin’ pigs with boards, and hopefully once I’m done being a poor college kid, I have a career successful enough that enables me to give back (BH on farm interview, 1 46-48).*

Brandy explained that it is important that the mentor has a positive attitude when working with younger youth. She also referred to the importance of being available not just once, but over an extended period of time.

*You always want to make sure that it’s fun for the kids. Cuz who wants to listen to a person that’s saying “Oh, you need to do this right now” and “Oh, you need to do that right now”. Umm, so you always have to have a fun and energetic tone.*

*And always try to relate it to something that they're interested in. So that's kind of what I try to keep in mind as I'm teaching them. And always try to help them in other rings and future shows so they know I'm here for them. I'm here to help you in whatever you need (BR photo elicitation, 1 307-312).*

4-H livestock projects help provide methods for adults (or older youth) and young people to work together and form relationships that can last for an extended period of time. In some cases, these relationships last far beyond the ten year duration of the 4-H program.

### **Connecting to the Future**

A third sub-pattern illuminated in this study is *Connecting to the Future*. While it cannot be generalized that being involved in livestock production experiences throughout childhood contributes to a brighter future or clearer plans for youth, the stories from this study's participants help provide insight about how youths' futures are impacted by livestock production. They perceive that these experiences helped them make connections that led to other opportunities, thus positively impacting their futures.

One of the most vivid stories of being propelled into the future through a livestock production experience came from Ben. He told of his interaction with the manager of a local feed store that is very supportive of 4-H and FFA youth during the county fair livestock sale. Ben was about 13 years old at the time this event occurred, and his family had been a regular customer of this feed store for his entire life.

*Well, I.... me and Mark had been bidding against each other...And keep in mind I was thirteen years old at the time of this. And I uh..went up to Mark..uh, after he bought the pig. And I nudged him on the shoulder and I was like, "What's the deal biddin' against a kid? I'm just a kid." ... And he laughed. And then whenever we were loading pigs he made sure she got on my trailer instead of his. So, uh..so that was Gertrude. And so her and that Hereford sow pretty much built my first two years of showing. She's still the sow that has had the most pigs for*

*me to date. She had....16 one litter, and 14 in another litter. And raised 'em every time* (BH Photo Elicitation, 1 113-122).

Because of Mark's generosity, Ben had a successful start to his show pig operation. It is interesting to note that Ben actually went to work for Mark at the feed store during his junior year of high school (several years after Mark slipped the show pig on Ben's trailer) and worked there until he left for college. Mark's actions showed that he believed in Ben's potential and wanted to invest in his future. Raising and selling hogs at the county fair led to this particular event. The connection made between Ben and Mark later led to a job opportunity for Ben.

Sitting at her kitchen table on a sunny spring morning, Krista shared a tattered picture of a nine-year-old version of herself beaming, standing between her older brother and sister. She explained that she and her siblings were given an Angus heifer calf by a neighbor. *"He's an older guy, uhh...who just decided that I guess he liked us you know when we were little and wanted to help us get started. So he let us pick out which one we wanted and ummm...so I definitely remember that"* (AM photo elicitation, 1 92-93), she said. The picture was memorable; in Krista's hand was a tiny blue halter, and at the end of the halter was a tiny Angus calf. *"See her tag?"* Krista asked me. *"This is the daughter of the cow that our neighbor gave us. This calf's tag has me, my brother, and my sister's initials on it because we all own her together. Even now, my record book says that I own 1/3 of this heifer."* She explained that this calf had grown up to be a very good heifer, and that that female and several of her offspring are still in the herd today. (KS photo elicitation, 1 78-84).

Just as in Ben's story, the Smith's neighbor saw potential in these young livestock producers and took action; making an investment to help support their futures. The gift

of a heifer helped propel Krista forward into the future, giving her the opportunity to develop a registered Angus herd.

In addition to connections with individuals in the community, study participants talk extensively about positive youth development organizations. They credit 4-H and FFA with connecting them to other opportunities both in and beyond those organizations. For example, one participant explained that 4-H and FFA led to her involvement in the Missouri Junior Cattlemen's Association and then connected her with an opportunity to write for a sheep breed publication (L 314-318, BR Photo Elicitation). Another credited her involvement in 4-H to leading her to participate in the Global Youth Institute at the World Food Prize in Des Moines, Iowa. Although these young producers were all members of 4-H (which was a requirement for the study), it happened that they were all also FFA members. It is interesting to note that their interviews commonly credit both organizations simultaneously. For example, *"I'm going to try and keep helping other people learn more about the agriculture industry and why FFA and 4-H is so, so, so good for us kids to have"*. (BR on farm interview, 1 26-28)

Ben explained that being involved in showing livestock has helped connect him with resources and knowledge. He believes the connections will continue to project him forward throughout his lifetime.

*Being a member in all these livestock ...all these different livestock showings...and everything like that, it has just been nice to have those connections. Again, networking and stuff. But being connected to people that can get you the resources and knowledge that you need. To go on...Not only with your project next year. And to improve it one step at a time. But throughout your lifetime. And your college..if you're going to college...and whatever career you decide to do. All these skills are applicable at that point, so... It teaches a lot*

*more than just...how to feed a pig....one summer... (BH on farm interview, 1100-105).*

One of the most interesting things about this comment from Ben is that he is a first generation college student. He strongly feels that being involved with livestock has helped connect him with the resources, skills, and knowledge he needs to continue to move forward in life, particularly as he prepares to leave for college in another state in the fall.

While Shana was cleaning pens and walking her market hogs, she mentioned how she believes showing pigs can help connect youth with the pork industry as a future career:

*Like this (showing hogs) may be like our start to the pork industry. If I decide to go in and work at a confinement operation in swine farrowing, it will definitely help having some experience with pigs. But it's still a completely different world just because they're for such different things. When I went to Chicago for MJSA, we talked a lot about the opportunities in the commercial industry. So MJSA is a show pig organization, but they work hand in hand with the National Pork Board to connect show pig people and commercial people. We talked a lot about those kind of opportunities...like how the show pig side can lead into what commercial production would look like as a profession (SS on farm interview, 1 19-21, 34-38).*

Several of the participants talked about their plans to stay connected with livestock production in their futures. Krista, who is planning to become an agriculture teacher, referred to the importance of being not just a promoter of agriculture, but remaining involved on the production side. She believes this will help her to be a more credible agriculture teacher.

*I do want to stay involved in production agriculture because it's something that's very important to eventually have my hogs and cattle. It's something that's important to me because I want to be able to say...ummm... just as someone who promotes the agriculture industry, I want to be a part of the production side of it. Well...we need the people who aren't involved with it to help advocate as well. I*

*think it's really important to establish credibility. And you can do that pretty easy when you have your own livestock (KS on farm interview, 1 80-86).*

Additionally, several participants talked about wanting to continue to raise and sell livestock so that they could help other kids have the opportunities they had throughout their childhoods.

*I definitely want to be involved in agriculture. And I want to sell animals to 4-H and FFA members so they can grow up like I did. 4-H and FFA are amazing (BR on farm interview, 1 200-202).*

For the youth livestock producers in this study, numerous people and organizations within their microsystems fueled their connections and propelled them forward into the future. Raising livestock in the context of youth organizations helps bridge young livestock producers to social networks and opportunities, moving them into the agriculture industry over time.

## **Pattern 2: Livestock Production as a Culture of Loss and Misunderstanding**

Buried much deeper inside the culture of livestock production is a pattern that seems paradoxical to care and concern; feelings of loss and misunderstanding. However, upon further examination of participants' stories, it becomes clear that with a phenomenon as complex as livestock production the paradoxical patterns can and do co-exist. The patterns are tightly interwoven into the fabric that constitutes the phenomenon of livestock production.

### **A Paradigm Case**

Ben presented us with another paradigm case for Pattern 2. The excerpt from his interview referred to an experience he had at his suburban/urban high school's agriculture

day event. His description of ag day exemplifies the feelings of loss and misunderstanding that accompany the culture of livestock production.

*I remember my junior year I talked to a vegetarian teacher for 30 minutes because she tried to convince me not to butcher my market barrow... he still went to the butcher the next morning (BH photo elicitation, 1 477-480).*

He elaborated,

*I mean....just....she asked what his purpose was, and I told her he's a castrated male. He's a Hereford barrow, and a barrow has one purpose, and that's to feed people. We eat meat, and that's what he's gonna do. He's gonna go to the butcher tomorrow, he's at market weight, he's more than ready.... And she just looked at me...and was like.... "You're gonna kill him?....But didn't you get attached?" And I'm like, "Yeah, I pulled that piglet outta his mother. I was attached to him a little bit, but everything...we were raised on a beef cattle farm. Everything dies at some point". And then I told her, "Well, he's a castrated male. He's a full sized pig, he's not a companion animal". She came back later with her other class and was like, "Are you sure? Are you sure you can't just keep him around? He can come to ag day next year" (BH photo elicitation, 1 482-491).*

Ben is unique in that he is a true "farm kid" who attended high school at a large suburban/urban high school. What stood out in this interview was that by questioning Ben about the future of his market animal, then returning again with her class to again question his decision, the teacher (a person who is in a position of authority) essentially questioned her student's culture and family's way of life in front of his peers. In a day where diversity and acceptance are emphasized, it is remarkable that a student's agricultural practices (which constitute an important piece of his cultural identity) are openly criticized.

