IMPACTS OF LIVESTOCK AT FAIRS ON PUBLIC PERCEPTION OF ANIMAL AGRICULTURE

A Thesis

by

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ABSTRACT

Due to increased removal from the agricultural industry, the non-farming publics' ability to gain firsthand experiences with agriculture may be limited. The knowledge gained from firsthand experiences may be restricted to encounters at fairs across the country. Consequently, agriculturalists interaction with the non-farming public regarding animal agriculture may be reduced to these experiences. Few studies exist about the impact of livestock exhibits at fairs on public perception. This study was a two-phase, sequential mixed methods study, with the first phase being qualitative in nature and the second a quantitative approach using social cognitive theory. Fairgoers, who attended the livestock exhibits at Rodeo Austin, San Diego County Fair, and State Fair of Texas, were asked to describe their response to engagement strategies used by fairs. Residents in Colorado, California, and Texas, were asked to describe to the their perceptions of fairs, the environment at fairs, and educational information being presented at fairs through a self completed questionnaire. Overall, findings indicate fairgoer attitudes of the livestock exhibits were positive, the public enjoys interaction with agriculturalists, and that sign usage may not be the best way to deliver educational information.

DEDICATION

I would like to dedicate this thesis to my family and friends. Thank you for your continuous love and support and for always encouraging me to be the best I can be. You always believed in me, even when I did not believe in myself.

ACKNOWLEDGEMENTS

This thesis would not be possible without the guidance and encouragement of many people. First, and foremost I would like to thank my mom. You always knew just what to say in order to make me keep pushing though. From a young age you always taught me that I do not have to be perfect to succeed; rather to be the best me I can be. More importantly, you have always been there when I needed a shoulder to lean on, and have always supported any decision I have made. I am so lucky to have a mom like you!

To the rest of my family, thank you for the continuous love and support throughout my life and college career. The phone calls, and letters of support meant more than you will ever know. Thank you for putting up with my crazy schedule and my quick trips home that often involved leaving early due to a project deadline.

To my friends, thank you for the notes, and the endless advice. I cannot begin to count the number of texts, and phone calls we have had in the past two years. Most complain when asked to edit a thesis, but none of you ever did. No matter the situation or circumstance you were always there with open hearts, and I cannot tell you how much each of you mean to me. I am lucky to call each of you friends and have you in my life.

To Brad, thank you for your constant love, and encouragement. While the majority of our relationship has been spent apart, words cannot express how much your support has meant to me. Even from states away you were always there when I needed

you most. You have truly made me a better person, and I cannot wait to see what the future holds.

Finally, to my committee, Dr. Scott Cummings, Dr. Chris Skaggs, and Dr. Jeff Ripley, thank you for the guidance and support especially during my last few months. Dr. Cummings, thank you for not only stepping in when I needed you most, but also for being an amazing boss the last year. Dr. Skaggs, thank you for sticking with me through this entire process, and for your knowledge and advice. Dr. Ripley, thank you for jumping on board with no questions asked and for providing a positive outlook. I am blessed for the opportunity to work with each of you!

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CHAPTER I

INTRODUCTION AND BACKGROUND

Agriculture affects Americans' daily lives in a variety of ways. With society becoming increasingly removed from agriculture, it is important that agriculturalists educate and engage consumers in practices involved in the production of food, fiber, and natural resources. Agricultural fairs provide a venue to actively engage the public and educate them about agricultural entities through various activities. Fairs also act as an outlet for agriculturalists and the non-farming public to come together and interact face-to-face.

Consumers are becoming less aware and increasingly removed from agriculture, an industry used in everyday life (Turnbull, 2002; Duncan & Broyles, 2006). Agriculture is involved in many day-to-day activities. Thus, it is important for consumers to have a basic understanding of the importance of agriculture (Duncan & Broyles, 2006). The non-farming public should possess a basic understanding for the importance of agriculture. Turnbull (2002) said, "Agricultural literacy is now more important than ever, as the population gets further removed from the farm" (p. 21). Agriculture is relied on heavily, but a lack of general knowledge exists. With this lack of knowledge existing the need for agricultural influenced education is increasing. Agriculturalists have begun to realize the need for agricultural educational activities directed at the average consumer (Turnbull, 2002).

With farmers becoming fewer and consumers becoming increasingly removed from agriculture, the non-farming publics' perceptions are actively sought yet rarely known (Wachenheim & Rathge, 2002). It is becoming increasingly apparent that non-farming publics care about their economy and environment along with the impact agriculture has on it (Wachenheim & Rathge, 2002). Although consumers' care about the impact agriculture has on society, they have remarkably little knowledge regarding modern agriculture practices; "To accurately evaluate the need for educational efforts we must first identify existing gaps between reality and perceptions" (Wachenheim & Rathge, 2002. p. 29). A disconnect between the agriculture industry and the non-farming public continues to grow. Agriculturalists must take on the responsibility of educating the non-farming public about the role of production agriculture (Grimes, 2010).

Purpose of Study

The central aim of this study was to determine if the presence of livestock at fairs had an impact on the publics' perception of animal agriculture. The intent of this two-phase, sequential mixed methods study was to explore and describe the dimensions of public perception of animal-based agriculture. The first phase was qualitative in nature exploring fair patron's perception of animal agriculture and their engagement in the fairs' educational activities. The reason for collecting qualitative data was to provide a thick, rich description of fair goers and their interaction with animal agriculture at fairs. In this study, a quantitative instrument was developed to measure the relationship

between *Type of Person* and *Environment in which Each Person Functions* and *Perceptions of Animal-Based Agriculture*.

Mixed method studies generally consist of one project being the core and the other being the supplemental strategy (Morse, 2010). Mixed methods also include research collected from different populations using different types of data (Morse, 2010). Morse (2010) defines a multiple methods study as conducting two or more studies, using differing methods while addressing different parts of the same question. Even though findings from both studies are complementary in nature, they are also complete and can be published as stand-alone articles. A mixed method approach was chosen for this study because each phase is dependent on the other and plays a vital role in the project.

Objectives

Two research aims with corresponding research questions guided this study. These are provided below.

Research Aim One: The goal in this component of the study is to explore how the public responds to engagement strategies (e.g. livestock displays, posters, signs and animal related activities) in their typical setting and in a fair setting.

RQ1: Describe how the public responds to engagement strategies

Research Aim Two: The aim of this component of the study is to describe the public perceptions of fairs, the environment at fairs, and educational information being presented to the public at fairs.

RQ2: What are the public perceptions of fairs?

RQ3: Describe the public perceptions of animals, based on animals' mental capacity, attractiveness, and cost benefit.

RQ4: Describe the environment at fairs, based on sources of information, exposure to information sources, and personal experience with animals.

RQ5 Describe the educational information being presented to the public at fairs based on the public's interaction with surroundings and their ability to seek out knowledge.

For simplicity, the research design, soundness of measures (validity, reliability, or trustworthiness), populations and samples, data collection procedures, and data analyses will be divided into two sections: qualitative and quantitative.

Significance of Study

With society becoming further removed from agriculture, fairs provide a unique opportunity to impact public perception of animal agriculture through livestock exhibits and events. This study will help agriculturalists and fair staff to learn what the non-farming public finds engaging, to allow for better communication between the farming and non-farming publics.

Limitations

This study is limited in both its spread and its application to a larger scale. Qualitative data collection was limited to those individuals who visited the livestock exhibits at Rodeo Austin, San Diego County Fair, and State Fair of Texas on the specified dates. Quantitative data answers were self-reported, and no effort was made to validate the accuracy of the data. Questionnaires, cover letters and brochures all

contained the Texas A&M University logo, which could impact response to research questions.

Definition of Terms

Agriculture- The cultivation of soils, crop production, the raising of livestock, and also the marketing strategies used as a result of these products.

Animal Agriculture- The science of raising livestock in varying degrees for production agriculture.

Exhibitors- A person, who shows livestock at livestock competitions, whether adult or child.

Fairs- A gathering of people to present or exchange goods, to show or display livestock and to enjoy entertainment of arts and music.

Fair Staff- A person employed by or interning at a fair.

Impacts- Having a strong effect on someone or something through personal experience.

Livestock- Animals such as cows, chickens, pigs, sheep, rabbits, and horses that are raised and used by humans, such as being exhibited at a fair.

MELISSA Database- A system used for geographical coding and it is a manageable way to gain contact data based on geographic location.

Public Perception- Any person's viewpoint or belief due to prior knowledge or experiences.

Red 'n Black- A professional notebook with a black and red cover.

Reflective- Notes taken about oneself, the work being done and the way they relate to their surroundings.

Reflexive- Notes taken to understand strategies and researcher roles in relation to settings and surroundings.

CHAPTER II

LITERATURE REVIEW

Connecting the Public with Agriculture

Concerned with the perception the non-farming public has on the agriculture industry, agriculturalists are beginning to develop strategies to impact these perceptions. Agricultural societies are beginning to focus on educating the public in a variety of agricultural sectors, with emphasis on encouraging the public to view agricultural in a certain way (Holloway, 2004). As society has become generationally removed from agriculture, fairs have become the most popular venue for the non-farming public to encounter agriculturalists. With farmers, livestock, and the non-farming public all in one setting with direct contact, unfavorable perceptions of agriculture can be confronted (Holloway, 2004).

Fairs offer a place for consumers to see, touch and learn about the various aspects of agriculture. Fairs aim to strengthen agriculture and spark interest (Turnbull, 2002). Educational exhibits at fairs provide endless opportunities to learn and connect with the agriculture industry. These exhibits have the ability to reach audiences not normally sought after in agriculture education; they target consumers who are unfamiliar with agriculture practices. Educational activities at fairs allow visitors to experience a variety of what the industry has to offer (Turnbull, 2002).

Fairs began as a venue to sell and trade goods but evolved into places of education (Avery, 2000; Lauzon, 2010). “America’s fairs have evolved from a

marketplace to an educational event" (Avery, 2000, p.83). With fairs being a popular community event with large numbers of attendance they act as prime venues for educational exhibits. The potential for learning at a county fair is endless, from seeing livestock, to talking one-on-one with a farmer (Lauzon, 2010). As Avery (2000) states, the county fair brings agriculturalists and the non-farming public together by being an annual event that provides educational, recreational, and celebratory events. By having educational exhibits and activities present at fairs, agriculturalists are encouraging fair patrons to become involved and learn what the agriculture industry has to offer (Avery, 2000; Lauzon, 2010).

Agriculturalists and the non-farming public hold a unique opportunity to meet face-to-face in a neutral setting and share ideas and experiences. Agriculture holds an important role in society, which is why it is valuable for everyone to have a minimal understanding of what the industry involves (Avery 2000). Although fairs are historically a place for entertainment and education, fair employees are always faced with the challenge of a changing society. For fairs to be relevant in their communities, fairs must be continually adapting to a changing society (Avery, 2000).

Conceptual Guidance

Bandura (2001a) developed three major categories used to organize the literature based on determinants of consumer perception and behavior. To better understand this situation, Bandura's social cognitive theory will conceptually guide this inquiry. Bandura proposed that human functioning is not one-dimensional; instead, it is "the product of reciprocal determinism" of personal, behavioral and environmental (Pajares et

al., 2009, p. 284). People are not only reactive organisms constructed by inner strengths and environmental situations, they are self-regulating, self-reflective, and proactive (Bandura, 2001). A general discussion of media influence is presented first, followed by a description of Bandura's (1986) determinants (personal, behavioral, and environmental), and then, finally, a description of influential demographics.

Media Influence

According to Bandura (2001), "Because of the influential role the mass media plays in society, understanding the psychosocial mechanisms through which symbolic communication influences human thought, affect and action is of considerable import" (p. 265). As a conceptual framework, social cognitive theory can be used to explain patterns of media representation (Pajares et al., 2009, p.288). Indicators that we live in a modernized society, media is everywhere; thus consumers learn industry ideals, accepted practices, and even how to act (Bandura, 2001). Media becomes an important outlet for observational learning and the promotion of certain behaviors and attitudes, due to consumers' ability to think abstractly (Bandura, 2001). The content within this media must attract and entertain audiences. For consumers to be positively affected by media content, it must gain their attention in a realistic, relevant way (Pajares et al., 2009, p. 287).

Similar to the media, fairs are communications outlets—in essence, environments—for agriculturists to convey messages to the non-farming public. How agriculturalists approach creating a fair environment will presumably affect how the non-farming public receives the messages agriculturalists intend to convey.

Personal Determinants

Collectively, personal determinants comprise the belief in self-efficacy and adaptation or change through impact of other determinants. Bandura (2001) said consumer behavior is something a person thinks about before certain events and situations happen. Because these events have not actually occurred yet, they can have no influence on current inclination and motive. A diagram of personal determinants included in this study is portrayed in figure 1.

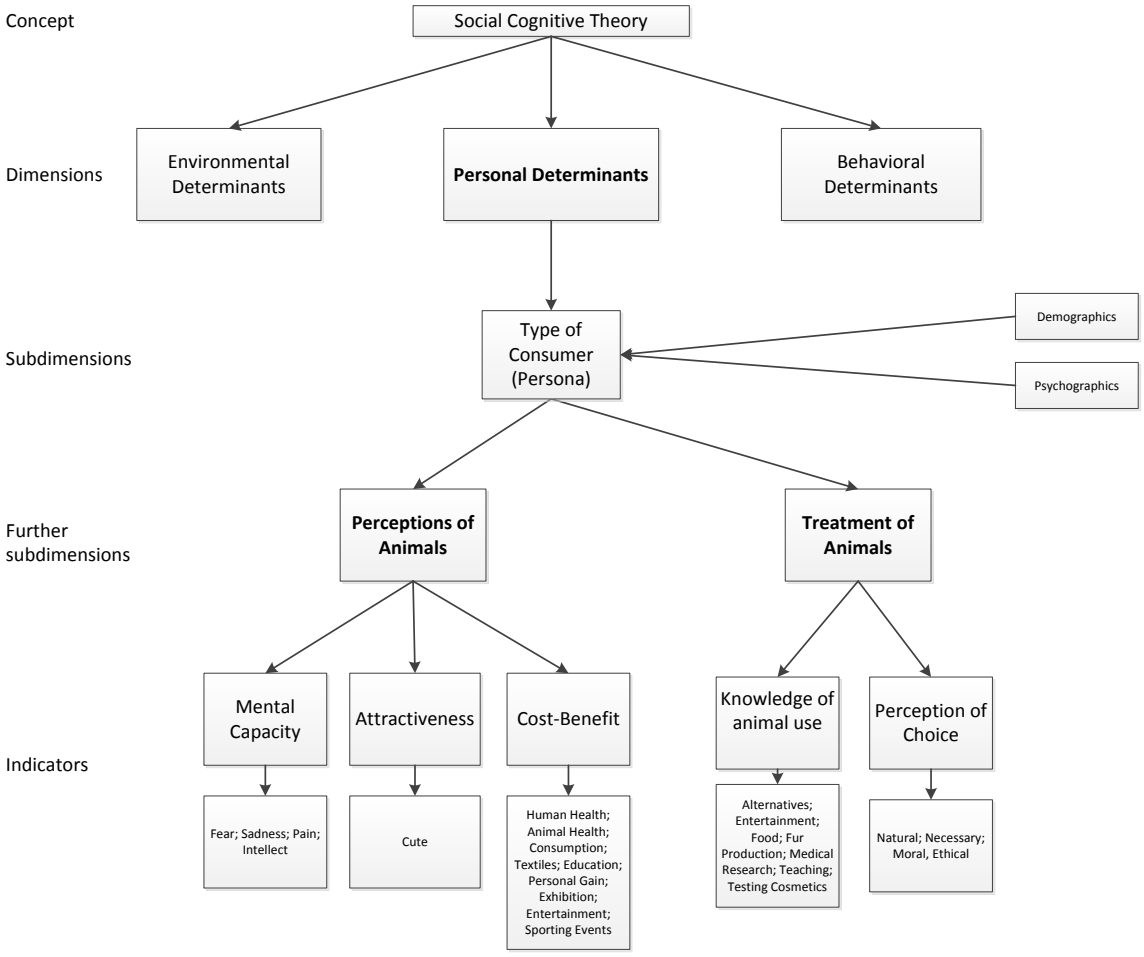

Figure 1. Personal Determinants

For the purpose of this study, personal environments are referred to as knowledge of and experience with animal-based agriculture. A person's perception or attitude toward agriculture is influenced by a variety of factors such as past experience, previous knowledge, and morals. Two factors were considered as personal determinants: 1) Perceptions of animals (Knight & Barnett, 2008)—belief in an animal's mental capacity,

the attractiveness of the animal and cost benefit analysis. 2) Treatment of animals (Knight & Barnett, 2008)—previous knowledge of animal use practices and perceptions of choice regarding animal use practices.