In this exemplar, Ben also referred to the emotional labor that goes into producing livestock, acknowledging that producers become attached as they work with animals throughout the entire life cycle. However, he explained how the purpose of market animals is to help feed people. This was a common narration given by each of the

participants in the study. They balance affection and care for the animals with the practical purpose of livestock production: producing food.

### **Dealing with Loss**

A sub-pattern illuminated in this study is *Dealing with Loss*. Selling livestock that have reached adequate growth and maturity to be harvested and become part of the food chain is part of the phenomenon of livestock production. This is something that young people raised in the culture are exposed to from early childhood on. Jon explained that this is part of being a livestock producer who raises, exhibits, and sells market animals.

*Let's see ..... (very long pause) One of the things with showing livestock as a producer is....at the end of the fair, that "heaven wagon" or train, whatever they want to call it, where you put your animal on and you know in the beginning it was hard....you know, the first year we showed goats Mom and Dad bought us two wethers and two females. We were gonna keep the females to help us get through the...havin' the wethers go away...And the first years it was fairly hard....and...nowadays, it's not....I'm ready to see 'em go "bye bye" (JP on farm interview, 19-15).*

Jon explained the process by which he thinks this happened:

*I mean, one of the things, as I've gotten older, it seems like I'm busier. They're still my projects, still my animals, sometimes they're still my pets....occasionally, but I don't get as .....probably emotionally connected....as I did when I was a little kid... And....it's just...different now, I think....I can see the whole picture now....where they're gonna go...I don't want to keep a wether goat, you know, until it's dead from old age. I know people who've done that...keep steers, and that's just...to me, that's not bein' a producer (JP on farm interview, 117-24).*

When questioned about what goes through his mind when he's raising livestock and thinking about the final destination for those animals, he explained:

*I mean....I don't really know, I mean...most of the time they get names and...it's not like they're no-name identities....I mean, I still have names for 'em and most of the does have names....and just... it's just kind of what they're meant for right now....It's not like they're a dog with puppies where they're supposed to be companions. They're supposed to be a meat animal (JP on farm Interview, lines 9-31).*

Jon also commented on several strategies that he and his family have used to help make this separation a bit easier. Strategies he mentions include; purchasing females at the same time to be kept as breeding stock so youth are able to keep part of their livestock throughout the years, not naming animals that will be used for market animals, and keeping the purpose of the animal in mind from the very beginning of the project. He also refers to a “*heaven wagon*”, hinting at his belief that these animals’ souls may ascend to heaven upon their death. These are common strategies mentioned by many of the participants in this study.

Jon explained that the first year of selling his market animal was definitely the hardest.

*I don't remember like the second or third year. I remember the first one. The first one was this brown goat named ...I think we named him...Buck or Buckshot....something like that...he was a brown goat, and uh, when we went to pick out goats, we bought goats from a guy named Jared Masters and he's a real cool guy. He had a bunch of goats, like 80 head, and he had this pen in the barn full of kids that were still on their mamas....no, they might've been just weaned...they were weaned and ready to go to our house and all that stuff...And I was probly five or six, and for some reason, I just sat down in that penful of goats. And this little brown goat come up, puts his head in my lap, and falls asleep. And he was going home with us. Actually, no, they weren't weaned yet... cuz we went to pick em out, and then we didn't get em for like another while...so he was still a little sucker....fell asleep in my lap and I probly set there for 10 minutes. And then ....so that was before it was technically “my animal” to show.....it was Tina's to show...but it was “my goat”. That little kid was such a.....he was mine.....And that summer actually, our cousin stayed with us all summer...I don't know why...stayed and helped us do chores and stuff. She was older than me and Tina. And sale time came around, and we were gonna buy him back from the sale.....That didn't happen.....Yeah, we were going to and dad told us we couldn't ... We wanted him to keep cuz he was gonna be a pet...but he went away (JP on farm interview, l 36-54).*

Like Jon, Brandy explained that the early years are the hardest. However, she added that it still hurts for her to sell an animal for market even as an older livestock producer. Like Jon, she is comforted by the thought of a “heaven” for animals.

*Umm, and so, of course it is always sad. I mean, I'm 18 years old and I still cry whenever I have to ...whenever my pigs leave. That's just cuz I've dedicated so many hours to them and I loved and cared for them so, so much. That it's just ... I hate to see them go, but they have a purpose in life. And that purpose is to feed the world... I mean, I've always known it since I was young, just from growing up on a sheep farm. And you know, the first year I was...got into pigs especially. I mean, I knew we butchered pigs and harvested them. And I knew there would come that certain point in time. But when it came time for me, I was devastated. And I was like, "No, I don't want to." But then dad sat me down and explained to me kind of the same way. He said, "You know, that pig has to go on. And one of the things that, you know, helps me, is the pig's gonna be in pig heaven is what we call it. You know, that always helps little kids. Umm, it's gonna have a better place where they have as much mud and as much water and as much feed as they want. Umm, so that can always help little kids and it always helped me whenever I was little. You know, we'd always have our special goodbyes. And I'd try to always keep those in my mind and just leave it at that. And just say, "Okay, it's time to go". And just...for this animal to fill its purpose (BR on farm interview, l. 74-89).*

Young producers must learn to navigate the cycle of births and deaths that occur regularly on the farm. They look forward to births as exciting and happy times on the farm.

*So I think that yes, on the farm all the time we have joys. And ..it's a lot about...the simple things... like baby calves running in the pasture. But....I think it's just around us all the time... So when...it's silly....but just seeing that new life on the farm. It's just something we get to experience a lot (KS on farm interview, l 157-159).*

However, they also share stories of sadness when a birth doesn't go well and results in loss of life. Young people who are raised on farms have direct exposure to both birth and death as part of everyday life. They are surrounded by the beginning and the

end of the life cycle; and everything in between. Krista discussed the challenging aspect of this cycle with me during our time together in the barn on her family's farm.

*Y e a h.... (drawn out)...I remember...I.....bought a York gilt one year to show and she...it wasn't an abscess, but just kinda a little bit of a rupture. So I couldn't show her, but she was a real good gilt. So I was gonna get pigs out of her and get to show her next year. And.....that winter we tried as hard as we could to pull those pigs....And....wasn't happenin' .....So eventually....you know, she died and we didn't...we got a couple live pigs outta her, stuck em on other sows... And it just... really doesn't work very well. So I remember that being hard for a younger kid to deal with (KS on farm interview, 1 124-130).*

Krista estimated that she was 10 or 12 years old at this time. She said that it wasn't her first time to have a gilt, but it was the first time that she was really focusing on building a herd.

She added,

*And...she was a gilt that I didn't get to show, but I was still lookin' forward to gettin' pigs out of her. And then that didn't happen (KS on farm interview, 1 138-139).*

After sharing this story, Krista suddenly brightened and said,

*So I think that, you know...that helped me learn that....this is, you know, kinda how it goes and ummm..there's always next year (KS on farm interview, 1 143).*

The participants in this study all acknowledge that disappointing losses happen.

However, these stories of loss tend to be framed within statements of hope for the future.

We see examples of moving forward with hope in the future in several interviews below:

*Umm, I mean there's been...let's see...last year... so...I... my best wether goats out of my whole crop, I hadn't sold em for big money so I kept em and was gonna show em....and then they both got tetanus about two weeks apart and keeled right over And it was kind of just the dregs that I had left...and showed whatever I had left... and the fair rolled around and I still won my class and I got Reserve Champion home raised with my bottom dregs goat. And it turned out to be a decent year. But it started out bad (JP on farm interview, 1 84-92).*

When asked how he keeps moving forward when things like that happen on the farm, Jon explained,

*I mean, it was kind of, it was real tough. They both laid in the yard for two days..... I mean, wasn't dying yet, but couldn't walk, couldn't stand...and it...it was rough. But I had other goats to show and just kinda had to keep feedin the rest of em and pick em out (JP on farm interview, 1 94-98).*

Ben talked about his extensive disappointments during the second year he farrowed out a set of new sows. This was especially frustrating because it happened after a very successful first year.