Past experiences. Perceptions are based a persons past experiences and knowledge; thus, with limited knowledge about a topic a person cannot accurately perceive it (Duncan & Broyles, 2006). Personal experience with animals influences and impacts a person's attitude regarding animal use practices (Knight & Barnett, 2008).

Previous knowledge. Studies have shown (Knight et al., 2003) that instead of people forming attitudes and opinions based on facts, their minds often work backward. People base their perceptions on past experience and knowledge, or lack thereof. Depending on a person's existing attitudes, and beliefs, information can be heavily sought after, or actively avoided (Knight et al., 2003).

Behavioral Determinants

Behavioral determinants are influenced by external factors in the absence of conflicting self-confirmation. Motivation occurs by successes of others who are similar in nature. People establish behavior patterns when social and self-approval are consistent (Bandura, 2001). A diagram of behavioral determinants included in this study is portrayed in figure 2.

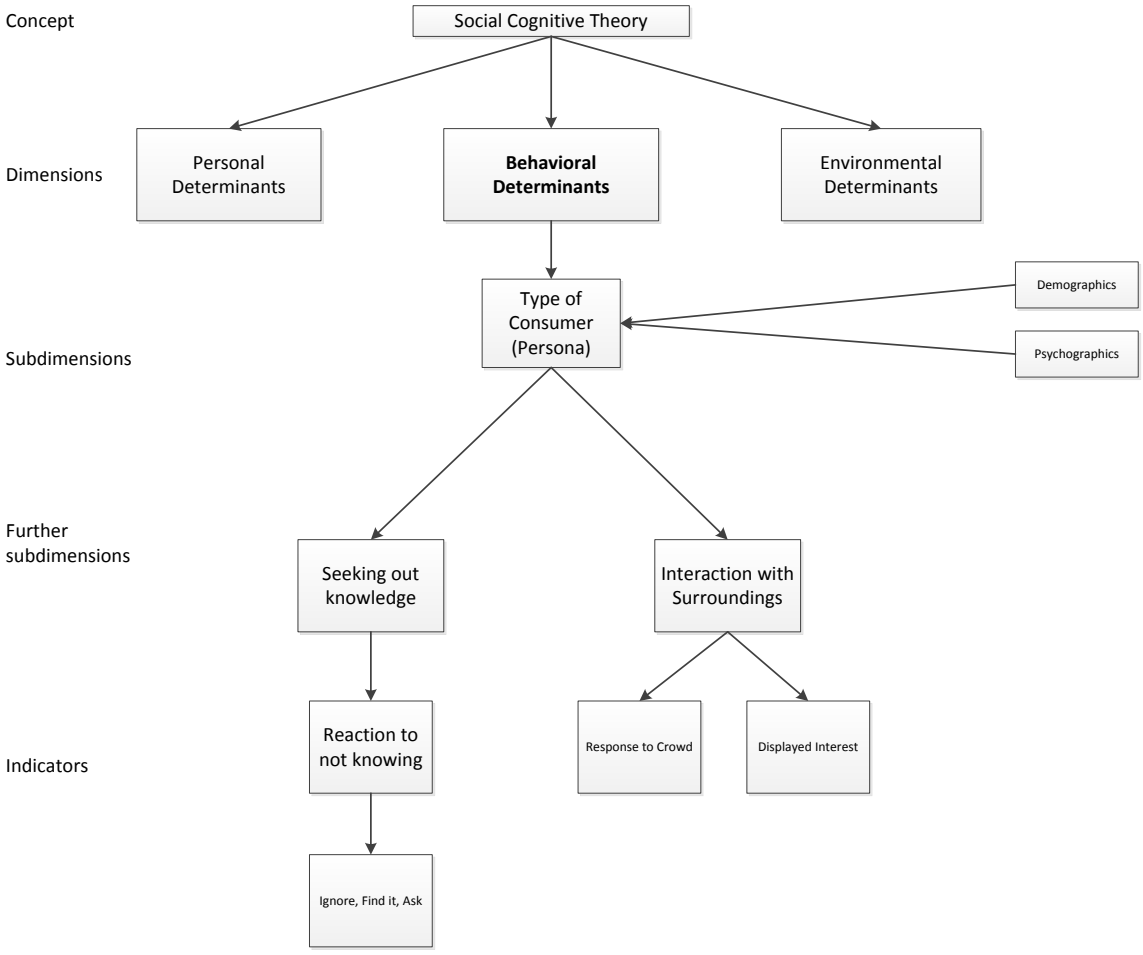

Figure 2. Behavioral Determinants

For the purpose of this study, behavioral environments are referred to as knowledge seeking and a person's interaction with their surroundings. A person's perception or attitude is often influenced by how they react in certain situations. Two factors were considered as behavioral determinants: 1) Knowledge seeking (Knight & Barnett, 2008)—how people react when they lack knowledge in a certain area. 2) Interaction with surroundings—when a crowd is present do you avoid it, watch in the distance or join it.

Ideally, effective messages are developed to draw and retain the consumer's attention through engagement. Therefore, for the purposes of this study, we considered engagement as the sought behavior of the non-farming public. With this in mind, agriculturalists need to develop educational activities that engage the non-farming public. Using fairs as a place of education and engagement, agriculturalists can create a positive image of agriculture. Fairs provide patrons the opportunity to interact with exhibits and participate in activities to increase awareness of modern agricultural practices (Avery, 2000). Having educational displays, which the public can engage in, will allow the non-farming public to form perceptions based on information given rather than past experiences. A person's values and perceptions are difficult to change, but if provided with the right information the position a person takes toward agriculture can be based less on their values and more on the information provided (Wachenheim & Rathge, 2002).

Environmental Determinants

Environmental determinants influence consumer behavior through cognitive processing. Behavior can be molded and controlled by environmental adoptions (Bandura, 2001). A diagram of environmental determinants included in this study is portrayed in figure 3.

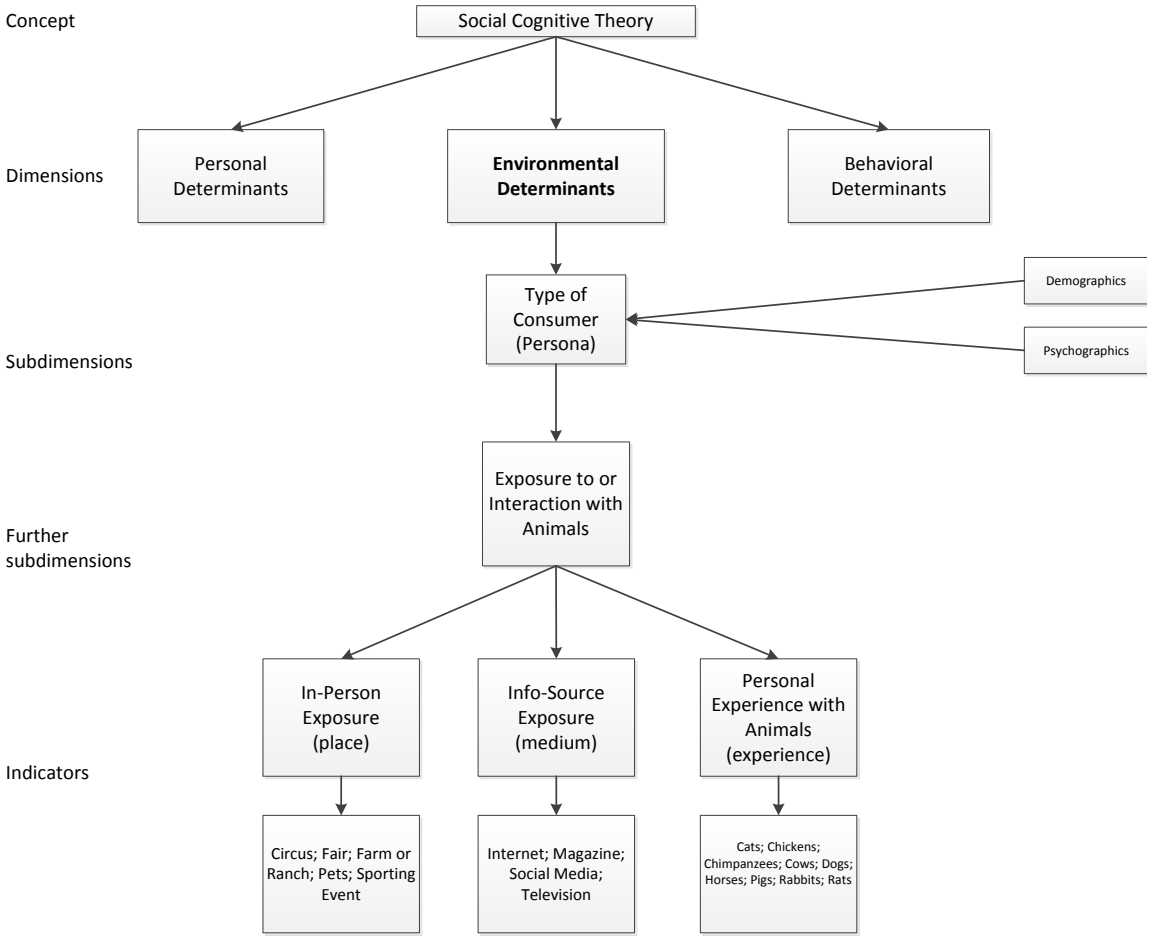

Figure 3. Environmental Determinants

For the purpose of this study, environmental determinants are referred to as a person's exposure and interaction with animals. For the purpose of this study, environmental determinants are referred to as place and medium exposure along with experience. Type of environment, such as type of exposure and past experience greatly influences a person's perception or attitude toward animal agriculture. Three factors were considered as environmental determinants: 1) Place of exposure (Knight & Barnett, 2008)—where people have encountered or do encounter animals; e.g., circus, fair,

sporting event. 2) Information source (Knight & Barnett, 2008)—the medium through which people receive information; e.g., Internet, social media, magazine. 3) Personal experiences with and beliefs about animals (Knight & Barnett, 2008)—experience with animals such as pet ownership and belief in animal mind; e.g., cats, dogs, rats.

Exposure. The method which information is presented might change from year to year, but fairs still hold true to their core values of education, celebration and youth development (Avery, 2000). "Today, many successful fairs still provide a critical link for the agricultural industry to communicate with and educate the nonagricultural public in a fun and entertaining environment" (Avery, 2000, pp. 85-86).

Personal experience. Different thoughts are held by people toward animal use depending on the type of animal being used (Knight et al., 2003). People hold animals to a certain standard and have belief in animal mind; the capacity of that mind depends upon the type of animal in question (Knight & Barnett, 2008). According to Knight (2003), when looking at animal use, people favor the use of animals as an educational tool (i.e., at fairs) opposed to using animals in other outlets, such as economic gain.

Information source. Tolman (2009) said consumers place a great deal of trust in agriculturists, and it is their job to maintain that trust. Consumers tend to have a positive view of small, family owned farms, and as agriculturalists it is up to us to maintain this positive image. The typical family farmer is depicted as a hard-working and caring individual. The agriculture industry must come together to preserve and protect the image of farmers. Agriculturalists must take control of situations not just counter negative messages that are occurring in mainstream media; measures need to be taken to

show who farmers are and that what they do is for the benefit of consumers (Tolman, 2009).

Demographic Influences

Numerous demographic and psychographic variables related to media influence are noted in communications and psychology literature. Because of how this study is conceptualized, the close connection between how information is delivered to the public through traditional mediums and how fairs serve as an alternative delivery medium, demographic and psychographic characteristics widely-noted in communications and psychology literature will be included in this study. Knight and Barnett, 2008, used purposive sampling of participant's aged 22-65; participant's views toward animal-use were widespread. According to Knight and Barnett (2008), females displayed more belief in animal mind and tended to show more empathy with animals. Therefore, for the purposes of this study, demographic environments are referred to as gender and age.

CHAPTER III

METHODS

Qualitative Methods

Using social cognitive theory as a theoretical framework, this study intended to determine whether livestock being at fairs have an impact on public perception of animal agriculture. Using personal, behavioral and environmental determinants allowed for a greater understanding of a persons' perception and their attitude toward animal agriculture. The theoretical framework, data collection protocol, participant selection criteria, research procedure, and the data analysis and coding are described. The research procedure, protocol, and data collection for this study were approved by the Texas A&M University, Institutional Review Board (IRB2013-0109).

Semi-structured interviews and observations were conducted with fairgoers attending Rodeo Austin, San Diego County Fair and State Fair of Texas about their perceptions of the fair, the animals on display and the educational exhibits at the fair. In addition, semi-structured interviews were conducted of fair staff to determine what actions were being taken to engage and educate the non-farming public about agriculture.

Researchers were trained in interview practices while enrolled in a research methods class. Student researchers gained interview experience while working on class projects and performing interviews on the Texas A&M University campus. Training methods included always having two researchers present. One researcher focused on

taking notes, while the other focused on interaction with the interviewee and asking questions.

Using methods from Lincoln and Guba (1985) trustworthiness was established using four criteria-credibility, transferability, dependability, and confirmability. Credibility was established by performing member checks with other researchers and by keeping a reflexive journal. Transferability was recognized using thick description cumulated by the lead researchers findings and additional researchers who were present during interviews. Dependability and confirmability were established by the lead researcher keeping an audit trail throughout the data collection process and by recognizing objections and personal bias as a researcher.

Framework

The purpose of this study was to understand the general publics' opinion of animal agriculture, specifically in relation to fairs and educational exhibits. Understanding a person's past experiences and knowledge may lead to more effective targeting methods. The research team believes it is agriculturalists duty to educate the non-farming public in a conducive manner for people whom have not been exposed to agriculture. Bandura's social cognitive theory was used as a framework for this study.

Understanding an interviewee's personal, behavioral, and environmental determinants help researchers to understand why the participants have a particular viewpoint about animal agriculture (Bandura, 2001b). Social Cognitive Theory guides this study for observing how people are affected by media influences at fairs and how agriculturalists communication strategies engage the non-farming public.

Objectives

Two research aims with corresponding research questions guided this study. These are provided below.

Research Aim One: The goal in this component of the study is to explore how the public responds to engagement strategies (e.g. livestock displays, posters, signs and animal related activities) in their typical setting and in a fair setting.

RQ1: Describe how the public responds to engagement strategies

Research Aim Two: The aim of this component of the study is to describe the public perceptions of fairs, the environment at fairs, and educational information being presented to the public at fairs.

RQ2*:* What are the public perceptions of fairs?

RQ3: Describe the public perceptions of animals, based on animals' mental capacity, attractiveness, and cost benefit.

RQ4: Describe the environment at fairs, based on sources of information, exposure to information sources, and personal experience with animals.