*So instead of being able to pretty much count on Gertrude to spit out pigs..uh...ten of 'em that'd be good for fair, I had my first litter out of my good Hereford. I had six stillborns. .... And my litter out of my Grand Champion crossbred sow, I had two pigs born alive...And one of them was the runt. And three weeks into it, the good piglet that I had outta that crossbred litter had a seizure and locked up and died. So the only pig I had that year was one crossbred runt (BH photo elicitation, 1 145-159).*

Ben's interviews showed that he had spent a great deal of time thinking about what went wrong that year; he consulted his veterinarian and other livestock producers he trusted. Although he attributed the losses to different genetics, he never determined exactly what had happened to cause the deaths.

Although it is not easy, focusing on the never-ending cycle is a coping mechanism youth livestock producers use when they are dealing with loss. Krista described how she thinks about the good things that are yet to come to help get through the times of unexpected loss.

*So being involved with 4-H has taught me, you know, what the real life experiences are of agriculture. The good and the bad, you know umm... I think about the FFA creed where it says umm... "I know the joys and discomforts of agricultural life", umm and so knowing that ummm...sometimes a gilt's gonna die, but you're gonna get another litter of pigs that's gonna work out (KS on farm interview, 1 68-71).*

Additionally, youth involved in livestock production seem to be well aware that not everyone is exposed to the same experiences as they are regarding loss. Ben explained,

*One thing I really keep in mind is prob'ly the only thing this person's ever had around their house die is like...their goldfish, or maybe a dog or two. They don't understand that it's kinda the way of life. And they've been brought up a lot different than I have (BH photo elicitation, 1 499-501).*

These stories provide examples of how growing up on a farm provides a very different experience than non-farm children have regarding birth and death. Dealing with death is part of the cycle of life on the farm, whether this is planned (as in feeding out a market animal) or unexpected (as in accident or sickness). Youth livestock producers adopt strategies to deal with loss and have hope for the future.

### **Balancing Between Two Worlds**

#### **The world of agriculture vs. “the other” world**

The second sub-pattern uncovered in this study is *Balancing Between Two Worlds*. The youth shared stories of feeling misunderstood by or different than those who are not involved in agriculture. Ben shared his thoughts about his high school classmates' opinions of his involvement in agriculture. Ben attended a very large and diverse suburban high school, and was one of very few farm youth who attended school there.

*A lot of kids, they just...they think we're crazy...cuz we talk about feeding 200 cows for a year. That's a lot of work. By the time you have to check 'em, cuz calving season...and you have to put up hay for 'em in the summer..in the fall you're weaning and vaccinating and getting ready for winter...and ummm....spring you're calving...out there 24/7 it seems like... so they ..they don't*

*believe the work that goes into it sometimes. They think we're nuts for doing what we do (BH photo elicitation, 1 550-555).*

He added,

*So being able to talk to them...and just kinda answer any questions they may have and expose them to it [agriculture] ...uhh...there's a lot of negative news out there.and umm.. a lot of videos. The only videos they remember is uh...the videos of people beating pigs or poking cows with...a hot pitchfork or something...you know, some of that stuff....maybe half a percent of farmers mistreat their animals...and give the 99 ½ percent a bad name and a bad label. Uh, that cow, that cow, that animal is your livelihood. So they deserve your respect and that's something we try to really get across to them (BH photo elicitation, 1 478-496).*

Ben shared that his high school's "Ag Day" held a great deal of meaning for him, because it was when he got to explain what livestock production is really all about to an audience who has not had much exposure to agriculture. Earlier in this document we learned of the way his teacher tried to convince him not to butcher his market hog during Ag Day. Ben explained what he tries to keep in mind when he feels misunderstood by those who do not live in the phenomenon of livestock production.

*And they've been brought up a lot different than I have. She [the teacher] was from St. Louis, I believe. So she was from a big city that's many generations removed from the farm, so I just have to kinda keep in mind that they don't think the same way I do. And they don't have the same beliefs and the same upbringing as I did. Ummm.....especially with the cows...they see a cute cow and they don't really think....Oh, they see a fat cow and I see a cow that's ready to go to market (BH photo elicitation, 1 500-505).*

Shana shared her story of feeling misunderstood with me while walking her show pigs on a stifling July night:

*So I went into my (county fair queen contest) interview on Monday. I had loaded hogs, taken hogs to the fair by myself, went and talked to the commissioners. So I was doin' pretty good to look put together.... And...it's commonly known that my legs are kind of beat up you know (because of the hogs). And I got in there...I was in a dress. And they kind of looked at my legs. And I looked like an abused child....Really! And I was like, I prob'ly shoulda put pantyhose on ...and they*

*were like....”What happened?” And I was like, “Well, I show pigs”. Yeah, and they definitely like....they asked. Like one of the questions was “What are you passionate about?” And I said agriculture and my Hereford pigs. And they asked me what a Hereford was. And they didn’t even know what a Hereford cow was! So here I was, with my beat up legs, trying to explain to three judges who have no clue of what’s going on....so, it was interesting to see their reaction. Then once I got up on stage, the whole crowd (of 4-H and FFA families) was like beaming, because they knew exactly what I was talking about. But the judges were like, uhhhh.....we don’t know what you mean (SS on-farm interview, 1 113-127).*

Although Shana felt like she was not able to communicate clearly or connect with the judges of the county fair queen contest, she did win the title. This is an interesting story because Shana’s identities as a livestock producer and beautiful teenage girl intersect. Even when she is presenting her most beautiful and dignified self for the contest, there is physical evidence of her life in her “other world” that can’t be hidden; the world of livestock. Furthermore, when she tries to answer the judges’ questions in an authentic way, she realizes that they don’t know her world of agriculture. Although this frustrates her, she realizes that she is successful in communicating her thoughts with those in the audience (those she refers to as her “show family”) that live in the world of agriculture.

### **The livestock show world vs. the world of livestock production**

Youth involved in production also feel like they are balancing between opposite ends of the spectrum in the agriculture industry; the livestock show world and the livestock production world. Throughout the study, they refer to the “two sides” of the livestock industry; show and production.

They take pride in the fact that they are breeding, raising, and showing their own livestock. Ben proudly shared a story about selling a market pig that he raised to a young

4-H member with autism. He explained,

*He was real calm 'n friendly since he was the only piglet that I had here. He kinda attached to people more than other pigs.... Grace would ask for me to go in the ring with her. Which all was pretty cool, but I really didn't need to be there. Grace had that pig under control the whole time. Ummm...she talks to her pig all the time while she's walkin' him. And I've never seen a pig that walked to voice command, but Chewy walked to voice command. It was pretty cool...it was pretty cool (BH, 1 163-164, 174-177).*

Jon explained the sense of satisfaction that he feels when his goats are recognized in the top of the home raised category or when he sees the goat kids he has sold to 4-H and FFA members as market goats in the show ring.

*We've had reserve and grand home raised. But there's also that satisfaction of looking out across the champion drive and seeing more than half of em come from you. Even if you didn't feed em out, they come out of that pen over there (points). Went on, won their classes, beat people that spent a lot more money on goats (JP on farm interview, 1 110-113).*

He also shared several other stories about feeling proud of goats he had sold.

*There was a girl goin' to school down at (local college), and she found out about us somehow. So she bought goats up here and took em home. I don't remember what county that was. But she had Champion...Reserve...no, she got Champion down there. And that was a real neat thing. (JP photo elicitation, 261-263).*

*I mean, I sold...from the time we started sellin' we had several people that came back from the time they started showin' till the time they aged out. Every year they came back. ...I mean, a little bit of pride...I mean, they...I have good enough stock that they keep comin' back. And I have...over the years I've had several people win the fair (JP photo elicitation, 1 280-286).*

Without a doubt, these young producers enjoy a win in the show ring. However, they realize that the livestock they raise has to be production oriented in order for them to succeed as livestock producers. Sometimes this means that the livestock they are showing may not be as likely to win in the show ring. Krista explains that one important difference she sees in “the two worlds” has to do with time.

*What's different is...I think we're talking about mainly breeding stock when I'm with my family. We're looking long term at animals. And in the show world, you're talking about how a pig's gonna do in this class. And well maybe I didn't feed him the right thing to get him to be the freshest that day. That's something that we're not really concerned about in terms of production, but it's just kind of the conversation of short term versus long term..umm.. is the biggest difference (KS on farm interview, 1 31-35).*

As a producer, Krista thinks about the long-term and takes pride in the work and effort she and her family members have put into the livestock throughout several human generations. This perspective is a remarkable contrast to the more common experience of youth who show (but do not raise) their own livestock.

Rather, they are focused on raising livestock that can produce offspring that will feed consumers. Their narratives frequently conclude with the practical reason that they are involved in livestock production:

*You know, we'd seen those pigs be born, and we'd taken care of them..... And so, maybe we knew that we weren't gonna win with 'em, but we knew that we...just knowing that we had done all that, really played into it. Knowing, just like being around...my dad and my uncles..ummm... being on their farms versus in the show barn. Umm... a majority of the time it was really about what production agriculture looked like and how things were different from the show world. And how...it's really about this is ultimately gonna be used for human consumption versus other things like winning first in a class. And while we do like to win, we maybe buy better pigs now than we used to...we definitely can keep that same idea in mind. It'll ultimately be used for consumption...we are feeding people with these animals (KS photo voice interview, 1 18-28).*

The experience of preparing to show a market animal at the fair can look very different for livestock producers than youth who purchase market animals. For example, several of the producers enrolled in this study raise cattle. A youth who is planning to show a market steer usually selects what they consider to be the best calf they can afford to purchase in the fall that precedes the summer show season. They may shop around for this calf at several farms or sales.

However, there are many more steps involved for a youth who is raising his/her own market steers. That youth needs to carefully consider what traits he/she wants to improve on and choose a bull to breed his/her cows to. This decision will need to be made nearly a year before calves are born, and over a year and a half before the youth weans the calf he will show in the fall. Throughout the spring and summer, he/she will have to feed and care for the cow. Calving season will require close monitoring. As several participants mentioned, it is common for bred females to be checked very frequently when they are expected to give birth, especially during the frigid winter season.

*It's a good life...it's a real good life...had some long nights though...I haven't had many this year. But in the past sometimes...So we've had those times when you go out and check em every two hours in the middle of the night, or you wake up or try to stay up. I'm \just gonna stay up all night (JP on-farm interview, 1 120-125).*

The time investment for youth livestock producers to raise their own stock is substantial. It is also important to remember that producers continually strive to improve their livestock throughout successive generations. The concept of time helps to define the difference between youth who breed, raise, own and show livestock and youth who just show livestock. While youth livestock producers keep one foot in the show ring, they ultimately remember that they are raising livestock that can produce offspring that will either be sold as breeding stock or feed consumers. Although they share a great many things with youth who show livestock in the 4-H program, youth livestock producers have a different experience. Their extensive involvement with livestock throughout the entire life cycle over an extended period of time, as well as their pride in this involvement, makes their culture unique.

## **Chapter 5 Discussion and Implications**

While these findings are fascinating in themselves, they are not particularly useful until we situate them in the larger picture in which they exist. In this chapter, a Heideggerian hermeneutic lens is used to discuss how the findings relate to literature, implications to positive youth development programs, and implications to the agriculture industry. The goal of this chapter is to highlight the findings from this study and emphasize how and why they matter. Additionally, it is expected that over time, other readers will use nuances that surface in these findings in ways that are yet unanticipated.

### **Temporality and Thrown Projection**

It is easy to find Heidegger in the culture of youth livestock producers. Doing so allows us to remain true to the philosophical underpinnings of this study. Sustaining sound connection among philosophy, research design, and analysis throughout phenomenological studies helps to enhance credibility (Dibley, Williams, Younge & Ironsides, 2018).

The Heideggerian concept of temporality and thrown projection color this study's findings, and lend to a deeper understanding of the culture of livestock production. The way time passes is a key element of the culture of livestock production. In our modern world, we typically use chronological time to sequence events in a linear fashion with evenly spaced, measurable points. However, from the very first interviews on, it became evident that passage of time for youth involved in this study was marked with by evolving generations; generations of both livestock and family members. Heidegger's view of time (temporality) was that the dimensions of past, present and future come

together in unity. He emphasized its importance, stating time “the horizon for the understanding of Being” (1927/1993, p.39).

Heidegger further explains this temporal movement of time using the term *geworfen Entwurf* (thrown projection). This idea means that one’s being (*Dasein*) stems from a socio-historical situation that one did not choose. This thrown projection simultaneously opens the doors to possibilities that allow for projection into the future. Heideggerian philosophy holds that one’s being is the unity of the past, present and future possibilities.

The culture of livestock production places great value on both human heritage and livestock heritage. Indeed, youth livestock producers are often born into a farm family where livestock production has been a way of life for generations. As time passes, the tradition and way of life of raising livestock continues; from great-grandparents, to grandparents, to aunts and uncles, and cousins. Farm families tend to work together with multiple generations of family members to achieve family goals, which is very different than the more individualized work in non-farm families (Elder & Conger, 2000). Youth involved in this study have been “thrown into” a life of livestock production. Indeed, one participant shared a picture of herself as a baby of 3 months old sitting in a baby carrier. The carrier was placed on the back of the pick-up truck while her dad worked cows in the corral next to the truck. As these children grow up, they are being projected forward into opportunities that life around livestock has allowed them to obtain.

When youth in this study tell stories of their childhood, they frequently mark the passing of time by livestock generations. For example, “These cows are what we call our 900 series. They were born in 2009. They are the first group of heifers I remember

keeping because their moms are almost as old as I am...almost” (BH photo elicitation, 393-396). At other times, temporality is marked by the evolution of the roles of family members . One participant explained, “*My parents just kind of watch at this point, which is good. They just let us kind of do our thing. Umm...but definitely my cousin and my brother were up there making sure everything looked just right*” (KS photo elicitation, 1 407-409). For youth livestock producer, life is surrounded by generational evolution of both people and livestock, typically in close proximity. There is a connection between the history of the stock and the history of the family (Bock, Van Huik, Prutzer, Eveillard & Dockes, 2007).

This Heideggerian hermeneutic study illuminates the stories of youth livestock producers, showing us that the phenomenon of livestock production is about much more than just taking care of livestock. The phenomenon of livestock production consists of paradoxes, tension, and ambiguity, which make the phenomenon incredibly complex. However, we can tease out practical implications that will impact positive youth development programs and the agricultural industry.

## **Meaning of Findings**

### **Importance of Community Connections**

Bronfenbrenner’s ecological framework states that human development occurs through progressively more complex reciprocal interaction among the developing individual and other people, objects and symbols in the environment (Bronfenbrenner, 1994). We see evidence of many of these complex interactions in this study. Researchers have identified the three most critical elements of positive youth development experiences to facilitate thriving: positive, sustained relationships between youth and

adults, activities that build life skills, and opportunities for youth to apply those skills as both a participant and leader (Blum, 2003; Lerner, 2004; Roth & Brooks-Gunn, 2003). Interviews with all of the participants indicated that all of these positive youth development experiences are present in their lives, which suggests that they are thriving.

Formal and non-formal educators should not underestimate the power that community connections can have on youth. Studies have suggested that in addition to parents, adults outside of the family play an important role in helping youth develop into adults who are productive and healthy (Csikszentmihalyi & Larson, 1984; Halpern, 2005). Relationships with mentors can provide opportunities for other activities, resources, and connections to even more relationships, which can all help youth form their sense of identity (Darling, Hamilton, Toyokawa & Matsuda, 2002). Adults outside of the family can help provide tremendous opportunities for youth to learn and grow. When youth view older youth or adults as role models, they sometimes see their “possible selves”, or ideas of what they could someday become (Markus & Nurius, 1986).

The connections with community members mentioned by youth in this study weren't formal partnerships. However, their stories illustrate that informal interactions between a youth and a community member that occur over an extended period of time can help create opportunities for that youth. The story of Ben eventually going to work for Mark after years of connecting at the feed store and the county fair is an excellent illustration of how this phenomenon can occur. Personal connections that grow and develop over an extended period of time can give youth access to more opportunities, knowledge, skills, resources, and even internships or jobs.

Being “thrown into” life on the farm as a livestock producer provides many opportunities for youth like Ben to be projected into a future where they are well connected in the community. Formal and non-formal educators, volunteers, and parents should purposefully pursue ways to encourage and assist all youth, regardless of their background, in facilitating and strengthening connections with individuals and businesses in the community in which they live.

### **Influences on Careers**

This study contributes to the body of research that helps us understand how children make career decisions. Bronfenbrenner’s Ecological Systems Theory (1979) depicts how the influence of various environmental factors affects the development of an individual. However, examining life-course theory may take us one step closer in thinking about how career decisions are made. It locates families in webs of linked relationships that help provide both social and material resources required for human development. Life-course theory situates all of this in a context of historical time and place, while emphasizing the agency of both children and parents (Elder, 1996).

Children develop notions of what they enjoy doing or feel they are capable of doing at a very young age (Super and Bohn, 1970); perceptions about agriculture as a career possibility may form at or even before the junior high school years (Scanlon, Yoder & Hoover, 1989). Parents encourage agriculture experiences by providing children with knowledge, skills, and a disposition for farm life from an early age (Ball & Wiley, 2005). They also teach specific work skills, including entrepreneurship and decision making through direct experiences (Ball & Wiley, 2005). Indeed, Wiley, Bogg and Ho

(2005) argue that children's' decisions to return home to the farm are rooted in the activities and family relationships of childhood.