RQ5: Describe the educational information being presented to the public at fairs based on the public's interaction with surroundings and their ability to seek out knowledge.

For simplicity, the research design, soundness of measures (validity, reliability, or trustworthiness), populations and samples, data collection procedures, and data analyses will be divided into two sections: qualitative and quantitative.

Sampling Procedure

A combination of purposive and convenience sampling was used for this study. Purposive sampling is selecting a sample based on specific criteria, with the intent to maximize obtainable information (Lincoln & Guba, 1985). Convenience sampling is the sampling population to which the researcher has access (Lincoln & Guba, 1985). Purposive and convenience sampling were necessary to meet the needs and special criteria for this study. Only individuals around livestock or educational exhibits were selected for this study to understand what perceptions fairgoers had of animal agriculture and whether they were engaged in educational activities. Participants were selected based on their interest or disinterest in the animals or educational exhibits.

Rodeo Patrons and Exhibitors (Rodeo Austin)

Semi-structured interviews with rodeo patrons were conducted during the course of a week at Rodeo Austin 2014. Face-to-face interviews took place in and around the livestock barn. The lead researcher and another student researcher created notes during the interview and included thoughts/comments within the notes. Member checks were completed after each interview to allow the additional researcher and lead researcher to debrief about the interview and combine our notes. Performing member checks are imperative when establishing credibility (Lincoln and Guba, 1985). Member checks involve testing data, interpretations, and conclusions between persons present when the original data was collected (Lincoln & Guba, 1985). Discussion and debriefing continued until a consensus was reached or both views were presented. Observational interviews took place, researchers sat near the “row of breeds” and observed patrons

actions and engagement with the livestock displays. Select individuals were then asked to do face-to-face interviews. These interviews were similar in nature, however, started off more as a conversation getting the fair patrons to explain what they were doing and why. Whether that be reading the signs, taking photographs or passing the signs and animals completely. Interview notes and comments were transcribed and coded, in the lead researchers reflective journal following each interview.

Fair Staff (San Diego County Fair)

The researcher attended the San Diego County Fair for two days. The first day was necessary to analyze the setting and obtain permission. The second day interviews were conducted and additional notes and comments were recorded in reflexive journals while the interview was being video recorded. Three educational activities were videographed and notes were taken of the activity and the public's reaction.

Moo U Tours (State Fair of Texas)

While walking through the "Big Tex Barnyard" observations were noted in reflective journals and researchers debriefed following the tour. Semi-structured interviews were conducted with the owner and manager of Moo U Tours, interviews were video recorded and transcribed. Notes were taken during the interview and member checks were completed. Educational tours were video recorded, along with photographs and notes being taken simultaneously. Researchers took photographs of the different educational spots around the fair and also interviewed the fair's account manager for Cultivate Agency, who was responsible for signage and engagement strategies. Researchers debriefed about the day while in the car leaving the fair.

Data Collection Protocol

The sample for this study included fair patrons and employees attending Rodeo Austin, San Diego County Fair, and State Fair of Texas. People were approached near the livestock barns and asked if they would be willing to participate in an interview with me. If they agreed to participate, the lead researcher then explained they were a graduate student at Texas A&M University. It was also explained that these interviews would be used for the lead researchers thesis. Participants were then asked if they would be willing to participate in a video and audio recording, they also signed a media release.

Semi-structured interviews are interviews with prepared open-ended questions and directional questions that help shape the interview but are not asked in any particular order (Lincoln & Guba, 1985). Brief, semi-structured interviews were then conducted around the livestock areas with fair patrons who agreed to participate. Notes were taken during each interview and then transcribed. Researchers completed member checks following each interview to increase creditability, along with noting comments in a reflexive journal.

Since the interviews were conversational in nature, they led to more in-depth insights compared to questions asked in the subsequent questionnaire. Questions within the survey were scaled in nature and didn't allow respondents to provide open-ended answers. Many interviews led to additional questions, which the lead researcher did not think to ask previously.

Fairs often use terms such as "breed row" or "barnyard" to describe placement of livestock exhibits; however, there is not a widely accepted definition of these terms.

Understanding of these terms varies greatly between agriculturalists and fairs alike. For example, the term “breed row” is often used to describe the different breeds of cattle, sheep, goats, and hogs, but some may also include educational activities for children and even the champions selected at the show. Local fairs and state fairs may categorize livestock exhibits differently for the purposes of space and money. For interview purposes, the lead researcher selected the area where educational livestock exhibits were displayed, regardless of its name.

Rodeo Austin interviews were mixed in nature and consisted of fair patrons and exhibitors. Interview participants were selected based on their location at the fair. Desired participants were either in or around the livestock area or around educational activities. Exhibitors were selected based on their educational displays and their attempts to engage fair attendees. Participants were sought out and asked if they would be willing to participate. It was then explained that the lead researcher was a graduate student working on their thesis. Participants were asked if they would be willing to be audio and video recorded. If participants agreed, they completed a media release. Observational interviews were also conducted, where instead of going directly to the participants and asking for permission, researchers first stood back and observed the actions of potential participants. If participants caught the attention of researchers and seemed willing to talk, they were then asked to participate in a brief interview. It was again explained that the lead researcher was a graduate student from Texas A&M University working on their thesis project. These interviews were similar in nature, but participants were also asked questions based on their observed behavior.

Interviews at San Diego County fair consisted of fair directors in order to determine their protocol for addressing and engaging the public in agriculture activities. With many activities in place to increase agricultural awareness, it was imperative to understand what terms and engagement strategies agriculturalists were using to address the non-farming public. The first day was spent seeking out potential participants and gaining permission to interview fair employees. The second day involved interviewing and video recording fair directors along, with various educational events held daily in the livestock area. Unfortunately, there is always room for error when using technical equipment. While interviewing at the San Diego County Fair, the camera and microphone stopped working and the audio was compromised. Luckily, when participants agreed to have their interview video recorded they signed a media release that also gave us their contact information for future reference and additional questions. The participants who lost their audio were kind enough to agree to email contact and Skype chats.

State Fair of Texas interviews were similar in nature to those at the San Diego County Fair; interviewees were directors, and managers of the Big Tex Barnyard and Moo U Tours. Not only was it important to understand how fair patrons react to the messages being delivered, it was vital to understand what messages agriculturalists were trying to communicate. With this fair, interviews were set up ahead of time due to strict media regulations of the fair. Interviews were video and audio recorded to increase accuracy. Unfortunately, some of the desired interviews did not happen due to time constraints, and job duties on that particular day.

Analysis

Analysis began in an informal manor by analyzing field notes taken during various interviews. All notes and comments were transcribed along with the official interview notes from face-to-face interviews and the video/audio recordings.

Along with the notes taken during interviews, all personal reflections (attitudes, values, beliefs and personal experiences) were included in the study by writing them in a reflexive journal throughout the research process. Reflections were noted in the lead researcher's journal before, during, and after each interview, along with keeping a video diary each night to reflect upon the day and general events going on around. This extra step allowed for acknowledgment of all personal biases.

When transcribing data, participants' responses and researchers notes were kept separate. Participant answers were written on the right side of the page and notes, along with comments, which were written on the left side. This allowed for differentiation between what the participants actually said and what the researcher was thinking or observing. Once the interviews were transcribed, they were sent to the additional researcher for member checks and to add any additional comments. Researchers debriefed after each interview in order to discuss themes observed and reflect upon the interview process.

Establishing trustworthiness is important to persuade audiences that the findings are true and reliable (Lincoln & Guba, 1985). In order to establish trustworthiness, evidence needs to be provided for credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985).

Credibility is an important criterion for establishing trustworthiness and is used to increase the likelihood that credible findings and interpretations are produced (Lincoln & Guba, 1985). One method for establishing credibility is through the use of prolonged engagement, persistent observation, and triangulation (Lincoln & Guba, 1985). For the purposes of this study, credibility was addressed by keeping, a reflexive journal, both in a Red ‘n Black notebook, a video diary, and member checks.

Transferability is accomplished when the contents of the study become transferable to other texts (Lincoln & Guba, 1985). When establishing transferability, thick description is necessary, for readers to determine whether transfer is a possibility (Lincoln & Guba, 1985). Transferability was addressed by providing as much relevant thick description as possible. In doing this, descriptions from the lead researcher were included along with descriptions from the additional researchers present during the interview process.

In this study, dependability and confirmability were addressed together. Dependability and confirmability are criterion used to examine the data and collection process for accuracy (Lincoln & Guba, 1985). A detailed audit trail is often kept when establishing dependability and confirmability (Lincoln & Guba, 1985). For this study, an audit trail was kept in the lead researchers Red ‘n Black notebook throughout the data collection process.

When conducting a mixed method study it involves two parallel, independent studies all while addressing the same research question (Morse, 2010). Each study can act as a stand-alone, although findings from both studies support each other (Morse,

2010). One project is considered the core project and the other is considered a supplemental strategy (Morse, 2010). Qualitative findings will be used to reinforce quantitative findings.

Coding

Coding involves transforming and combining raw data into thoughts and themes in order to describe content characteristics (Lincoln & Guba, 1985). Since findings arose from interviews and specific observations, inductive reasoning was used for this study. Coding began with an unrestricted form of open coding. The first stage of coding included open coding, and involved line-by-line coding; this included marking certain quotes with a star and making notes for future reference.

All interviews were transcribed, typed, and saved in a Microsoft® Word document. Documents were saved to the lead researcher's personal computer and back-ups were saved to a thumb drive, once all interviews had been transcribed, respondents and individual thoughts were separated using page breaks. These thoughts were then printed on separate sheets of paper for coding purposes. An audit trail will be used by numbering thoughts to keep track of which transcript they came from and where.

The separate papers were shuffled and separated into similar thoughts or categories. As new categories emerged, those thoughts were put together and labeled. Categories overlapped; in these instances a color-coding system was used. Cards were shuffled every time new data was added; this incorporated the constant comparative method by referring back to coding from previous interviews.

Once all the data was coded and put into appropriate categories, those categories were narrowed down to three-four themes. Specific papers fit into more than one theme, in these cases; cards were reprinted and placed it in each theme it fit into.

Quantitative Methods

This section will discuss the research design, protocol, population and sample, and methods used to collect quantitative data for the study. Using social cognitive theory as the main framework for data analysis, the aim is to learn personal, behavioral and environmental determinants for attitudes toward animal use.

During a trip to California, trained student researchers used face-to-face survey delivery methods to distribute self-completed questionnaires across the western United States. The research for this portion of the study was conducted between the months of June 2014-October 2014. Student researchers from Texas A&M University helped collect survey date. Students participated as part of a five-week high impact learning experience across the Western United States. Research was then continued from August through October across the state of Texas.

Researchers met prior to survey distribution to discuss the survey and decide which questions to include for assessing both demographic and general areas. After many revisions and edits of initial questions, a total of six questionnaires were developed, each questionnaire with its own project and lead researcher. Instead of distributing questionnaires individually, a plan was devised to distribute them as a team, due to limited resources and time. With media influence being a common theme across all projects, six versions of a two-section questionnaire were created. Section one was

identical across all six versions, whereas section two was specific to each project. The content in version three of the questionnaire (Public perceptions and animal use) was specific to the aims of this study.

The first section was developed in order to assess demographic information based on widely accepted media questions from Nielsen (2014) (e.g., How many working computers with internet access are in your home?). The second section was focused on previous knowledge and past experiences with animal and animal use. Questions included specifics about belief in animal minds, knowledge about animal uses, and the credibility of media sources (e.g., How capable are the following animals of feeling pain?). Questions in section two were asked using likert scale methods.

Questionnaires were designed to create a booklet. The design and layout were kept consistent between all six questionnaires. The cover layout was kept consistent and each questionnaire had the same heavy weight paper. Prior to distribution researchers met to organize and assemble questionnaire packets. Zip codes, sample number, and Julian dates were recorded on the back of each questionnaire to keep track of drop off date and the area from which they were distributed. Along with organizing questionnaires, each was placed in a clear plastic bag capable of being hung on a doorknob. A cover letter hand signed by one of the researchers and a brochure accompanied each survey. Questionnaires were distributed in order from version one thru version six for randomization purposes. Once packets were assembled, they were placed into plastic storage bins, each labeled for a specific distribution area and

distribution method. Researchers ran into time constraints when assembling packets, it required anywhere from three to five hours to package 700 surveys.

The animal use questionnaire was thirteen pages in length. The questionnaire went through five different versions before being sent to print. The first four were checked for grammar, spelling, tone, and overall flow by local agriculturalists, along with faculty, undergraduate, and graduate students of the Department of Agriculture Leadership, Education and Communications Department at Texas A&M University. The final version was developed from a pilot test of 60 respondents in the Bryan/College Station area. The MELISSA database was used to determine the sample and survey distribution was completed using the drop-off/pick-up method. Questions arose from participants about question structure and general flow of the survey via phones, emails and as well as writing directly on the survey. Lead researcher contact information was provided on the inside cover of each survey. Respondents concerns were taken into consideration and the questionnaire was revised once more.

There will be four different data collection methods used in this portion of the study: Drop-off/Pick-up, Drop-off/Mail-back, Variable Drop-off/Pick-up, and USPS mail survey. The same questionnaire was used across the different collection formats. All methods followed the same delivery strategy; however, recovery strategies differ slightly.

According to Bryman (2012) reliability and validity are established by the consistency of the measures and the studies ability to be replicated. Before survey distribution, began face validity and content validity had to be considered for

instruments utilized in this study. Establishing validity is the procedure for ensuring the instrument the questionnaire "actually measures what it sets out to measure" (Field 2013, p. 12). Face validity is "the measure that reflects the content of the concept in question" (Bryman, 2012, p. 171). In this study, face validity was achieved by having more than 100 persons review the questionnaire for clarity of instructions and correctness of questions being asked. Each person was asked to review and answer the questionnaire, along with make any notes regarding instructions, question structure, and survey layout that may be unclear or confusing. Content validity was addressed by developing survey questions from the literature.

Reliability refers to whether the measure reflects the content of the concept in question (Bryman, 2012). Reliability was addressed in this study by conducting a pilot test in Bryan/College Station, TX prior to data collection. A test-retest was completed three weeks prior to survey distribution, using patrons at a local radio station event. The test-retest method was used to calculate a coefficient of stability of the survey instrument. Cohen's Kappa (κ) was reported for each item as an indicator of stability.

Objectives

Two research aims with corresponding research questions guided this study. These are provided below.

Research Aim One: The goal in this component of the study is to explore how the public responds to engagement strategies (e.g. livestock displays, posters, signs and animal related activities) in their typical setting and in a fair setting.

RQ1: Describe how the public responds to engagement strategies

Research Aim Two: The aim of this component of the study is to describe the public perceptions of fairs, the environment at fairs, and educational information being presented to the public at fairs.

RQ2: What are the public perceptions of fairs?

RQ3: Describe the public perceptions of animals, based on animals' mental capacity, attractiveness, and cost benefit.

RQ4: Describe the environment at fairs, based on sources of information, exposure to information sources, and personal experience with animals.

RQ5: Describe the educational information being presented to the public at fairs based on the public's interaction with surroundings and their ability to seek out knowledge.

For simplicity, the research design, soundness of measures (validity, reliability, or trustworthiness), populations and samples, data collection procedures, and data analyses will be divided into two sections: qualitative and quantitative.

Sample

Geographical areas selected for data collection were based on population size and lifestyles of the residents. A sample of residential areas in the Western United States were selected to include: Denver, CO; San Diego, CA; Berkley, CA; San Francisco, CA; Fresno, CA; Ramona, CA; Houston, TX; Dallas, TX; and College Station, TX. Locations selected for data collection had a large metropolitan and suburban population and a small rural population. These locations were representative of a convenient sample, because data locations were selected based on the route of the research trip.