Youth livestock producers in this study seem to be well supported at all levels of their environment, appear to be well connected on various levels, and have high goals and aspirations for themselves. A study by Schonert-Reichel, Elliot & Bills (1993) suggests similar findings; rural farm youth have more academic success, are more involved in extracurricular activities, and have more solid ties with family members than youth in rural communities who do not live on farms.

Life-course theory (Elder, 1996) may help to explain the positive trajectory of these youth livestock producers. Currently, all of the participants are preparing for careers in some aspect of the agriculture industry. Youth livestock producers are receiving messages about agriculture from family members, 4-H volunteers, agriculture teachers, peers, community members, and even those who work in the agriculture industry. Elder and Conger (2000) refer to this phenomenon found in their study of Iowa farm youth as social redundancy. Some participants in the current study have worked with the same adult livestock project leaders and mentors for the entire ten years of their 4-H program. Research shows that prolonged exposure to adult mentors increases the likelihood that youth will adopt the same positive habits that these adult mentors demonstrate (Eccles et al., 1994; Grossman & Rhodes, 2002).

These findings, along with extant literature, raise an important question: How can we recruit youth into agricultural careers who are not raised on or around the farm? Say something about life course theory here (Elder, 2007). The agriculture industry excels providing opportunities for connections that help bring "their own" youth into the

agricultural family. However, it is more difficult to reach youth who have not been born into and projected forward into this industry. More research is needed to determine what experiences are pivotal and what support is required to recruit youth who are not raised in agriculture to pursue careers in the agriculture field.

#### **4-H and FFA as Complementary Organizations**

Understanding livestock production on a deeper level and adopting youth development principles that support the phenomenon can help educators strengthen the ways 4-H and FFA programs meet the needs of these youth. Both 4-H and FFA programs have the responsibility of helping develop youth, using agricultural education as one of the tools to reach this goal. While the 4-H program utilizes non-formal education to do so and is part of Extension, the FFA program is part of the formal agricultural education system that is housed within schools. Despite the fact that 4-H and FFA have similar policies and goals, the two programs have a history of struggling to cooperate with each other (McKim & Torres, 2011).

Although not intentional by design, each of the five participants enrolled in this study were involved not only in 4-H, but also FFA. They see both programs as important aspects of their worlds. However, it is interesting to note that they all talked about these two distinct programs contributed to their livestock experience. At times, they even referred to 4-H and FFA as a singular experience.

*I know that 4-H and FFA have had a major impact on me....it's shaped who I am as a person and how much I've gotten involved in other organizations (BR photo elicitation, 1 314-316).*

4-H professionals and FFA advisers should keep in mind that youth involved in both of these programs may very well see them as very complementary, not as

competitive organizations. Special consideration should be made regarding how these two organizations can work together on both local and state levels. Torres, 2011, recommends that Extension professionals may be particularly helpful in advising agriculture teachers on subject matter and content since they are located in every county in the state. Conversely, agriculture teachers are prepared as experts in curriculum development and formal education methods, and may be of great help to Extension professionals with content expertise (McKim & Torres, 2011). This type of mutually beneficial collaboration may help livestock projects associated with both 4-H and FFA programs be even more transformational for youth.

### **Adult Roles in Youth Livestock Projects**

Careful consideration needs to be given to the message that is being sent through youth livestock projects: Is it one that reinforces 4-H's stated objective of positive youth development as the primary goal? Parents have identified excessive parental involvement as their primary concern with competitive livestock activities (Kieth & Vaughn, 1998). The 4-H program, which relies heavily on volunteer and parental involvement, has faced challenges with parent involvement in competitive activities for decades (Ames & Ames, 1978; Goodwin, 1994).

In looking at this issue, it is helpful to view Hart's 1992 Ladder of Participation, which was originally designed to look at how youth participated in community programming ([https://www.researchgate.net/figure/Harts-1992-Ladder-of-Participation\\_fig1\\_321783095](https://www.researchgate.net/figure/Harts-1992-Ladder-of-Participation_fig1_321783095)). This model identifies eight stages of youth's participation in projects, and is helpful in considering how one works with youth (Hart, 2008) Hart considers the top five rungs of the ladder to represent meaningful

participation, and the lowest three rungs to represent non-participation. Those lowest rungs represent adults acting through children.

This model can also be helpful for examining how youth participate in livestock projects. In the livestock world, one can see young people who are at every rung of the ladder of participation. For example, youth who are involved in livestock projects at the highest rungs of the ladder (participation) may decide to research and purchase a set of heifers, arrange housing for the animals, figure feed rations, keep records, carry out or arrange for health care, make breeding decisions, calve out these heifers, and decide which animals to keep in the herd or cull. This all would be done with advice and perhaps assistance solicited from trusted adults.

Conversely, a youth on the lowest rungs of the ladder (non-participation) might be handed a halter on show day of a steer they had never seen until that very day. Although they may be present during the preparation of the animal for the show, adults will be in charge of fitting and grooming decisions. Youth may be asked their opinion, but will not truly have a choice in how the show preparation is carried out.

Interviews and observations of participants in this study showed that livestock projects are being carried out very differently from one participant to another. For example, Ben seems to be making many of his own decisions regarding breeding and feeding, has reached out to multiple trusted adults, and performs tasks such as grinding his own feed and building his own housing. He appears to be functioning at a very high level on the ladder of participation. Brandy, however, relies more heavily on her dad to make many of the decisions. She enjoys “performing” in the show ring, and is the only participant involved in showing on a national level. However, she does not appear to be

as knowledgeable about the day-to-day care or breeding decisions. This became particularly evident during on-farm observations, when she was unsure of how to feed and had to ask about rations for each pen. Indeed, it seems that the meaning that she derives from livestock production is centered on peripheral activities and relationships. Her dad seems to be the driving force and the decision maker for many of her projects. Interviews and observations suggest that she is functioning somewhere in the middle of the ladder of participation.

For youth to have more control over their own projects and develop better skills and enhanced knowledge, parent roles must become less directive and more peripheral. Young people who are involved in livestock projects should have a choice regarding their participation, and the degree of their participation should be appropriately matched with their needs. The rung of the ladder at which they function should be selected based on age, maturity, previous experience, and developmental stage.

Youth who are involved in the production of livestock throughout their entire childhoods have a unique opportunity to move up the rungs of this ladder over time in a way that youth who purchase animals in the spring, raise and show them throughout the summer, and send them to market may not. Leaders, volunteers, and educators should keep these differences in mind as they design experiential learning opportunities for youth livestock producers. Much “doing” is happening naturally for many of these young people. However, efforts should be made to enhance opportunities for reflection. This focus will promote deeper learning` and improve the ability of youth livestock producers to apply that learning to new situations or circumstances.

This information should be incorporated into educator and volunteer training to help parents, other adult volunteers, and educators ensure that they are allowing the child to function at the highest level of the ladder of participation possible to ensure meaningful learning and growth. Intentionally focusing on what a young person is capable of doing on their own will help ensure that the focus of livestock projects is truly on developing the competence and confidence that is critical for youth development, not just winning shows.

Viewing how adults care for youth through a Heideggerian lens allows us to think about this topic in a slightly different way. Care is the means through which our being is made meaningful and significant (Heidegger, 1927/2008). Heidegger breaks care (*sorgen*) into several different categories; taking care of matters (*besorgen*) and care/solicitude for human beings (*fursorge*). The two extreme states of care expressed as care for others are leaping in and leaping ahead (Heidegger, 1927/2008).

Heidegger further separates *fursorge* into two categories: 1). care that “leaps in” and dominates, taking away the care recipient’s choices and responsibility (*Einspringende fursorge*) and 2). care that “leaps ahead”, helping the care recipient become capable of doing things by themselves eventually (*Vorspringende fursorge*). (Heidegger, 1973). When adults carry out roles with livestock projects that youth are capable of doing or learning how to do, they risk causing the youth to be dependent on them instead of learning to do things for themselves. In trying to help, the caregiver who “leaps in” is actually doing harm to the care recipient (Heidegger, 1973; Bishop & Scudder, 1991). On the other hand, “leaping ahead” helps the care recipient learn more

about himself or herself and improve his/her ability to take care on his own (Heidegger, 1973; Bishop & Scudder, 1991).

### **Socio-Emotional Implications**

When we elicit stories from people in qualitative research, we sometimes illuminate aspects of a phenomenon that are uncomfortable to talk about. However, these challenges need to be unpacked in order to paint a true picture of the phenomenon. In this study, that challenging aspect is loss.

It is interesting to note that Heidegger does not address questions about how people relate to animals in terms of care. It has been suggested that *versorgen* (to look after, supply, provide for) may best encompass human relationships with animals (Kenkmann, 2005). However, in viewing youths' stories, it is easy to see that there is more to their relationship with the livestock they raise than simply "looking after them". There is an emotional component present in these relationships as well.