Additional locations were selected in Texas when additional data collection was necessary.

Zip codes, streets, and addresses were randomly selected using the MELISSA generator for all drop-off and pick-up data collection. Once zip codes were selected, a complete list of street names was compiled. Using a random number generator in Microsoft Excel completed randomization of sample locations. Since researchers traveled door-to-door collecting data, safety became a concern and streets were prescreened using Google Maps for any immediate red flags. While checking for safety concerns; researchers also prescreened the location for commercial areas and apartment complexes. Determining the level of safety in an area was ultimately left to the lead researcher. After the beginning street was selected, researchers identified routes to follow for data distribution. In many cases questionnaires were distributed in nearby and adjacent neighborhoods.

With safety always being a top priority, in several circumstances distribution locations had to be changed. When researchers arrived at certain locations to begin data collection, unforeseen situations arose, such as drug dealers, gangs, and domestic violence. In these instances, groups were relocated to nearby neighborhoods in the same zip code. Acknowledging that this deviation in distribution methods adds error to this study, risking the lives of researchers could not be justified for the sake of data collection.

Since six projects were distributed during each data collection, sample sizes varied. For all summer drop-off and pick-up data collection, in addition to drop-off and

mail-back data collection, a sample size of *n*=2,100 was used per zip code. During the fall data collection, a sample size of *n*=900 per zip code was used for all variable drop-off/pick-up, drop-off/mail-back, and USPS mail surveys.

Protocol

The drop-off and pick-up method used trained researchers and the hand delivery method of going door-to-door. Locations were randomly selected from a convenience standpoint and face-to-face communication was made between researcher and potential respondents. Research groups were led by a group leader, who served as the decision maker and who was trained in proper distribution and recording techniques. Group leaders were also responsible for answering specific questions, along with ensuring researchers acted in a professional manner when communicating with potential respondents. Researchers went door-to-door in the selected zip codes and followed a general outline of procedures:

- Make an introduction and state that you are a student at Texas A&M University
- Ensure the respondent realizes the interviewer is not selling or soliciting
- Give them the questionnaire packet (clear plastic bag, questionnaire, cover letter, and brochure) and provide additional information regarding the project
- Notify the potential respondent of retrieval method. "We will be back on (date and time) to pick them up. Please place the completed questionnaire in the plastic bag and leave it on your door" or "We have left a pre-paid envelope for you to return the survey before *(date and time)*."
- Be sure to thank the respondent for their time and consideration.

With the differing variations or survey distribution, the script was altered to address the correct retrieval method, date, and time or if the respondent was to return the survey by mail using the prepaid envelopes provided.

Data Collection Procedures

Data collection methods became altered during the data collection process due to unexpected problems in varying locations. The methods used are divided into sections and are described below to identify specific procedures within each collection method.

Drop-off/Pick-up Method

This original drop-off and pick-up method was used for data collection conducted in Berkeley, California; Fresno, California; and San Francisco, California. Researchers went door-to-door encouraging face-to-face communication with potential respondents and asking them to complete the questionnaire and indicated that they would be back in three days at a specific time to retrieve the completed survey and if they placed it in the bag provided outside residents would not be disturbed. Questionnaires were left at every household, even the ones where no contact was made. The only time questionnaires were not left at the residence was if respondents did not agree to participate or if researchers encountered obstacles reaching residents door front. If the resident agreed to participate, researchers left the questionnaire to be completed. Residents were also given a brochure and a cover letter regarding details of the project in addition to researcher contact information along with a clear plastic bag to place the completed survey in. Upon collection if the questionnaire were left outside, researchers would retrieve the survey without disturbing the resident; however, if the questionnaire

was not outside, researchers knocked on resident's door in an attempt to retain the completed questionnaire.

As questionnaires were distributed, group leaders recorded street names house numbers, whether contact was made with a resident, if that resident agreed to participate, and any additional comments in their Red 'n Black notebook. Once completing an entire street, research groups reflected upon the atmosphere of the neighborhood, the resident's demeanor, and specific contacts made, along with the effectiveness of each method. Group reflections were also recorded in the group leaders Red 'n Black notebooks and researchers were encouraged to reflect individually in their personal notebook. Pictures were taken at the beginning and end of every street, along with several pictures descriptive of the area. The pictures allowed for further reflection upon the neighborhood and geographical area.

Following completion of pick-up, group leaders were in charge of calculating, the total houses visited, the number of contacts made, total number of questionnaires accepted, and the number of questionnaires completed. Group leaders also made specific notes as to why questionnaires were not retrieved (e.g., gate locked, no face-to-face contact, or the resident didn't receive questionnaire).

Time ultimately became the issue with this form of data collection. The amount of time it took to distribute the questionnaires per group ranged anywhere from 7 to 10 hours. Another issue, which emerged, is residents reported never receiving the survey after it was left on their doorstep. After three attempts of collecting data using this

method, it was determined by lead researchers that leaving the questionnaires at houses where no face-to-face contact was made did not produce desired results.

Drop-off/Mail-back Method

This method of data collection was used to collect data in Denver, Colorado. Researchers were divided into groups and a group leader was established. Leaders roles were the same as described in the Drop-off and Pick-up section; they recorded house numbers, reflections, and served as a reference point to answer potential questions. Researchers went door-to-door and encouraged residents to complete the questionnaire and mail it back in the prepaid envelope provided within one weeks' time. Questionnaires, cover letters, and brochures were left at all households; even when face-to-face contact was not made. Questionnaires were not left at residencies where agreement of participation was denied, in these cases, residents were thanked for their time and researchers made note of the lack of participation.

Variable Drop-off/Pick-up Method

Changes were noted in the original drop-off and pick-up method were set into motion during the San Diego data collection. During this method of drop-off and pick-up researchers went door to door during the weekend morning hours and encouraged residents to complete the questionnaire. Researchers informed potential respondents that they would be back that same afternoon to collect the completed survey. Questionnaires were only left where face-to-face contact was made and where residents agreed to participate. Respondents were given the questionnaire and a clear plastic bag to place the survey in upon completion; brochures were only handed out upon request of the resident.

This new delivery style decreased the number of questionnaires passed out daily, however, it also decreased the number of hours spent delivering and collecting questionnaires. This method resulted in the same number of surveys being collected but a higher response rate was indicated. The duration between drop-off and pick-up was decreased, because researchers felt respondents were either forgetting to complete the questionnaires or losing them.

Drop-off was done on two different days from 8 a.m. to noon and then pick-up began from 1 p.m. to 5 p.m. Upon pick-up researchers would return to households where the questionnaires were left and attempt to retrieve the completed questionnaires. Researchers developed a new strategy for collection, since houses could be spread apart.

Researchers all rode in the car, the group leader called out house numbers of residents that agreed to complete the questionnaires, and researchers were sent to retrieve the completed questionnaires. If the completed survey was not left on the door, researchers attempted to make secondary contact by knocking on the residents' door. Instead of reflections, street names, house addresses, and collection information being recorded in the group leaders Red 'n Black notebooks, it was recorded on data collection forms. These forms allowed researchers to more easily record contact being made, when residents accepted the questionnaire, and at what attempt the completed questionnaire was retrieved. Street reflections were recorded on the back of the data collection sheets, researchers were still encouraged to record their own reflections in their individual Red 'n Black notebooks.

Mail Survey Method

Questionnaires were sent out through the United States Postal Service. This method differed from drop-off and pick-up and drop-off and mail-back, because it did not involve face-to-face contact. Thus removing the social exchange theory used in drop-off and pick-up and drop-off and mail-back methods. Questionnaires were enclosed in an envelope with a return address of the Texas A&M University Digital Media Research & Development Lab, along with a pre-paid return envelope and a cover letter signed by all lead researchers. Two researchers drove around collecting approximately 125-150 addresses in the corresponding zip codes. These house numbers were then placed in a random number generator to increase randomization.

Variable Drop-off/Pick-up, Drop-off/Mail-back, USPS mail

Not enough data was collected during the 2014 research effort; therefore, lead researchers and their professor decided to continue data collection in Texas (College Station/Bryan, Texas; Houston, Texas; and Dallas, Texas). Data collection methods were analyzed and additional revisions were made to the data collection process. Project leaders remained the same, but enlisted the help of students in the fall 2014 ALEC Research Methods class. With additional student researchers, it allowed for division into six groups, with each group containing a group leader. Three groups were assigned to drop-off and pick-up, three to drop-off and mail-back, and two additional researchers designated to USPS mail. One drop-off and pick-up group and one drop-off/mail-back group were assigned to each zip code; U.S.P.S. researchers drove down designated streets in each zip code and recorded house numbers.

Use of the MELISSA database system methods of selecting zip codes and streets remained the same. Zip codes were divided into thirds for the purpose of testing different distribution methods. Each data collection site involved three data collection methods, drop-off and pick-up, drop-off and mail-back, and U.S.P.S. mail. Drop-off and pick-up and drop-off and mail-back were similar in the fact that initial face-to-face contact had to be made with the potential respondent in order to leave the questionnaire. Residents needed to agree to take the survey in order for it to be left along with a cover letter and a brochure if desired. Drop-off and pick-up protocol was the same as it was in San Diego. Drop-off and mail-back respondents were given a questionnaire, a cover letter, a brochure if desired and a prepaid envelope. U.S.P.S. differed from the two previous methods in the fact that it did not involve face-to-face contact. Houses that were randomly selected for U.S.P.S. were marked in pink highlighter on lead researchers street maps, therefore the drop-off and pick-up and drop-off and mail-back groups did not visit these homes.

Questionnaires were color coded prior to distribution with a highlighter mark in order to differentiate between collection methods. Drop-off and pick-up questionnaires were marked with a blue highlighter, drop-off and mail-back with a green highlighter and U.S.P.S. with a pink highlighter.

Survey drop-off took place Saturday mornings from 9 a.m. to 1 p.m. and survey collection took place the same day from 2 p.m. to 5 p.m. Pick-up methods remained the same as in the San Diego data collection. At the end of each data collection process, group leaders calculated the total number of houses visited, number of residents in which

contact was made, number of accepted questionnaires, and number of completed questionnaires. The Monday following data collection, group leaders met and used a random number generator to select 100 addresses per zip code collected by researchers for U.S.P.S. purposes. Envelopes were packaged to include a hand signed cover letter by all six lead researchers, a prepaid business envelope, and a questionnaire.

Summary

Student researchers entered response data from approximately 1,300 completed questionnaires (208 from version three) into a Microsoft® Excel® spreadsheet (See Table 1). Individual spreadsheets containing data from the Colorado, California, and Texas data sets were combined to form a master template. Coding for the first half of the questionnaire were consistent across all six versions. The second half of each version was specific to the researcher.

Table 1. Summary of Questionnaire Delivery, Contact, Distribution, and Retrieval Rates

Drop-off/Pick-up Duration Schedule						
Delivery Method	Location	Duration between DO/PU	Total Contacted [a]	Total Distributed [b]	Total Retrieved	Animal Use Retrieved
DOMB	Denver, CO	24 hours	457	2,015	180	27
DOPU	Berkeley, CA	48 hours	289	1,498	148	20
DOPU	San Francisco, CA	48 hours	203	1,270	115	25
DOPU	Fresno, CA	3 hours	464	1,307	122	11
DOPU	Ramona, CA	3 hours	257	179	124	22
DOPU	San Diego, CA	3 hours	541	341	205	36
DOPU	Bryan/College Station, TX	3 hours	186	157	120	29
DOPU	Houston, TX	2 hours	214	152	104	21
DOPU	Dallas, TX	2 hours	157	103	66	17
	Total		**2,768**	**7,022**	**1,184**	**208**

Note: [a] # Contacted represents the number of residents researchers made face-to-face contact with and who verbally accepted the questionnaire. [b] # Distributed represents the number of questionnaires left at homes, face-to-face contact was not necessarily made at the Denver, Berkeley, San Francisco, and Fresno locations.

CHAPTER IV

FINDINGS

This chapter presents the findings from participant interviews and questionnaires as they relate to the research objectives developed for this study. The purpose of this study was to determine if livestock presence at fairs had an impact on public perception and identify fair's engagement strategies using animal agriculture.

Similar to chapter III, this chapter is divided into two sections. The first presents findings from participant interviews as they related to research objectives. This section is then broken down further into several segments. First, participant profiles were established. The second segment depicts themes and categories that emerged from the data. In the second section, results from the quantitative portion of the study are presented.

Qualitative Findings

Profile of Respondents

The aim of this component of the study is to depict how the public reacts to engagement strategies put forth by fairs such as livestock displays, photography, signs, and animal related events. Fifty- (50) interviews were conducted at the three fairs and rodeos included in this study. Interviewees were determined to be either fair attendees or fair staff. Fair attendees were categorized into two groups, the general public and exhibitors. 39 of 50 interviewees were fair attendees and the remaining were fair staff. All interviews were conducted on the fair grounds near the livestock exhibits. All initial

contact with interviewees was made at the fairgrounds with the exception of the interviews conducted at the State Fair of Texas. Although all the interviews were conducted in similar locations, through discussion, researchers believed participants come from different backgrounds and lifestyles. Individual interviews were analyzed and combined into themes. With the use of a reflexive journal, and because of in-depth interviews the following participant themes emerged.

To better understand the findings of this study, the findings were separated by interview type. The first section describes the findings from interviews with the general public at fairs. The second section describes the findings from interviews with exhibitors. The third section describes the findings from interviews with fair staff. The three sections were dissected further to describe categories that emerged from interviews.

Researcher Observations

Fairgoers were observed looking at the animals and taking pictures of them. Many fairgoers were observed not only taking pictures of the animals but also taking pictures with the animals. The older generations were observed reading or skimming a few signs but never all of them. The signs that got the most attention were brief and included bullet points; the signs filled with information were passed by. It was also observed that although parents might stop to read signs, if their children became fussy they quickly moved on. Although informational signs were not being utilized to their full potential, it was noticed that fair staff presence drew a crowd. When fair staff entered the livestock exhibits crowds formed around them to ask questions. Fair goers

expressed an interest in asking questions one-on-one instead of taking time to read the signs.

General Public Interviews

The non-farming public enjoys the cute factor of the animals and likes seeing livestock that they do not encounter on a daily basis. Many participants expressed a like for the animals being there; the calf and baby chicks seemed to really draw in the crowds at Rodeo Austin. The animals' presence at the fair provides educational opportunities for fair attendees to learn about animal agriculture first hand.

The non-farming public was asked about the animal's purpose at fairs. A few participants listed rodeo entertainment and many believed the animals were just there for fun. The majority did not know what the animal's purpose at the fair was, but after the conversation continued they would mention some form of education. The public expressed enjoyment in this and seemed to be truly interested in learning more about animal agriculture and where their food comes from.

One of the questions asked in the interview directly related to learning and many respondents gave examples of new information they learned while walking through the livestock exhibits. For example, one mother and daughter learned what the judges look for during the steer show, and another family learned that chicken eggs come in all colors. Overall, the interviewees seemed to have a positive outlook on the livestock exhibits.

Interviewees were asked about the environment in the livestock barn and their impression of live animals being present. As a whole, participants described the

environment as a family one, where there is something for people of all ages. Numerous participants mentioned that seeing the animals in this setting brought back fond memories from their childhood. Many parents also described the environment as a safe one, meaning this was a venue they could bring their children to knowing they would not see or hear anything inappropriate. The word clean also came up a lot, and many participants appreciated how clean the barns were kept.