Although we live in a society where livestock producers are often stereotyped as "callous", or "uncaring", the evidence provided by these youth shows how deeply they feel about their livestock. Their tenderness contrasts sharply with the stereotype, but is supported by the small body of research that exists investigating the relationships between adult producers and their livestock. Extant literature in the area of human-livestock interactions suggests that it is not just youth who experience raising and letting go of livestock as emotionally complicated. Colter Ellis (2014) described the profession of ranching as "emotionally labor intensive" (Ellis, 2014: 95). Even though the current study was focused on youth, evidence was present when visiting farms that adult

livestock producers feel an emotional connection to their livestock. For instance, one participant pointed out a pen of ewes on their farm and explained that they were her father's. She explained that their genetics went back to a ewe that had done very well at the Missouri State Fair decades ago when her father was in 4-H. She said her dad "just had to keep them around".

Ranchers use strategies to navigate the emotional tension associated with raising and selling livestock (Ellis, 2014). Adult ranchers feel emotionally attached to their livestock, and use their sense of responsibility to care for livestock, the belief that animals are meant to be used to produce food (dominion), religious beliefs, and the life cycle (where everything starts over again on the farm) to deal with their emotions (Ellis, 2014).

In the current study, youth eluded to these same strategies that adult livestock producers use. An additional method used by parents to help ease the feelings of loss when a market animal is shipped that emerged in this study is purchasing or allowing the youth to produce another animal (for example, a heifer) that they could keep and breed. For the youth in this study, this purchase typically occurred in the earliest years of 4-H. This strategy emphasizes how important the "*circle of life*" is to livestock producers; as one participant stated, "*it's more about the long-term*". Even the way the participants conclude their stories of losses and disappointments suggest that they are looking ahead; they tend to conclude their narratives with phrases like "that's just the way it goes sometimes..." and "there's always next year" (AM on farm interview, 1 143).

There has recently been more interest in the stress related to working in animal-related occupations. It is hard to ignore the statistics: Agriculture maintains one of the highest rates of mortality of any occupation, and farmers have one of the highest rates of suicide

(Fraser, Smith, Judd, Humphreys, Fragar & Henderson, 2005). Suicide rates are also significantly higher for veterinarians than the general U.S. population (Tomasi, Fechter-Leggett, Edwards, Reddish, Crosby & Nett, 2019). A 2015 scoping review conducted by Scotney, McLaughlin, and Keates suggests that occupational stress and euthanasia-related strain in people who care for animals is high. It is expected that compassion fatigue, “a unique form of burnout that affects people in caregiving fields” (Joinson, 1992) may contribute to the high suicide rate of those who care for animals. Evidence from multiple studies suggest that other occupational stressors such as financial constraints, workload, long term care of animals with chronic disease, feeling like you failed an animal, and end-of-life care can also induce compassion fatigue (Stamm, 1995; Figley, 1995; Arluke, 1991; Figley & Roop, 2006; Rollin, 1987; Black, Winefield, & Chur-Hansen, 2011; Foster & Maples, 2014; Baran, Rogelber, & Lopina; 2012).

There is no denying that working closely with livestock and other animals on a daily basis is emotionally intense. Although youth involved in livestock production don't do the same type of work as a shelter employee, full-time rancher or veterinarian might, they do encounter situations where they care for animals in suffering and in death. Although not specifically asked, each participant recalled a story that involved a disappointing and unexpected loss of a production animal or its offspring. These stories were told differently than stories about selling market animals.

Market exhibitors go into their projects knowing that the project will conclude at the end of the season with the animal going into the food chain for human consumption. However, it seems the unexpected losses, which sometimes include trying to help an

animal that is suffering, are felt in a different way. Jon's story of his wethers slowly dying of tetanus in the yard over a two day period illustrates this grief.

These unexpected losses impact the future plans that the young livestock producer had made for the future. For example, after an outstanding first year of raising and selling piglets to 4-H and FFA members, Ben's plans were demolished when he was only able to save one piglet the following year. This type of loss is not only emotionally draining, but also greatly impacts the financial status of the youth livestock producer's project. The weight of financial strain can compound the burden of loss felt by producers.

Some have suggested that cultural factors, such as ethnic background, social class, and religion, play a role in determining children's understanding of and response to loss. However, this is an area in which research is very limited (Osterweis, 1984). Further research is needed to more fully understand the unique stressors and emotional dissonance associated with raising livestock for people of all ages. This data can help inform stakeholders in the design and delivery of strategies that can help strengthen emotional resilience of livestock producers, both youth and adult.

Rather than shielding children from the adversity surrounding livestock production, educators, parents and volunteers need to help prepare them for it. Perhaps one easy recommendation to implement that promotes emotional resilience is simply providing young people with a space to talk (either face-to-face or virtually). In a study of adults who worked with animals in a biomedical facility, respondents identified engaging in conversation with people facing the same challenges in their work as a helpful coping mechanism (Davies & Lewis, 2010). By providing youth the space to talk

about birth and death, acknowledging feelings of loss and tensions associated with raising livestock, we can help normalize their feelings as a community of livestock producers.

Livestock project curriculum should be revised to include anticipatory guidance that helps youth and families deal with the losses and emotional tension associated with livestock production. To ensure credibility, it will be essential for educators, youth development professionals and content experts on the development team to understand the meaning of experiences for those embedded in the culture of livestock production. It will be imperative that adults involved in the development of this programming have extensive experience with livestock production themselves. Furthermore, youth who live in this phenomenon should be engaged in the program development/adaptation process. The ways the ages and stages of youth development impact how youth think about the death of livestock should be considered. It is also critical to provide training regarding the socio-emotional components of livestock production to adult leaders and parents. By promoting the deeper understanding and management of emotions associated with livestock production, we can work to promote resilience and productivity of those who are involved in livestock production.

### **Communicating about animal agriculture**

Within the culture of agriculture, youth develop shared behaviors and customs learned from those around them. Indeed, the culture to which a person belongs can be an important source of pride and self-esteem that creates a sense of belonging. (Tajfel & Turner, 1979). According to social identity theory, people work to elevate the group to which they belong (“the in group”) or hold prejudice toward “the out group”. Thus, the world becomes divided between those perceived as similar to us and those perceived as

different from us. (Tajfel & Turner, 1979). This study illuminates the “us” versus “them” feelings experienced by long-standing youth livestock producers in the 4-H program .

Ben’s story of his exchange with his teacher at his suburban high school is an excellent illustration of the challenges with social identity that youth livestock producers may face. 4-H and FFA members who are involved in livestock production are frequently in contact with people who do not understand their way of life. This may be even more likely to occur when the livestock producer lives in or near an urban area, where their lifestyle may be either villainized or romanticized. In a sense, youth raised in agriculture develop a bi-cultural identity; they become a combination of “the ag world” and “the suburban-urban world”. They may face conflict when trying to assimilate the “agricultural” and “suburban/urban” cultures in order to function successfully in society. Identity plurality can be emotionally and mentally exhausting for people of all ages (Kramer, Lau-Gesk & Chiu, 2009; Fitzsimmons, 2013). Elder and Conger (2000) also note that Iowa farm children and parents also find themselves “straddling the world of agriculture and non-farm life” (p. 222). This was particularly common when less than half of the family’s income is earned from the farm (Elder & Conger, 2000).

Communicating across cultures is extremely challenging; every culture has its own norms that those within the culture have absorbed from a young age. Positive youth development livestock curriculum and programming should be designed around research-based information about how to most effectively communicate about livestock production with those who have been raised outside of agriculture. Curriculum and programming should also offer guidance regarding how to respond when approached by those who wish to eliminate animal agriculture. Additionally, research should be conducted to

explore what it means to youth livestock producers when they are criticized for their involvement in animal agriculture, particularly by those who are in positions of power. When a young person's cultural identity is wrapped up in livestock production, criticism or questions of ethics from adults in authority could be very impactful.

This issue not only impacts youth involved in livestock production, but also the agriculture industry as a whole. Exploring the social identities and cultures of farmers and ranchers and how they “walk the line” between the agricultural world and “the other world” is critical for the agriculture industry to explore. One key to successfully communicating with consumers about their food may be developing an understanding of, and respect for, cultural differences.

### **Conclusion**

Data derived from hermeneutical analysis are intended to help stimulate thinking in new ways, raise questions, and recognize aspects of a phenomenon that have been previously overlooked in research (Vandermause, 2011). It is important to remember that the purpose for such an ontological approach to research is very different from positivist research that generalizes facts. Results from this study are not to be considered a distillation of meaning that applies to all youth livestock producers in all situations. Rather, this data should be used to help consider possibilities for understanding aspects of livestock production that could be relevant and useful to a variety of individuals and organizations for a variety of purposes.

By generating interpretations of the meaning of livestock production, we are able to uncover what livestock production is about in a way that encompasses logic, ethics, and emotions. Although this study occurs with a small number of participants at one

point in time, it helps to illuminate patterns that are common across young people who spend their childhoods surrounded by the phenomenon of livestock production.

The culture of livestock production consists of two overarching patterns that are distinctly different; paradoxical in fact, yet tightly interwoven. The fabric that creates the first pattern of the culture (livestock production as a culture of care and connection) is quite transparent. Like a crepe curtain blowing in the breeze on a summer afternoon, it is pleasant and refreshing. It summons a sense of days gone by; nostalgia. This pattern is the story the agriculture industry is proud of and comfortable telling.

Veiled behind much heavier draperies is the second pattern (livestock production as a culture of loss and misunderstanding). Persons living outside of this culture see little evidence of the emotional work that takes place behind these curtains, which are tightly drawn most of the time. Indeed, typically all they can see is the heavy curtain. When the heavy draperies do move apart, it is usually only briefly; perhaps only long enough for one to see a glimpse of the tension, dissonance and emotional ambiguity involved in livestock production.

Patterns illuminated in this research will help inform and enhance both formal and non-formal educational experiences surrounding livestock production. This study also adds to the agriculture industry's understanding of how youth experience growing up in livestock production. Finally, this study provides insight into the importance of continuing to explore the ways livestock producers engage with the world about agriculture.

## APPENDIX A



Hello,

My name is Rebecca Mott, and I'm conducting a research project on what 4-H livestock projects mean to members. Like you, I spent my childhood involved in 4-H livestock projects. I would like to invite you to participate in my research project since you are a junior or senior in high school who has been involved in a 4-H livestock project for between 8 and 10 years. This project will include individual interviews, observations of you with your livestock, and an activity called photo elicitation. If you decide you would like to participate in my research project, here is what I will ask you to do.

1. I will come to your home and ask you to participate in a photo elicitation activity. I will ask you to show me some pictures that will help me understand your 4-H livestock projects (from your earliest days of 4-H to the present time). If you have other items you would like to show me that might help me understand, that's okay too. I will invite you to tell me about your pictures. This activity will probably last about an hour.

2. Several weeks later, I will come back to visit with you again. This time I would like to interview you out with your livestock (ie. in the barn, your pasture, etc). I will ask you to show me and tell me about your livestock. This activity will probably take between one and two hours.

3. Finally, I will come watch you in action at a show or other livestock-related activity (we will set up the time together, of course). I will mostly be observing you from a distance, but will also be available if you think of anything else you would like to tell me to help me understand your project. I will plan to observe you at this show or event for between one and two hours.

**If you decide to participate in this project, please complete the assent form attached to this email along with the photo/audio release form. Please also ask your parent to sign the consent form. You may send all of these forms back to me at [mottr@missouri.edu](mailto:mottr@missouri.edu)**

Your participation is greatly needed and may benefit others who will enroll in 4-H livestock projects in the future. Also, participating in this research project will allow you to tell about your experiences as a long-standing 4-H livestock project member. You will have an opportunity to help people understand what it is like to raise livestock as a member of the 4-H organization. Thank you in advance for your consideration of this special research project. I will look forward to hearing from you soon.

Sincerely,

*Rebecca Mott, M.S.*

**Senior Research Associate**

College of Human Environmental Sciences

**Instructor**

Department of Agricultural Education and Leadership

301 Gwynn Hall

Columbia, MO 65201

(573) 882-1208

[motr@missouri.edu](mailto:motr@missouri.edu)

## **APPENDIX B**

### **CONSENT FORM TO PARTICIPATE IN A RESEARCH STUDY**

**INVESTIGATOR'S NAME: REBECCA MOTT**

**PROJECT # 2011238C**

**STUDY TITLE: WHAT IS THE MEANING OF LIVESTOCK PRODUCTION FOR LONG-STANDING 4-H MEMBERS? : A HERMENEUTIC PHENOMENOLOGICAL STUDY**

#### **INTRODUCTION**

I am contacting you to invite you to participate in a University of Missouri research project. This project is being conducted to uncover what it means to youth to be involved in livestock production throughout their childhood and explore how this experience impacts other areas of their lives. You have the right to be informed about the study procedures so that you can decide whether you would like to participate in this research project. This form may contain words that you do not know. Please ask me to explain any words or information that you do not understand.

You have the right to know what you will be asked to do so that you can decide whether or not to participate in the project. Participation is completely voluntary. You do not have to participate if you do not want to. You may decline to be in the project and nothing will happen. If you do not want to continue to be in the project, you may stop at any time without penalty.

I ask that you read this form and ask any questions that you may have before deciding whether or not you would like to participate in this project.

#### **DESCRIPTION OF THE RESEARCH**

You have been invited to be in this study because you meet the following criteria:

- high school juniors or seniors
- enrolled in 4-H livestock projects for between 8 and 10 years (Beef, Swine, Sheep and/or Goats)
- active in livestock production (own, breed and raise offspring)

4-H'ers who are juniors or seniors in high school will be selected because they are nearing their last years in the 4-H program and are preparing to make important career decisions. Additionally, they are at an age where they are able to be reflective about their own experiences, communicate clearly, and think critically.

PROCEDURES OF THE STUDY IRB Approved Date 4/23/2018 Expiration Date 4/23/2019  
Project #2011238

1. Photo elicitation activity at participant's home (participant will be invited to share photos from their early livestock experience with the researcher and talk about these photos). Scans will be made of the photographs. Interview will be audio recorded.
2. In-depth interview on member's farm (or where they house their livestock). Interview will be audio recorded.
3. Observation/field notes of 4-H'er in action at a show or other livestock event (along with closing question). Closing interview question will be recorded.

**HOW LONG WILL I BE IN THE STUDY?**

This study will take place during the months of April-August of 2018. It will be expected that your involvement will be between 3 and 5 hours total. You can stop participating at any time without penalty.

**WHAT ARE THE BENEFITS OF THE RESEARCH?**

Narratives from youth involved in this project will be valuable in helping those who have not had experiences with livestock gain a deeper understanding of precisely what it is that makes this phenomenon meaningful. It may also enhance understanding of why the human-animal connection seems to promote affective skill development for youth. Information uncovered in this study may be useful for the evaluation of current non-formal educational practices surrounding livestock production. Finally, it may help to refine the 4H program for the future and to provide meaningful experiences for teens that may increase the numbers and quality of programs.

**WHAT ARE THE RISKS OF THE RESEARCH?**

It is not expected that this study will involve risks any greater than those encountered in daily life.

**PARTICIPATION IS VOLUNTARY**

Participation in this research study is voluntary. You may refuse to participate or withdraw from the study at any time. You will not be penalized in any way if you decide not to participate or to withdraw from this study.

**WHAT ABOUT CONFIDENTIALITY?**

We will do our best to make sure that your answers to these questions are kept private. Information produced by this study will be stored in the investigator's file and identified by a code number only. The code key connecting your name to specific information about you will be kept in a separate, secure location. Information contained in your records may not be given to anyone unaffiliated with the study in a form that could identify you without your written consent, except as required by law.

You will be *audio recorded and will share photographs of your livestock projects* during this study. You will be given the opportunity to view the photographs and listen to the audio tapes before you give your permission for their use if you so request.

**WHO CAN I TALK TO ABOUT THE STUDY?**

If you have any questions about the study or if you would like additional information, please call Rebecca Mott at 573-882-1208 or email [mottr@missouri.edu](mailto:mottr@missouri.edu). You may contact the University of Missouri Institutional Review Board (which is a group of people who review the research studies to protect participants' rights) if you have questions regarding your rights as a research participant and/or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study. The IRB can be reached directly by telephone at (573)882-3181 or e-mail [umcresearchcirb@missouri.edu](mailto:umcresearchcirb@missouri.edu)

**CONSENT**

I have read this consent form and have been given the opportunity to ask questions. I consent to participate in this study. I understand that participation is voluntary and I can withdraw my at any time without penalty or loss of benefits. You will be informed of any significant new findings discovered during the course of this study that might influence your health, welfare, or willingness to continue participation in this study.

Student Signature:

Date: \_\_\_\_\_

***You will be given a copy of this consent form to keep for your records.***

## **PARENTAL CONSENT FORM TO PARTICIPATE IN A RESEARCH STUDY**

**INVESTIGATOR'S NAME: REBECCA MOTT, JON SIMONSEN**  
**PROJECT # 216473**

**STUDY TITLE: WHAT IS THE MEANING OF LIVESTOCK PRODUCTION FOR LONG-STANDING 4-H MEMBERS?**

### **INTRODUCTION**

I am requesting permission for your child be allowed to participate in a University of Missouri research project. This project is being conducted to uncover what it means to youth to be involved in livestock production throughout their childhood and explore how this experience impacts other areas of their lives. You have the right to be informed about the study procedures so that you can decide whether you want to consent for your child to participate in this research project. This form may contain words that you do not know. Please ask me to explain any words or information that you do not understand.