Interviewees were asked if they read the signs at the animal pens; the majority said they did not, a few said they skimmed them, and only a couple said they read all the signs in their entirety. The interviewees' younger than 30 were quick to point out that they did not take the time to stop and read signs; they were more interested in the animals themselves and taking pictures of the animals. Realizing that the majority of people weren't reading the signs, the question arose if there were agricultural representatives standing near the animals' would you talk to them? Participants were truthful in their answers, many said no and others replied only if they had questions; whereas others indicated this would be a great alternative to the signs and would love to have direct contact with an agriculturalist. As a follow-up, participants were asked what questions they would ask if an agricultural representative was present. The common responses were, "Is it a boy or a girl? How much do they eat? How much do they weigh? How old are they? What breed is it and what's its purpose? What the cattle are judged on? What are those sticks used for? and How you get involved in showing?"

Exhibitor Interviews

Exhibitors had specific opinions and perceptions of the livestock exhibits and the impact they had on the publics' perception. At first exhibitors seemed resistant to the public being in the livestock barns especially on show days. Interviewees expressed annoyance with the non-farming public because the public does not respect the animal's space and they touch the animals without permission. After speaking with the exhibitors longer, many started saying, "I don't mind if the public asks questions, when I'm not busy but please don't insult what I do". This statement holds true to many agriculturalists, as this business is their life and livelihood, one participant even stated "It's a business and an industry when you go after someone's livelihood".

Exhibitors take pride in their animals and want the public to appreciate all they do with the livestock, but how can the public appreciate something they know nothing about? The non-farming public gets information from many sources but what better way to interact with them than in a fair setting where live animals are present. Of course it is easy to sit back and let the public walk by. However, many interviewees mentioned that since the population is becoming further removed from agriculture if time allows conversations are tried to have with the fairgoers. One interviewee said it best: "Farmers need the intentions and people need to be open minded".

As interviews went on the exhibitors became more relaxed and less anti public interaction. Many interviewees understood that they could not expect the public to find the information on their own, yet also understood that as exhibitors is was partly their duty to inform and educate the non-farming public. One interviewee stated, "If you

can't educate them on whys it's important, they will never support the continuation of agriculture". Another interviewee said, "It is one thing to try to educate the public but it is another thing to take time and engage them."

Exhibitors showed signs of realizing the public doesn't want to be talked to; they would rather be conversed with, but at the same time we have to use terms that the public is okay with and understands. This can be difficult for many, but as one interviewee said "We need to reeducate ourselves to use information in a form that the public can understand… and be open". It will be hard for many agriculturalists to open up about the processes involved in raising livestock due to criticisms from the non-farming public. As a whole exhibitors can be on the proactive end and prevent future negatives toward animal agriculture.

Fair Staff Interviews

Fair staff were interviewed to get their perspective and to learn what the fair was doing to engage the public in animal agriculture. The majority of fair staff agreed that the main purpose of having live animals at the fair is for education. One respondent said "Many people don't have interactions with farm animals, and this allows people to make a connection of farm to plate." It was observed that fair staff took pride in what they do, especially with regards to the livestock exhibits; one staff member said, "The Exhibits Department is the heart of the fair. You can have rides anywhere, but if we don't take the time to educate the public they will never understand and support". Fairs can be in a tough spot of trying to get an accurate message across while also putting it in terms that

the public will understand. As an interviewee stated, “It is important to have a balance. You have to know enough to know how much to simplify it to present it”.

Table 2. Emerging Themes from Interviews

Themes	Interviews		
	General Public Interviews	Exhibitor Interviews	Fair Staff Interviews
The Purpose of Livestock at Fairs	X	X	X
Educational Opportunities	X		X
Family Friendly Environment	X	X	X
Signage	X		X
Communication with Agriculturalists	X	X	

Quantitative Findings

Demographics

Questions related to demographics consisted of age, sex, race, ethnicity, Spanish spoken in the home, household income, and number of adults in the home, and number of children living in the home. All 208 respondents provided data on age. The minimum age of participants was 18 years old, the maximum age was 92, and the mean age was 52.54. It was found that 5.29% (*n*=11) were between 18 and 25 years of age, 11.54% (*n*=24) were between 26 and 35, 17.79% (*n*=37) were between 36 and 45, 21.63%

(*n*=45) were between 46 and 55, 20.19% (*n*=42) were between 56 and 65, and 23.56% (*n*=49) were over 65 years of age. Table 3 provides a summary of the age of respondents.

Table 3. Age Ranges of Survey Participants

Ranges	*f*	%	Mean	Std. Deviation
18-25	11	5.29		
26-35	24	11.54		
36-45	37	17.79		
46-55	45	21.63		
56-65	42	20.19		
65 & Over	49	23.56		
TOTAL	208	100	52.54	17.143

The majority (56%, *n*=117) of the respondents were female and the remaining 44% (n=90) were male (see Table 4). Of the respondents (*n*=207) who provided their race, 81.3% (*n*=169) identified themselves as white, 4.3% (*n*=9) identified themselves as American Indian or Alaska Native, 6.3% (*n*=13) indicated they were Asian, 4.8% (*n*=10) identified themselves as Black or African American, 1% (*n*=2) indicated they were Native Hawaiian or other Pacific Islander, and 1.9% (*n*=4) identified themselves as some other race (see Table 5).

Table 4. Descriptive Statistics- Sex

		f	%
Sex			
	Male	90	43.3
	Female	117	56.3
TOTAL		207	99.6

Table 5. Descriptive Statistics- Race

		f	%
American Indian or Alaska Native		9	4.3
Asian		13	6.3
Black or African American		10	4.8
Native Hawaiian or other Pacific Islander		2	1.0
White		169	81.6
Other		4	1.9
TOTAL		*207	99.9

*Missing one data set

Of the 208 participants who provided their ethnicity, 13.5% (*n*=28) identified themselves as having Spanish descent and 86.5% (*n*=180) identified themselves as not having Spanish descent. This can likely be attributed to the fact when visiting Spanish neighborhoods no one in the research group knew Spanish. Communication was lost between the researcher and respondent. Of the 201 respondents, 10.1% (*n*=21) indicated Spanish was spoken in the home, and 86.5% (*n*=180) indicated that Spanish was not a language spoken in the home (See Table 6).

Table 6. Spanish Descent and Languages in the Home

		f	%
Spanish Descent		28	13.5
Spanish Spoken in the Home		21	10.4
	Only Spanish	1	4.3
	Mostly Spanish but some English	1	4.3
	Spanish and English equally	5	21.7
	Mostly English but some Spanish	11	47.8
	Only English	5	21.7

Respondents were asked how many adults and children lived in their home. Of the 194 respondents, 16.8% (*n*=35) indicated only one adult lived in the home, the majority of respondents 59.1% (*n*=123) indicated that two adults lived in the home, 13% (*n*=27) indicated that three adults resided in the home, and 4.3% (*n*=9) indicated that four adults lived in the home. Of the 170 respondents, the majority 48.6% (*n*=101) indicated there were no children living in the home, 13.5% (*n*=28) indicated that one child lived in the home, 12% (*n*=25) indicated that there were two children living in the home, 6.3% (*n*=13) indicated that three children were in the home, and 1.4% (*n*=3) that four children resided in the home (See Table 7).

Table 7. Number of Adults and Children in the Average Home

		f	%
Adults			
	1	35	18.0
	2	123	63.4
	3	27	13.9
	4	9	4.6
TOTAL		*194	99.9
Children			
	0	101	59.4
	1	28	16.5
	2	25	14.7
	3	13	7.6
	4	3	1.8
TOTAL		**170	100

*14 missing data sets in adults
**38 missing data sets in children

Of the respondents (*n*=185) who provided their household income, the questionnaire revealed 8.2% (*n*=17) of the respondents indicated that the household income was less than $30,000, 10.6% (*n*=22) indicated their household income was between $30,000 and $49,999, 31.7% (*n*=66) indicated a household income between $50,000 and $99,999, 28.8% (*n*=60) indicated a household income between $100,000 and $249,999, and 9.6% (*n*=20) indicated their household income was over $250,000 (See Table 8).

Table 8. Household Income

Income		*f*	%
Less than $30,000		17	9.2

Table 8. Continued

$30,000-$49,999		22	11.9
$50,000-$99,999		66	35.7
$100,000-$249,999		60	32.4
More than $250,000		20	10.8
TOTAL		*185	100

*23 missing data sets

The aim of this component of the study is to describe the public perceptions of fairs, the environment at fairs, and educational information being presented to the public at fairs. Findings of research question two describe the public perceptions of animals, based on animals' mental capacity, attractiveness, and cost benefit.

In accordance to the public perceptions of animals, based on mental capacity, attractiveness, and cost benefit found in research question two. Respondents provided their perceptions on animals' ability to feel fear. Table 9 provides a full summary of the results for this item. Dogs, chimpanzees, and cats received the highest mean scores for intellect with means of 4.58, 4.49, and 4.48 respectively. Cow, chickens, and pigs received the lowest scores with respect to fear. The means scores for these animals were 3.85, 3.94, and 3.99.

Table 9. Animals Ability to Feel Fear

	N	% Not Fearful	% Fearful	Mean	Std. Deviation
Cats	195	4.6	88.2	4.48	0.927
Chickens	190	16.4	65.8	3.94	1.265
Chimpanzees	196	6.7	86.2	4.49	0.990
Cows	194	15.5	62.3	3.85	1.269
Dogs	196	3.6	88.8	4.58	0.894
Horses	195	7.7	82.5	4.36	1.052
Pigs	194	13.9	67.5	3.99	1.217
Rabbits	194	8.2	78.3	1.23	1.107
Rats	195	18.5	66.2	3.91	1.315

Scale: 1 – Never to 5 – Frequently
% Not Fearful = % Not Often plus % Never
% Fearful = % Often plus % Frequently

In regard to public perceptions on animals' ability to feel sadness, Dogs, chimpanzees, and cats received the highest mean scores for intellect with means of 4.43, 4.23, and 3.79 respectively. Table 10 provides a full summary of the results for this item. Rats, chickens, and rabbits received the lowest scores with respect to sadness. The means scores for these animals were 2.73, 2.85, and 3.04.

Table 10. Animals Ability to Feel Sadness

	N	% Not Saddened	% Saddened	Mean	Std. Deviation
Cats	189	18.5	64.0	3.79	1.324
Chickens	187	42.7	32.6	2.85	1.451
Chimpanzees	185	9.2	78.4	4.23	1.116
Cows	186	37.7	37.6	3.08	1.408
Dogs	191	6.8	84.3	4.43	1.013
Horses	187	17.1	60.4	3.78	1.250
Pigs	185	34.0	39.5	3.16	1.449
Rabbits	188	38.9	37.8	3.04	1.410
Rats	186	50.0	31.7	2.73	1.501

Scale: 1 – Never to 5 – Frequently
% Not Saddened = % Not Often plus % Never
% Saddened = % Often plus % Frequently

The goal of research question two is to describe public perception based on animal's mental capacity, which was broken down into three categories one of those being animals' capability to feel pain. Table 11 provides a full summary of the results for this item. Dogs, chimpanzees, and horses received the highest mean scores for pain with means of 4.94, 4.88, and 4.86 respectively. Rats, chickens, and rabbits received the lowest scores with respect to capability to feel pain. The means scores for these animals were 4.53, 4.56, and 4.67.

Table 11. Animals Ability to Feel Pain

	N	% Not Capable	% Capable	Mean	Std. Deviation
Cats	201	1.0	95.6	4.836	0.5458
Chickens	199	7.0	85.4	4.568	0.9714
Chimpanzees	198	1.0	97.5	4.889	0.4366
Cows	199	3.5	91.4	4.693	0.7464
Dogs	202	0.0	99.0	4.941	0.2758
Horses	200	0.0	96.5	4.860	0.4374
Pigs	198	2.0	91.4	4.712	0.7216
Rabbits	198	3.5	89.9	4.677	0.8102
Rats	196	8.7	86.2	4.531	1.0593

Scale: 1 – Not at all capable to 5 – Very Capable
% Not Capable = % Not Capable plus % Not at all capable
%Capable = % Capable plus % Very Capable

Respondents were asked to provide their perceptions on the intellect of animals. Table 12 provides a full summary of the results for this item. Chimpanzees, dogs, and cats received the highest mean scores for intellect with means of 4.63, 4.60, and 4.09 respectively. Chickens, rabbits, and cows received the lowest scores with respect to intellect. The means scores for these animals were 2.64, 2.85, and 2.87.

Table 12. Perceptions of Intelligence of Animals

	N	% Not Intelligent	% Intelligent	Mean	Std. Deviation
Cats	197	7.6	75.2	4.096	0.9927
Chickens	196	46.4	19.4	2.643	1.2004
Chimpanzees	199	2.0	88.2	4.633	0.7393
Cows	196	36.2	22.4	2.872	1.0903
Dogs	201	0.5	90.5	4.602	0.6714
Horses	196	7.6	75.0	4.092	1.0085
Pigs	199	20.1	54.7	3.618	1.2573
Rabbits	196	38.3	22.9	2.852	1.1064
Rats	197	28.4	44.1	3.259	1.3050

Scale: 1 – Not at all intelligent to 5 – Very Intelligent
% Not Intelligent = % Not Intelligent plus % Not at all Intelligent
% Intelligent = % Intelligent plus % Very Intelligent

The second portion of research question two involves animal's attractiveness. Table 13 provides a full summary of the results for this item. Dogs, horses, and rabbits received the highest mean scores for attractiveness with means of 4.53, 3.97, and 3.70 respectively. Rats, chickens, and pigs received the lowest scores with respect to attractiveness. The means scores for these animals were 1.73, 2.49, and 2.63.

Table 13. Perceptions of Animals Attractiveness

	N	% Not Attractive	% Attractive	Mean	Std. Deviation
Cats	203	22.8	60.1	3.63	1.385
Chickens	199	56.3	21.2	2.49	1.267
Chimpanzees	200	38.0	36.0	3.01	1.284
Cows	201	45.3	26.8	2.79	1.292
Dogs	203	3.0	88.2	4.53	0.834
Horses	202	12.8	72.3	3.97	1.197
Pigs	203	51.7	23.1	2.63	1.276
Rabbits	204	11.7	58.8	3.70	1.185
Rats	204	77.9	12.3	1.73	1.245

Scale: 1 – Not at all attractive to 5 – Very Attractive
% Not Attractive = % Not Attractive plus % Not at all Attractive
% Attractive = % Attractive plus % Very Attractive

Perceptions on the cost benefit associated with various animal uses are described in Table 14, which provides a full summary of the results for this item. Producing food for humans, for educational research, and exhibiting animals at a livestock show received the highest mean scores for cost benefit with means of 4.13, 4.05, and 4.01 respectively. Circus entertainment, for personal gain, and for producing textiles received the lowest scores with respect to cost benefit. The means scores for these animal uses were 2.85, 3.18, and 3.29.

Table 14. Perceptions of Cost Benefit

	N	% Disagree	% Agree	Mean	Std. Deviation
Human health is acceptable	197	23.3	53.3	3.51	1.292
Animal health is acceptable	199	17.6	56.8	3.68	1.217
To produce food for humans	197	10.1	78.7	4.13	1.173
To produce textiles	200	30.0	48.5	3.29	1.426
For educational research	199	8.5	73.9	4.05	1.077
For personal gain	198	29.8	44.9	3.18	1.376
Exhibiting at a livestock show	199	12.0	73.9	4.01	1.148
Exhibiting at a fair	196	13.8	72.0	3.96	1.189
For circus entertainment	198	40.9	31.4	2.85	1.353
For sporting events	200	23.5	52.5	3.45	1.290

Scale: 1 – Strongly Disagree to 5 – Strongly Agree
% Disagree = % Disagree plus % Strongly Disagree
% Agree = % Agree plus % Strongly Agree

Findings of research question three describe the environment at fairs, based on sources of information through animal exposure, exposure to information sources via credibility, and personal experience with animals.

Questionnaire participants were asked to describe the environment at fairs based on sources of information. Table 15 provides a full summary of the results for respondents being asked how often they have seen animals in, at, or on a variety of venues. Television, pets, and Internet received the highest mean scores for intellect with means of 3.95, 3.93, and 3.56 respectively. Sporting events, circuses, and fairs received the lowest scores with respect to animal exposure. The mean scores for these animal exposure venues were 2.04, 2.29, and 2.65.

Table 15. Exposure to Animals

	N	% Not Exposed	% Exposed	Mean	Std. Deviation
Circus	197	73.1	14.7	2.29	1.209
Fair	195	54.9	24.1	2.65	1.313
Farm/Ranch	197	36.0	39.6	3.18	1.312
Internet	199	23.6	53.8	3.56	1.339
Magazine	198	31.3	37.9	3.19	1.242
Pets	204	25.5	71.1	3.93	1.619
Sporting Event	197	74.6	9.6	2.04	1.007
Social Event	198	41.4	37.4	2.94	1.422
Television	202	2.0	65.9	3.95	1.073

Scale: 1 – Never to 5 – Frequently
% Not Exposed = % Often plus % Never
% Exposed = % Often plus % Frequently

A full summary of the results for the item of credibility of information sources can be found in Table 16. Researchers, farmers and ranchers, and medical associations received the highest mean scores for intellect with means of 3.79, 3.56, and 3.22 respectively. Cosmetics companies, social media, and blogs received the lowest scores with respect to credibility. The mean scores for these information sources were 1.85, 2.17, and 2.24.

Table 16. Perceptions of Credible Information Sources

	N	% Not Credible	% Credible	Mean	Std. Deviation
Animal Rights Organizations	180	27.7	38.3	3.16	1.167
Blogs	181	58.0	7.2	2.249	0.9939
Commercials	183	48.6	10.4	2.459	1.0202
Cosmetics	184	77.2	4.9	1.85	0.955
Farmers and Ranchers	184	16.8	52.2	3.565	1.1143
Government	184	37.5	26.1	2.728	1.1698
Grocery Stores	185	58.9	8.7	2.281	0.9707
Medical Associations	185	25.4	39.4	3.227	1.1192
News	184	27.1	26.7	2.951	1.0151
Researchers	183	9.3	61.4	3.792	0.9948
Social Media	184	63.1	9.2	2.179	1.0002
TV Programs	184	31.0	25.0	2.940	1.0411

Scale: 1 – Not at all Credible to 5 – Very Credible
% Not Credible= % Not credible plus % Not at all Credible
% Credible = % Credible plus % Very Credible

Respondents were asked about their personal experience with animals, Table 17 provides a full summary of the results for this item. Chimpanzees, dogs, and cats received the highest mean scores for intellect with means of 4.63, 4.60, and 4.09 respectively. Chickens, rabbits, and cows received the lowest scores with respect to intellect. The means scores for these animals were 2.64, 2.85, and 2.87.

Table 17. Personal Experience with Animals

	N	% No Interaction	% Many Interactions	Mean	Std. Deviation
Cats	205	52.6	36.6	2.86	1.589
Chickens	203	91.6	3.0	1.46	0.791
Chimpanzees	204	98.5	0.5	1.13	0.401
Cows	203	86.2	3.5	1.53	0.852
Dogs	205	13.6	68.8	4.03	1.285
Horses	205	73.6	10.3	1.98	1.120
Pigs	204	97.1	0.5	1.26	0.524
Rabbits	205	87.4	5.9	1.58	0.907
Rats	205	97.1	1.0	1.20	0.540

Scale: 1 – No Interaction to 5 – Many Interactions
% No Interaction = % No Interaction plus % Very Few Interactions
% Intelligent = % Frequent Interactions plus % Many Interactions

Findings of research question four describe the educational exhibits and displays at fairs based on the public's interaction with surroundings and their ability to seek knowledge of something unknown.

Respondents were asked to provide their perceptions on wanting to know more about animal use practices. Table 18 provides a complete summary of the outcomes for this item. Alternatives to animal use, animals in medical research, and animals for teaching received the highest mean scores for wanting to know more with means of 3.23, 3.19, and 3.11 respectively. Animals to produce furs, animals in entertainment, and animals for testing cosmetics received the lowest scores with respect to animal use practices. The means scores for these animal uses were 2.64, 2.85, and 2.87.

Table 18. Want to Know More About

	N	% Not Knowledgeable	% Knowledgeable	Mean	Std. Deviation
Alternatives to Animal Use	183	30.0	47.5	3.235	1.4121
Animals in Entertainment	184	42.9	29.9	2.745	1.3408
Animals for Food	184	34.3	37.5	3.005	1.3730
Animals to Produce Furs	182	47.3	29.1	2.610	1.3812
Animals in Medical Research	184	32.0	46.8	3.190	1.4032
Animals for Teaching	182	34.6	42.8	3.110	1.4060
Animals for Testing Cosmetics	183	44.8	33.9	2.798	1.4890

Scale: 1 – Not at all knowledgeable to 5 – Very Knowledgeable
% Not Knowledgeable = % Not Knowledgeable plus % Not at all Knowledgeable
% Knowledgeable = % Knowledgeable plus % Very Knowledgeable

When asked to provide their perceptions on preference for seeking out knowledge, respondents gave the highest mean score of 4.13 to the option of find the answer myself. Table 19 provides a full summary of the results for this item Ignore it received the lowest score with respect to knowledge seeking with a mean of 1.68.

Table 19. Seeking Out Knowledge

	N	% Not Like Me	% Like Me	Mean	Std. Deviation
Ignore It	185	82.1	6.5	1.68	1.048
Ask Someone	188	12.2	55.3	3.65	1.052
Find the Answer Myself	186	9.6	77.4	4.13	1.119

Scale: 1 – Not at all like me to 5 – Exactly like me
% Not Like Me = % Not like me plus % Not at all like me
% Like Me = % Like me plus % Exactly like me

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This study was designed to describe the influence livestock exhibits had on public perception at fairs. Interactions between farming and the non-farming public are becoming fewer as society becomes further removed from agriculture (Holloway, 2004). When the chance for interaction arises, such as educational livestock exhibits at fairs, perceptions are formed and transformed based on these contacts. The purpose of this study was to determine if livestock's presence at fairs has an impact on public perception of animal agriculture.

The method used for this study, allows results to be generalized to a larger audience. This sequential mixed methods study was conducted to fill the gap in literature about the non-farming public's perception about animal agriculture. In addition, this study looked at the educational livestock exhibits fairs currently have and their practices for displaying information. Consequently, this study did not seek to prove or disprove any studies discussed previously. As this study was conducted in two parts, the discussion of findings will be addressed in two parts for simplicity.

Summary of Study Population

Respondents ranged in age from 18 to 92 years. The age range of 65 and over was the largest group 23.56% (*n*=49), closely followed by the age range 46-55 years, which represented 21.63% (*n*=45). Women comprised 56.3% (*n*=117) of respondents,

additionally, 81.3% (*n*=169) identified themselves as white. When respondents were asked to indicate their ethnicity, 86.5% (*n*=180) identified themselves as not being of Spanish descent. When asked about number of members living in the home, 59.1% (*n*=123) identified that two adults resided in the home, and 48.6% (*n*=101) indicated that no children lived in the home, likely due to the majority of respondents being older in age. Regarding income, 31.7% (*n*=66) indicated a household income of $50,000-$99,999.

The typical respondent to this portion of the study is a white, senior citizen aged female. She is not of Spanish descent and most likely lives at home with her husband. The general demographic makeup of participants with regard to age, sex, race, and ethnicity is fairly consistent across all survey locations.

Summary of Aim 1 Findings

The first aim was to explore how the public responded and interacts with engagement strategies utilized in the typical fair setting. Overall, respondents had positive attitudes toward livestock displays, and educational animal activities. The majority of fair attendees indicated that they enjoy the livestock aspect at the fair and that it was an exhibit they visited frequently. It could be expected that many people wouldn't like the livestock portion due to the smells and other effects associated with the animal's presence. The majority of interviewees did not come from an agricultural background, and enjoyed visiting the livestock exhibits to see animals they haven't ever seen before and to learn something new. The majority of interviewees did not know the

animals' purpose at fairs, however, participants also showed the ability to learn something new while attending the fairs livestock exhibits. Many interviewees were interested in knowing what the judges loo for during the livestock shows, and just general animal information.

As a whole, the environment in the livestock barns was described as a positive family friendly place. It was found that most fairs utilize signage to display animal information, and although this method is effective, many of the signs can be overlooked. With society becoming more media driven, it can be seen that taking pictures of the animals is more popular than stopping to read the signs. Although many of the interviewees were more focused on the cuteness of the animals when asked about asking questions, the public expressed enjoyment for personal contact with agriculturalists. Informational displays have to be worded in the correct way to engage the non-farming public but they also have to be able to deliver valuable information.

When speaking with exhibitors, it became obvious that the public can be a hassle sometimes (particularly on show days) but if exhibitors are not busy they are happy to answer any questions that arise. It was obvious that exhibitors take pride in their lifestyle and what they do, and they realize that society is becoming further removed from agriculture. It was also apparent that interviewees realize agriculturalists have to be transparent in what they do and why otherwise the non-farming public will look to non-credible sources to get their information. Many of the exhibitors want to share their stories and information but realize that sometimes they push the public to the side during these events. One of the problems often faced at fairs is the public is being talked at

rather than conversed with. Agriculturalists must reeducate themselves on how to communicate livestock practices.

Across the three different fairs where interviews were conducted there were many similarities and differences noticed. All the fairs visited use some form of signage as their primary educational tool. Many of the interviewees who partook in the making of the fair signage felt that the signs really enticed the public's interest. These staff members were also under the impression that the majority of the attendees stopped and allotted time to read through the signs. Whereas staff members not involved in the process of making signs believed that although the signs held importance, people weren't stopping to read them. Rather fairgoers were just looking at the animals or taking pictures. With the population becoming further removed from agriculture industry terms are not widely accepted. Information must be presented in a manner that the non-farming public understands, the signs on display are written at a third grade level.

Rodeo Austin has an area dedicated to animal education, it is in the livestock barn and has a wide variety of animals for fair attendees to look at and have close encounters with. Rodeo Austin places signs on each of the animal's pens with general facts about the specie and more specific facts about the certain breed.

The San Diego County Fair has pillar style signs set up all around the livestock exhibit along with signs posted on each of the animal's pens. The triangle grid signs give general agricultural information and facts, many of these specific to the local economy. Many of the triangle signs gave examples of what judges look for, physical and structural characteristics of certain species, and the process of farm to plate, along with

water conservation practices. This fair also had a unique area where they had pictures of farmers and their families. Along with the photos, there were also signs that told the farmers story about why they do what they do. This gave the public a look at the people actually raising the livestock and producing the crops for human consumption.

The State Fair of Texas has an area called "The Barnyard" this is where they do most of their agricultural education and house the non-exhibition animals. The walls in this area are covered from where you enter until where you leave with signs. Some signs might be solely photos whereas others depict certain processes in the agricultural industry. These signs have valuable information but they become lost since there is no break in-between. After observing these exhibits, it was noticed that many fair attendees do not stop to read the printed material. Some may take a brief glance at it, but most look at the animals and take pictures. It was witnessed that when an intern or staff member was present fair attendees were more likely to stop at the animal pens and many asked questions.

The San Diego County Fair and the State Fair of Texas both do a nice job having fair staff and interns present to answer any questions the public might have and just be another point of contact between the non-farming public and agriculturalists. The San Diego County Fair has interns stationed in many of the animal's pens and beside a number of sign displays. This fair also holds many live educational events daily, such as, ABC's on the farm, a goat milking demonstration and a wildlife talk. During these events a staff member gives a short presentation with live animals and then stays afterward to answer questions and provide additional information. The instructor of

these events does a very nice job engaging the public and bases all of her information on a non-agricultural perspective. Rather than talking at the audience she talked with them and was very encouraging of questions. On the other hand, the State Fair of Texas offers tours of the row of champions and through the barnyard. Attendees are led around the fair grounds while the tour guide is on a microphone talking about what the public is seeing and providing participants with agricultural information. The tour guide is there to give basic animal facts and answer any questions that might arise. The State Fair also offers clipping and fitting demonstrations. This allows the non-farming public to see and understand what is being done to the animal before they go into the show ring.

The San Diego County Fair has unique programs that are not offered anywhere else, one of those being an outreach program where they go to local schools encouraging agricultural learning and fair attendance. This program is called "Plant, Grow, Eat" and it is funded by the San Diego County Fair, staff members give a short presentation on animals and agriculture. The school children then get to plant a seed and take it home with them. This gives local children the opportunity to see where their food comes from and how it grows. Upon completion of this program children are given a free ticket to the fair.

Conclusions, Recommendations, and Implications Related to Aim 1

Due to limited resources and time where interviews took place, this study should be replicated at other fairs around the country to determine if responses change based on location and environment. With only interviewing at three fairs, information obtained was limited. Additional interviews can be used to generalize data. Interviews with

agriculturalists were minimal; in further research more exhibitors should be interviewed to determine what agriculturalists are doing personally to engage the non-farming public and to determine the best communication strategies used between farming and non-farming public. Although many of the public expressed their ability to learn at fairs, livestock exhibits can be more impactful. To make this impact, agriculturalists and fair staff should make increased efforts to provide educational exhibits at fairs along with encouraging engagement between the farming and non-farming public.

Summary of Aim 2 Findings

The second aim guiding this study sought to describe the publics perception of fairs, the environment at fairs and the educational information being presented at fairs. When asked about animals feeling fear, 94.2% (*n*=196) of respondents indicated that dogs were capable of feeling the most fear, and 93.3% (*n*=194) indicated that cows were the least likely category to feel fear. Respondents were asked animals ability to feel sadness, 91.8% (*n*=191) indicated dogs were most likely to feel sadness, and 89.9% (*n*=187) believed that chickens were the animals least likely to feel sadness. When asked about animals' ability to feel pain, 97.1% (*n*=202) of respondents indicated dogs had the highest capability of feeling pain, and 94.2% (*n*=196) of respondents indicated that rats had the lowest ability to feel pain, most likely due to the fact that rodents are animals the public tends to get rid of. With dogs leading in the above three categories, it is most likely due to the fact that those are the animals that humans have the most interaction with and consider to be a part of the family. Research question two asks to describe the public perceptions of animals, within the category of animal's mental capacity. In regard

to the intellect of animals, 94.2% (*n*=196) of respondents indicated chickens had the lowest intellectual ability and not surprisingly 95.7% (*n*=199) of respondents indicated chimpanzees had the highest intellect score.

The publics perception of animals can be altered based on appearances and attractiveness, 97.6% (*n*=203) of respondents indicated dogs had the highest attractiveness score amongst the all other species in question, and 98.1% (*n*=204) of respondents indicated rats had the lowest attractiveness score. The last portion of research question two focused on the cost-benefit comparison of different animal uses. With 94.7% (*n*=197) of the respondents giving the category of producing food for humans a M of 4.13 out of 5 it was deemed to have the most cost-benefit, 95.2% (*n*=198) of the respondents indicated circus entertainment had the lowest cost-benefit score.