You have the right to know what your child will be asked to do so that you can decide whether or not to include your child in the project. Your child's participation is voluntary. They do not have to participate if they do not want to. You may refuse for your child to be in the project and nothing will happen. If your child does not want to continue to be in the project, they may stop at any time without penalty or loss of benefits to which they are otherwise entitled.

I ask that you read this form and ask any questions that you may have before allowing your child to participate in this project.

### **DESCRIPTION OF THE RESEARCH**

Your child has been invited to be in this study because he/she meets the following criteria:

- high school juniors or seniors
- enrolled in 4-H livestock projects for between 8 and 10 years (Beef, Swine, Sheep and/or Goats)
- active in livestock production (own, breed and raise offspring)

4-H'ers who are juniors or seniors in high school will be selected because they are nearing their last years in the 4-H program and are preparing to make important career

decisions. Additionally, they are at an age where they are able to be reflective about their own experiences, communicate clearly, and think critically.

#### **PROCEDURES OF THE STUDY**

If you agree to have your child be a part of the study, they will be asked to do the following things:

1. Photo elicitation activity at participant's home (participant will be invited to share photos from their early livestock experience with the researcher and talk about these photos). Scans will be made of the photographs. Interview will be audio recorded.
2. In-depth interview on member's farm (or where they house their livestock). Interview will be audio recorded.
3. Observation/field notes of 4-H'er in action at a show or other livestock event (along with closing question). Closing interview question will be recorded.

#### **HOW LONG WILL MY CHILD BE IN THE STUDY?**

This study will take place during the months of April-August of 2018. It will be expected that your child's involvement will be between 3 and 5 hours total.

#### **WHAT ARE THE BENEFITS OF THE RESEARCH?**

Narratives from youth involved in this project will be valuable in helping those who have not had experiences with livestock gain a deeper understanding of precisely what it is that makes this phenomenon meaningful. It may also enhance understanding of why the human-animal connection seems to promote affective skill development for youth. Information uncovered in this study may be useful for the evaluation of current non-formal educational practices surrounding livestock production. Finally, it may help to refine the 4H program for the future and to provide meaningful experiences for teens that may increase the numbers and quality of programs.

#### **PARTICIPATION IS VOLUNTARY**

Participation in this research study is voluntary. You may refuse to allow your child to participate or withdraw your child from the study at any time. Your child may also refuse to participate or withdraw themselves at any time. Your child will not be penalized in any way if you decide not to allow your child to participate or to withdraw your child from this study.

#### **WHAT ABOUT CONFIDENTIALITY?**

The following techniques will be used to protect against the loss of confidentiality: (a) using pseudonyms (chosen by the participant) in electronic and transcribed data, (b) storing data on password-protected computer in a locked office, (c) storing the master list of demographic information in a separate locked cabinet from the narrative data. d). Audio recordings of the students' interviews will not be shared. The audio recording will be listened to only by researchers to help them gain insight on livestock producers' experiences.

**WHO CAN I TALK TO ABOUT THE STUDY?**

If you have any questions about the study or if you would like additional information, please call Rebecca Mott at 573-882-1208 or email [mottr@missouri.edu](mailto:mottr@missouri.edu). You may contact the University of Missouri Institutional Review Board (which is a group of people who review the research studies to protect participants' rights) if you have questions regarding your child's rights as a research and/or concerns about the study, or if you feel under any pressure to enroll your child or to continue to participate in this study. The IRB can be reached directly by telephone at (573)882-9585 or e-mail [umcresearchcirb@missouri.edu](mailto:umcresearchcirb@missouri.edu)

**CONSENT**

I have read this parental consent form and have been given the opportunity to ask questions. I give my permission for my child to participate in this study. I understand that, in order to for my child to participate, they will need to be able to give their consent also. I understand that participation is voluntary and I can withdraw my child at any time without penalty or loss of benefits. You will be informed of any significant new findings discovered during the course of this study that might influence your child's health, welfare, or willingness to continue participation in this study.

Parent/Guardian signature \_\_\_\_\_ Date: \_\_\_\_\_

Child's Name: \_\_\_\_\_

*You will be given a copy of this consent form to keep for your records.*

## APPENDIX C

### Photo Elicitation Activity Protocol

#### Opening statement:

I'm here with \_\_\_\_\_, and we are getting ready for our very first visit together, which is the photo elicitation activity. \_\_\_\_\_, is it okay with you if I record our conversation today so that I can listen to it again as I work on my research project?

Great, thank you...

#### Photo Elicitation Questions:

1. Tell me about this picture.
2. What else do you remember?
  - Follow up questions/prompts will follow in the direction the participant leads the conversation.

#### Conclusion:

\_\_\_\_\_, would it be okay if I scan these photographs so that I can refer back to them and remember our conversation as I work on my research project?

Great, \_\_\_\_\_, thank you for talking with me today.

## APPENDIX D

### On-farm interview protocol

*Introduction: Alright, \_\_\_\_\_ I'm doing this study because I'm interested in hearing your story. And tonight I want to focus on what being involved in 4-H livestock projects means to you and since I want to hear your story, I will not interject much into the conversation. I may ask some follow-up questions if there's something I'd like to know more about, but really I'm just here to listen.*

**Question 1: Can you tell me about a situation that stands for you that truly describes what it means to be a livestock producer?**

**Question 2: One more question for you....What has been being a 4-H livestock project member from the time you joined the organization till today been like for you?**

I used these follow-up questions *only if* the conversation naturally unfolded in these directions.

- Tell me the story of how you became involved in 4-H livestock production.
- Do you remember some of your first experiences in 4-H livestock projects? Tell me about that.
- What have been some of your biggest challenges and successes in the 4-H livestock projects?
- Who has helped and supported you with your livestock projects through the years? How did this happen?
- How did you learn what you have learned about livestock over the past 8-10 years? What did this process look like?

- When you need expert advice or have very difficult questions about your projects, where do you go for help? How do you know who to turn to?
- What sorts of barriers do kids who want to raise livestock face?
- What are your suggestions for ways that 4-H could help improve livestock projects for youth?
- What are your plans with your livestock when you age out of 4-H?
- Are there other things you have learned from your livestock project than how to take care of livestock? Can you talk about some of those things?
- Has being a livestock producer influenced your thinking about careers? How so?

## **APPENDIX E**

### **Interpretive Team Protocol**

1. Interviews will be made available to team on Box.
2. Team members who have not participated in an interpretive session before will meet with me. I will show them an interpretation from another project. We will talk about how to go about writing an interpretation.
3. Each team member will be asked to write a one page interpretation of each interview (we will attempt to do one each week). Interpretations should consist of a description of and reflection on of what they read in the interview. Close attention should be paid to comments that left a particular impression or that were fascinating or surprising. Team members often find it helpful to jot notes in the margin of the transcript before writing the interpretation. Frequently, direct quotes from the participant are used to support what the interpretive team members is saying.
4. A weekly phone call will be held to discuss interpretations. Each team member will read his/her one page interpretation to the group. I will facilitate the calls and lead the discussion about the interpretations.

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## VITA

Rebecca was raised on a fifth generation family farm in the rolling hills of Warren County, Missouri. She was very involved with her family's Registered Polled Hereford cattle operation throughout her childhood. She attended the University of Missouri-Columbia, graduating with a Bachelor's degree in Music Education in 1996. Upon graduation, she and her husband Jason returned to his family's meat business in west central Missouri. Becky spent several years teaching K-12 music in the area, but eventually made the decision to teach part time and open a music studio out of her home in order to spend more time with her two young boys. During this time, her family was also active with 4-H, FFA, Farm Bureau's Young Farmers and Ranchers, and the Missouri County Cattlemen's Association while operating an 80 acre farm.

In 2007, the Mott family relocated back to Columbia, Missouri for Jason to pursue a job opportunity. Becky began teaching social studies, language arts, and religion classes to middle school students at a parochial school in the Columbia area, and enjoyed this position for five years.

In 2012, Becky took a position with University of Missouri Extension, and made the decision pursue a graduate degree in the area of agriculture. She earned her Master's in Agricultural Education and Leadership from MU in 2015. Her work with MU Extension focuses on program evaluation. She also directs a spring break career and college exploration camp for middle school students. In addition to her Extension duties, Becky teaches classes on program planning and delivery, qualitative research, and program evaluation for the Department of Agricultural Education and Leadership at the

University of Missouri. She considers it an honor and privilege to spend each day working citizens of her home state and students at her alma mater.

Jason, Becky and their grown sons Andy and Aaron continue to enjoy time working together on their own family farm in Clark, Missouri, which is home to a small herd of Registered Polled Hereford cattle and a flock of Hampshire sheep.