Research question three was broken into three categories, exposure to animals, credibility of information sources, and personal experience with animals. When asked about exposure to animals, 97.1% (*n*=202) responded to the category of exposure through Television deeming it to have the most frequent exposure among all categories, and 94.7% (*n*=197) responded to the category of exposure through sporting events indicating it to be the least frequent among all categories. This may be attributed to the fact that the public isn't involved in animal sports and thus, may not know the wide range of sports involving animals. The question regarding credibility of sources revealed that 88.5% (*n*=184) of respondents indicated the credibility of cosmetics companies was the lowest compared to all other categories, and 88% (*n*=183) of the respondents

indicated researchers were the most credible. When it came to the question of interaction, respondents by far had the most interaction with dogs, 98.6% (*n*=205) of participants responded to this question giving it a M of 4.03, this is likely attributed to families having dogs as pets in the home, and 98.1% (*n*=205) indicated the lowest interaction score belonged to chimpanzees, these are not animals seen on a daily basis and can only be seen in captivity or the wild.

With a constant thrust for knowledge, 88% (*n*=183) of respondents indicated the category of alternatives to animal use was the most sought after topic, and 87.5% (*n*=182) indicated respondents wanted to know least about how animals are used to produce furs.

The goal of research question four is to describe the public's desire to seek out knowledge in regards to educational information being presented at fairs. It was found that 89.4% (*n*=186) of respondents indicated that when they encountered situations where they did not know the facts respondents would most likely find the answer themselves, and 88.9% (*n*=185) of respondents indicated they would not ask someone and not try to find the answer themselves, instead they would ignore the unknown.

Conclusions, Recommendations, and Implications Related to Aim 2

Dogs being the most favorable in the categories for ability to feel fear, sadness, and pain is likely attributed to public interaction with this species. Dogs are the animals most found in homes across the county and are constantly being compared to humans. Cows, chickens and rats were the lowest ranked animals in the subsequent categories above. Respondents may view cows as having little fear due to the fact that this specie is

used for food production, similar to chickens. It is hard for people to associate these feelings with animals they have no connection to. Rats, on the other hand, are despised by many and often killed when found in a home. Respondent's low score for feeling pain may be attributed to the fact that they do not want to think about the rats feeling pain when stuck in a mousetrap. It is likely that, chimpanzees being ancestors of human descent played a roll in the intelligence question. Much research has been done between humans and primates and they are regarded as one of the smartest animals on earth. Chickens on the other hand are not considered to have high intellect, rather just a farm animal that is used to produce eggs and meat.

Appearance plays a role in many aspects of life, including public perceptions toward animals. Emotions tend to grow when things are considered cute or attractive. When it comes to cost-benefit, respondents believed that producing animals for food had the highest cost benefit, meaning the benefits humans receive from animals being used as food outweighs the cost of producing them.

People can be exposed to animals through a variety of sources, as society is changing, sources are changing also. The most popular source reported by respondents was Television, most homes have at least one TV in the house, and this provides a source to gain knowledge and exposure. Credibility of sources varies from person to person but it was widely accepted by respondents that researchers are regarded for having the highest credibility. Being mans best friend has its perks, dogs are common pets across the states, which likely makes them the specie respondents had the most interaction with.

Many respondents showed compassion for animals by indicating they wanted to know most about alternatives to animal use. Showing pride in doing things themselves, respondents indicated that finding answers themselves would be the outcome to not knowing something.

Although the results were expected, what did it tell researchers? Domesticated animals show to have the most favorability and emotional connection. These are the animals most often encountered by the general public such as dogs, cats and sometimes even rabbits and horses. The non-farming public can have increased interactions with rabbits and horses compared to other livestock species and these animals can be seen as pets. Whereas, cows, chickens, and pigs are animals not often seen by the general public and can be misunderstood. There is much room for continuing education at fairs, and this venue provides a great opportunity for interaction with animals not seen on a regular basis. People do not understand animals that they aren't close to. Questionnaires were distributed as part of a larger study; it could be found beneficial to alter the questionnaire where it only asks questions pertaining to perceptions of animals.

Recommendations for Fairs

Conduct More Educational Activities

Although it may not always be seen, the public enjoys the livestock exhibits at fairs and appreciates their importance. With the findings from interviews and the positive responses from questionnaires, it can be seen that the public is engaged by these activities and enjoys being presented them. The San Diego County Fair does a wonderful

job at getting pubic engagement not only at the fair but also prior to with the use of their "Plant, Grow, Eat" program. These activities must not be directed at only one generation, they must be applicable to all types of people with differing opinions and lifestyles. Fairs should base educational outlets on the data collected from this study. Give the public the information they want to learn more about, such as alternatives to animal use and animals used for teaching. Agriculturalists are constantly being criticized for animal agriculture and practices that the non-farming public does not understand. Fairs provide a unique opportunity to be in the front end of these criticisms and address them first hand.

Incorporate New Information into Signs Each Year

As stated in previous chapters, the use of signs can be very beneficial when educating the non-farming public about animal agriculture. The signs cannot just be text on a page, rather something that will draw attention from fairgoers ad make them stop to read it. Also, the signs must be updated regularly; many of the signs at the fairs interviewed were at least five years old. Not only has information changed within that time period, but also with people coming to the fair each year they need to be able to learn something new. Fairs can provide information that is related to animal agriculture in a variety of ways, such as seedstock production and market production; many people do not realize what all animals are used for.

Incorporate More Exhibitor and Fairgoer Interaction

The findings from the general public interviews and responses to the credibility question from the questionnaire, suggest that the general public finds farmers and

ranchers credible information sources. Farmers and ranchers received the second highest credibility score amongst all categories with 88.5% (*n*=184) of the respondents giving it a M of 3.565 out of a possible 5. When asked about interaction with exhibitors, one respondent said, "If there were someone there to answer questions, I would ask…we don't normally interact with the exhibitors because they seem too busy". What better way to gain information than from the direct sources? The public seeks knowledge but agriculturalists must be open and willing to communicate with the non-farming public, and not be too busy.

Don't Give Up on the Non-Farming Public

Agriculturalists must have the intention to educate in a way that is understood by the non-farming public. Their way of learning might be different than what traditional agriculturalists are used to, but just because it is different does not mean it is wrong. The findings show that the public is interested in what agriculture has to offer. People make the difference for education. Observations showed that the public enjoyed one-on-one interaction with fair staff. The fair staff needs to key in on these interactions and make them engaging. Fair staff and event educators must be able to relate information to the public in a factual way but also in a way that the non-farming public understands.

Recommendations for Future Research

Based on the findings of this study, the following research recommendations are being made:

The ratio of white to non-white and non-Spanish descent to Spanish descent is large. If the study is replicated, neighborhoods with increased diversity should be sought out, and the questionnaire should be translated into Spanish to allow for Spanish speakers to take part in the study.

The specific questions taking place after the demographics section can only be generalized to the 208 participants. Due to the limited time frame and locations where questionnaires where distributed, this study should be replicated during the later part of the day and in additional locations to determine if respondent demographics and responses change based on time of day and location. Additionally, it is recommended that this study be repeated in different states.

With the time constraint always apparent, DOPU methods had to be altered during data collection. The original method was too time consuming and did not yield a good response rate. After each data collection lead researchers met and discussed what worked well and what needed to be improved upon. This posed difficult with having to re-train student researchers before each DOPU day. Data locations also had to be altered due to safety issues, the random collection streets that were selected, were scouted using Google maps prior to the Study Away departure. If neighborhoods did not look safe or were not residential additional streets were selected, but foreseen issues always arose. While this study demonstrated the impacts of livestock exhibits at fairs, an additional qualitative study should be conducted to gain a deeper understanding of how participants' perceptions are formed and altered. Determining which aspects of

educational exhibits significantly impact the non-farming publics perception can lead to improved engagement and communication strategies by agriculturalists.

Incorporate then/now data collection, which will require respondents to complete the questionnaire prior to and after livestock exhibit interaction. This will allow researchers to determine whether the presence of livestock at fairs has an impact on public perception. It will be convenient for researchers and participants because they will both be in the same setting and this form of survey collection can determine change in attitudes as a result of attending a specific event.

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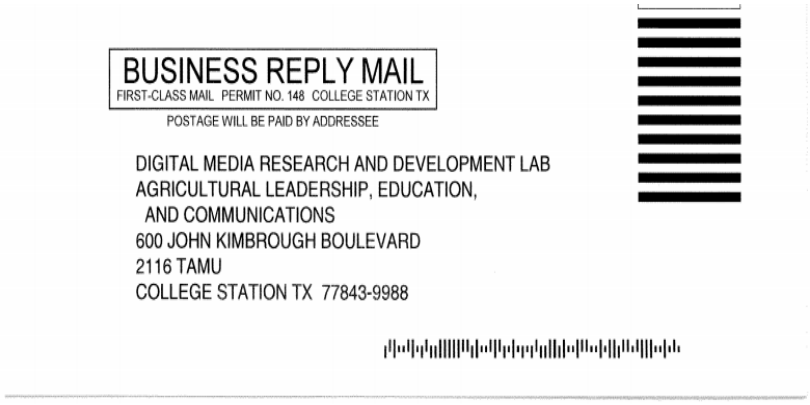
APPENDIX A


BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 148 COLLEGE STATION TX
POSTAGE WILL BE PAID BY ADDRESSEE
DIGITAL MEDIA RESEARCH AND DEVELOPMENT LAB
AGRICULTURAL LEADERSHIP, EDUCATION,
AND COMMUNICATIONS
600 JOHN KIMBROUGH BOULEVARD
2116 TAMU
COLLEGE STATION TX 77843-9988

APPENDIX B

Street Information:				DOPU ONLY
House #	Contact Y/N	Accepted Y/N	OTHER	Received

APPENDIX C

Your household was randomly selected to participate in a consumer engagement survey. As you've probably heard in the news lately, market research is incredibly valuable to our economy and to the success of many industries. This summer, our research team, from Texas A&M University, is traveling across the Western U.S. conducting this important market research.

In this bag, there is one consumer engagement survey. We ask that you please take approximately 15 to 20 minutes to complete the survey. Other than your time, there is NO cost to you and your participation is completely voluntary. However, your participation is very valuable and enables undergraduate and graduate students at Texas A&M University to engage in research that contributes to solving real-world problems.

How does this work?

We will only be in your area for three days. We have left you a consumer engagement survey with you today, along with more information regarding the study. After you complete the survey, please place it in the clear bag and hang it on your door. One of the student researchers will stop by your home to pick up your completed survey **Sunday, July 6, 2014** during the **between 12:00 p.m. and 4:00 p.m**.

We truly value your participation and trust. Thank you for being an anonymous voice of consumer research.

Sincerely,

APPENDIX D

Script

DOPU

Hi my name is _____; I am a student at Texas A&M University and we are conducting survey research for a school project in the area today. Would you help us by taking a brief survey and leaving it in this bag on your door? Our team will be back at _____ to pick it up.

Thank you, we appreciate your time and help.

DOMB

Hi my name is _____; I am a student at Texas A&M University and we are conducting survey research for a school project in the area today. Would you help us by taking a brief survey and using this business reply to mail it back to our office?

Thank you, we appreciate your time and help.

APPENDIX E

DIGITAL MEDIA RESEARCH
AND DEVELOPMENT LAB
TEXAS A&M UNIVERSITY

MEDIA RELEASE FORM

I, _____PRINT NAME HERE_____, grant permission to Texas A&M University and its employees or appointed agents to take and use photographs/digital images, videotape, and/or audio recording or quoted remarks of me. I agree to my image, voice and likeness being used in promotional, educational, and/or research materials. These materials might include printed or electronic publications, websites or other electronic communications.
I acknowledge that the picture or recording taken for this project becomes the sole and exclusive property of Texas A&M University. I hereby irrevocably consent to the unlimited, worldwide use by Texas A&M of my and all likeliness, photographs and reproductions of my face and/or body in any form, together with all accompanying sound recordings, without limitation regarding the territorial, time or factual range of use. I release Texas A&M University from any and all liability arising out of the use of my video reproductions and sound recordings, including without limitation any claims arising out of my right of privacy or right of publicity and any claims based on any distortions, optical illusions or faulty mechanical reproductions of any such images.

1. I authorize Texas A&M University and its agents to photograph, videotape, audio record, televise, duplicate, and/or otherwise record my image, voice, and likeness. I understand that Texas A&M will own these recordings.
2. I irrevocably authorize Texas A&M University and its agents to use, display, publish, and distribute these recordings for any purpose on websites, publications, broadcasts, displays, and any other medium, and to offer these recordings to others for use in non-university mediums.
3. I waive any right to inspect or approve these recordings or material that may be used with them now or in the future. I further consent that my name and identity may be revealed therein or by descriptive text or commentary.
4. I release Texas A&M University, its regents, employees, and agents from all liability arising out of the use of these recordings, including but not limited to any claims arising out of my right of privacy or right of publicity and any claims based on any distortions, optical illusions, or faulty mechanical reproductions.
5. I represent that I have read and understand the foregoing statement and am signing it voluntarily.

Signature	Date
Email	Phone
Address	City/State/Zip

If the participant is under age 18, a parent or guardian must also complete the following:
I hereby approve the foregoing authorization.

Parent/Guardian Signature	Date
Parent/Guardian Printed Name	Relationship
Address	City/State/Zip

Media Release - Summer 2014.Docx

UIN: _____

JD: _____

VN: _____

APPENDIX F

Your household was randomly selected to participate in a consumer engagement survey. As you've probably heard in the news lately, market and consumer opinion research are incredibly valuable to our economy and to the success of many industries. Our research team, from Texas A&M University, is conducting this important market research and asking for your input.

We left one consumer engagement survey with you today. We ask that you please take approximately 15 minutes to complete the survey. Other than your time, there is no cost to you and your participation is completely voluntary. However, your participation is very valuable and enables students at Texas A&M University to engage in research that contributes to solving real-world problems.

How does this work?

We are only collecting data in the [**CITY**] area today. We left one consumer engagement survey and a pre-paid return envelope with you. Please complete the survey, place it in the pre-paid envelope, and then place the envelope in the U.S. Mail no later than **[DAY], [DATE]**.

We truly value your participation and trust. Thank you for being an anonymous voice of consumer research. If you have questions about this research, please contact Dr. Billy McKim at brmckim@tamu.edu or 979-845-0794.

This study has been reviewed and approved by the Texas A&M University Institutional Review Board (IRB2013-0109). If you have any questions about your rights as a participant in this study, you may contact the Review Board by phone at 979-458-1467.

Your household was randomly selected to participate in a consumer engagement survey. As you've probably heard in the news lately, market and consumer opinion research are incredibly valuable to our economy and to the success of many industries. Our research team, from Texas A&M University, is conducting this important market research and asking for your input.

We left one consumer engagement survey with you today. We ask that you please take approximately 15 minutes to complete the survey. Other than your time, there is no cost to you and your participation is completely voluntary. However, your participation is very valuable and enables students at Texas A&M University to engage in research that contributes to solving real-world problems.

How does this work?

We are only collecting data in the [**CITY**] area today. We left one consumer engagement survey and a pre-paid return envelope with you. Please complete the survey, place it in the pre-paid envelope, and then place the envelope in the U.S. Mail no later than **[DAY], [DATE]**.

We truly value your participation and trust. Thank you for being an anonymous voice of consumer research. If you have questions about this research, please contact Dr. Billy McKim at brmckim@tamu.edu or 979-845-0794.

This study has been reviewed and approved by the Texas A&M University Institutional Review Board (IRB2013-0109). If you have any questions about your rights as a participant in this study, you may contact the Review Board by phone at 979-458-1467.

APPENDIX G

Digital Media Research
& Development Laboratory

TEXAS A&M UNIVERSITY

September 24, 2014

Dear Bryan/College Station Area Resident:

Your help is needed in gathering valuable research in the Bryan/College Station area. Researchers at Texas A&M University want to know your opinions about media use and consumer involvement. Your assistance will help students at Texas A&M University to solve real-world problems.

We have included one survey and a pre-paid return envelope with this letter. Please complete the survey, seal it in the pre-paid envelope, and return the envelope in the U.S. Mail no later than **Tuesday, September 30**. Other than your time, there is no cost to you, and your participation is voluntary.

We know your time is valuable, but we hope you will take 10-15 minutes to help us. This research can only be successful with the generous help of people like you. Most of all, we hope that you enjoy this opportunity to voice your thoughts and opinions by completing the survey.

If you have any questions about this survey or the survey process, please call the study director, Dr. Billy McKim, at 979-458-7990 or email him at brmckim@tamu.edu. This study has been reviewed and approved by the Texas A&M University Institutional Review Board (IRB2013-0109). If you have any questions about your rights as a participant in this study, you may call the Review Board at 979-458-1467.

Thank you for your time and consideration. Please remember that the contents of this survey will remain anonymous.

Sincerely,

Caitlin Curbello
Undergraduate Student Researcher

Danielle Bishop
Undergraduate Student Researcher

Deanna Bosse
Graduate Student Researcher

Megan Homeyer
Graduate Student Researcher

Lindy Froebel
Graduate Student Researcher

Jessica Johnston
Graduate Student Researcher

Suzann Svatek
Graduate Student Researcher

Meagan Piwonka
Undergraduate Student Researcher

Digital Media Research & Development Laboratory
2116 TAMU
College Station, TX 77843-2116

Tel. 979.458.7990
brmckim@tamu.edu

APPENDIX H

Exhibitor Interview Protocol

- What is your typical day at the rodeo?
- Do you have any interaction with the public? Can you describe a few?
- Does the livestock being present at fairs have an impact on public perception?
- What can agriculturalists do to help teach the public about agriculture?
- What do you think the public sees when they walk through the barns?
- What are some of the questions you are asked by the public?
- What is the animal's purpose at fairs?

General Public Interview Protocol

- Have you ever been to a livestock show?
- What is the animal's purpose here?
- Can you describe what you see when you walk through the barn?
- What do you want to know more about?
- How would you explain the environment here at the fair (specifically the livestock area) to someone who has never been here?
- Do you have any interaction with exhibitors?
    - What questions would you like to ask them?
- What is something you learned today?
- What is something interesting you have seen today?
- What educational activities have you engaged in today?
- Did you have any involvement with the livestock today?
- Do you have an agricultural background?
- Would you be interested in attending more fairs?
- Aare the presence of live animals at fairs beneficial to your learning experience?
- If there was a livestock attendant present; would you ask them questions?
    - What would you ask?

Fair Staff Interview Protocol

- What is the animal's purpose at the fair?
- What educational activities do you put on during the fair?
- What types of outreach does the fair do while the rodeo and livestock show isn't going on?
- Why do you do what you do?
- What is the main goal of having live animals present at the fair?
- What other fairs do you attend?
- How did you get involved with this fair and agriculture?
- How do you engage the public?
- Why do you use this approach to reach fairgoers?

APPENDIX I

Do's

Drink water, wear comfortable shoes, apply lots of sunscreen, and drink more water.

Ask questions if you are unclear about ANYTHING.

Knock on doors loud enough for people to hear you, or ring the doorbell. Wait ***2 minutes*** before leaving the door—people sometimes take their time getting to the door.

If gate is locked, tell your group leader so he/she can make note, and then move on to the next house.

Smile and be pleasant. You are approaching a person who doesn't know you; they will be much more welcoming if you are pleasant and approachable.

Make note of the types pf cars in the neighborhood.

Make note of vacant homes and their addresses.

At the end of each street, gather as a group and reflect on the neighborhood. Saying "It's nice" or "It's ghetto" doesn't cut it. Be specific and detailed.

Take pictures of the neighborhood at the beginning and end of each street.

Have Fun!

Don’ts

Do not put yourself in a dangerous situation.

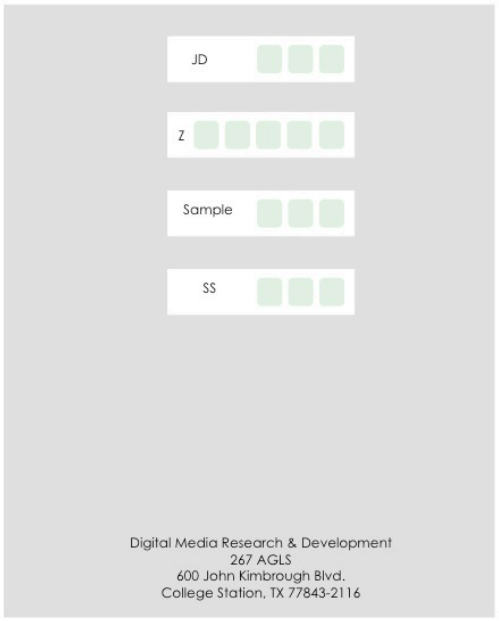
Do not go into anyone’s home. Period. End of story. Don’t do it.

Do not go out of sight when approaching a home. If you cannot see your group leader, ask a team member to go to the door with you.

Do not approach homes that have loose dogs in the yard.

Do not argue with people—If you have any issues with a person, hand him or her one of Dr. McKim’s business cards and ask them to call or email him.

APPENDIX J



Questions?

Your input is very valuable to us. Be assured that we will not share any of your information, as confidentiality is very important to us. Remember this survey is completely optional.

If you have any questions regarding this project please contact us at:

Digital Media Research & Development
267 AGLS
600 John Kimbrough Blvd.
College Station, TX 77843-2116

Jessica Johnston
Project Lead

jess-09@neo.tamu.edu
(979)458-7990

Please fully answer all of the questions using a mark or writing in the answer. These questions refer to you only so please answer accordingly. **All answers will be kept confidential.**

Marking Instructions:
Correct: ■ Incorrect: ⊘ ☐ *When answering questions completely fill in the box.*

1. In what year were you born? ☐☐☐☐ (Y Y Y Y) 1975 *(Example)*

2. What is your sex?
   ☐ Male ☐ Female

3. What is your race? *(Please select "yes" or "no" for each)*

Yes	No	
☐	☐	American Indian or Alaska Native
☐	☐	Asian
☐	☐	Black or African American
☐	☐	Native Hawaiian or other Pacific Islander
☐	☐	White
☐	☐	Other ☐

4. Are you of Hispanic, Latino, or Spanish origin?
   ☐ Yes ☐ No

5. Do you speak Spanish in the home?
   ☐ Yes ☐ No **(If no, skip next question)**

If you answered "no" to Question 5 please skip Question 6.

1

If you answered "no" to Question 5 please skip Question 6.

6. Thinking about languages you speak in the home, would you say you speak?
   - ☐ Only Spanish in the home
   - ☐ Mostly Spanish, but some English
   - ☐ Spanish and English equally
   - ☐ Mostly English, but some Spanish
   - ☐ Only English

7. How many people live in your household? *(Please fill in the blanks)*
   ☐☐ Adults ☐☐ Children *(under 18 years of age)*

8. What is your household income?
   - ☐ Less than $30,000
   - ☐ $30,000 - $49,999
   - ☐ $50,000 - $99,999
   - ☐ $100,000 - $249,999
   - ☐ More than $250,000

9. Including yourself, does anyone in your home have a working cell phone?
   ☐ Yes ☐ No

10. Including yourself, does anyone in your home have a working smartphone?
    ☐ Yes ☐ No

11. How many working TV sets are in your home?
    - ☐ 0
    - ☐ 1
    - ☐ 2
    - ☐ 3
    - ☐ 4
    - ☐ 5+

12. What time of day do you usually watch TV on weekdays and weekends? *(Please select "yes" or "no" for each item)*

Yes	No	**Weekdays**	Yes	No	**Weekends**
☐	☐	Morning	☐	☐	Morning
☐	☐	Afternoon	☐	☐	Afternoon
☐	☐	Evening	☐	☐	Evening

13. What are the top three TV shows you currently watch on a regular basis?
    1. _____
    2. _____
    3. _____

14. How many working computers with Internet access are in your home (including tablets, desktops, and laptops)?
    - ☐ 0
    - ☐ 1
    - ☐ 2
    - ☐ 3
    - ☐ 4
    - ☐ 5+

15. What time of day do you usually access the Internet on weekdays and weekends? *(Please select "yes" or "no" for each item)*

Yes	No	**Weekdays**	Yes	No	**Weekends**
☐	☐	Morning	☐	☐	Morning
☐	☐	Afternoon	☐	☐	Afternoon
☐	☐	Evening	☐	☐	Evening

16. What are the top three websites you visit on a regular basis?
    1. _____
    2. _____
    3. _____

17. How many working radios are in your home (not inlcuding cell phones and/ or smart phones)?
    - ☐ 0
    - ☐ 1
    - ☐ 2
    - ☐ 3
    - ☐ 4
    - ☐ 5+

18. What time of day do you usually listen to the radio on weekdays and weekends? *(Please select "yes" or "no" for each item)*

Yes	No	**Weekdays**	Yes	No	**Weekends**
☐	☐	Morning	☐	☐	Morning
☐	☐	Afternoon	☐	☐	Afternoon
☐	☐	Evening	☐	☐	Evening

19. What genre best describes the radio station you listen to most often? *(Please select one)*
    - ☐ Country
    - ☐ Hip Hop / R&B
    - ☐ Mix / Adult Contemporary
    - ☐ News / Talk / Sports
    - ☐ Rap / Urban
    - ☐ Rock
    - ☐ Christian
    - ☐ Other

20. Before you received this survey, had you ever heard of Texas A&M Univeristy?
    ☐ Yes ☐ No

Seeking out knowledge: Please rate each of these items 1-5 in reference to yourself. 1 being "Not at all like Me" and 5 being "Exactly like Me."

Marking Instructions:
Correct: ■ Incorrect: ☑ ☐ *When answering questions completely fill in the box.*

21. Rate each item in reference to yourself.	Not at all like me				Exactly like me
	①	②	③	④	⑤
1. If I had a question about a topic I was unfamiliar with, I would most likely **ignore it**.	①	②	③	④	⑤
2. If I had a question about a topic I was unfamiliar with, I would most likely **ask someone**.	①	②	③	④	⑤
3. If I had a question about a topic I was unfamiliar with, I would most likely **find the answer myself**.	①	②	③	④	⑤

Exposure to animals: Please rate each of these items 1-5 with your level of exposure to animals through the following sources. 1 being "Never" and 5 being "Frequently."

Marking Instructions:
Correct: ● Incorrect: ☑ ☐ *When answering questions completely fill in the box.*

22. How often have you seen animals in, at, or on the following places?	Never				Frequently
	①	②	③	④	⑤
1. Circus	①	②	③	④	⑤
2. Fair	①	②	③	④	⑤
3. Farm or Ranch	①	②	③	④	⑤
4. Internet	①	②	③	④	⑤
5. Magazine	①	②	③	④	⑤
6. At Home (e.g., pets)	①	②	③	④	⑤
7. Sporting Event	①	②	③	④	⑤
8. Social Media	①	②	③	④	⑤
9. Televison	①	②	③	④	⑤

Perceptions of choice: Please rate each of these items 1-5 with your level of agreement with each statement. 1 being "Strongly Disagree" and 5 being "Strongly Agree."

23. What is your level of agreement with each statement?	Strongly Disagree				Strongly Agree
	①	②	③	④	⑤
1. Using animals is natural for humans	①	②	③	④	⑤
2. Using animals is necessary for humans	①	②	③	④	⑤
3. Moral treatment of animals is important	①	②	③	④	⑤
4. Ethical treatment of animals is important	①	②	③	④	⑤

Attractiveness of animals: Please rate each of these items 1-5 with your level of agreement with each statement. 1 being "Not at all attractive or cute" and 5 being "Very attractive or cute."

24. How **attractive or cute** would you rate each of the following animals?	Not at all attractive or cute				Very attractive or cute
	①	②	③	④	⑤
1. Cats	①	②	③	④	⑤
2. Chickens	①	②	③	④	⑤
3. Chimpanzees	①	②	③	④	⑤
4. Cows	①	②	③	④	⑤
5. Dogs	①	②	③	④	⑤
6. Horses	①	②	③	④	⑤
7. Pigs	①	②	③	④	⑤
8. Rabbits	①	②	③	④	⑤
9. Rats	①	②	③	④	⑤

Personal Experience: Please rate each of these items 1-5. 1 being "Never" and 5 being "Frequently."

25. How often do you interact with the following animals?	Never				Frequently
	①	②	③	④	⑤
1. Cats	①	②	③	④	⑤
2. Chickens	①	②	③	④	⑤
3. Chimpanzees	①	②	③	④	⑤
4. Cows	①	②	③	④	⑤
5. Dogs	①	②	③	④	⑤
6. Horses	①	②	③	④	⑤
7. Pigs	①	②	③	④	⑤
8. Rabbits	①	②	③	④	⑤
9. Rats	①	②	③	④	⑤

Cost Benefit: Please rate each of these items 1-5 with your level of agreement with each statement. 1 being "Strongly Disagree" and 5 being "Strongly Agree".

Marking Instructions:
Correct: ● Incorrect: ☑ ☐ *When answering questions completely fill in the box.*

26. Rate each item in reference to yourself.	Strongly Disagree				Strongly Agree
	①	②	③	④	⑤
1. Using animals for the improvement of human health is acceptable.	①	②	③	④	⑤
2. Using animals for the improvement of animal health is acceptable.	①	②	③	④	⑤
3. Using animals to produce food for human consumption is acceptable.	①	②	③	④	⑤
4. Using animals to produce textiles (e.g., fabric, clothing, or materials) for humans is acceptable.	①	②	③	④	⑤
5. Using animals as an educational resources is acceptable.	①	②	③	④	⑤
6. Using animals for personal gain (profit) is acceptable.	①	②	③	④	⑤
7. Exhibiting animals at a livestock show is acceptable.	①	②	③	④	⑤
8. Exhibiting animals at a fair is acceptable.	①	②	③	④	⑤
9. Using animals for entertainment in a circus is acceptable.	①	②	③	④	⑤
10. Using animals in sporting events (horse racing, dog sledding, rodeo, etc.) is acceptable.	①	②	③	④	⑤

Mental capacity of animals: Please rate each of these items 1-5 with your level of agreement with each statement. 1 being "Not at all Capable" and 5 being "Very Capable."

27. How capable are the following animals of feeling **fear**?	Never				Frequently
	①	②	③	④	⑤
1. Cats	①	②	③	④	⑤
2. Chickens	①	②	③	④	⑤
3. Chimpanzees	①	②	③	④	⑤
4. Cows	①	②	③	④	⑤
5. Dogs	①	②	③	④	⑤
6. Horses	①	②	③	④	⑤
7. Pigs	①	②	③	④	⑤
8. Rabbits	①	②	③	④	⑤
9. Rats	①	②	③	④	⑤

28. How capable are the following animals of feeling **sadness**?	Never				Frequently
	①	②	③	④	⑤
1. Cats	①	②	③	④	⑤
2. Chickens	①	②	③	④	⑤
3. Chimpanzees	①	②	③	④	⑤
4. Cows	①	②	③	④	⑤
5. Dogs	①	②	③	④	⑤
6. Horses	①	②	③	④	⑤
7. Pigs	①	②	③	④	⑤
8. Rabbits	①	②	③	④	⑤
9. Rats	①	②	③	④	⑤

Knowledge of animal use

29. How knowledgeable are you about...	Not at all knowledgable ①	②	③	④	Very knowledgable ⑤
1. alternatives to animal use	①	②	③	④	⑤
2. the use of animals in entertainment	①	②	③	④	⑤
3. the use of animals for food	①	②	③	④	⑤
4. the use of animals to produce furs (clothes & coats)	①	②	③	④	⑤
5. the use of animals in medical research	①	②	③	④	⑤
6. the use of animals for teaching	①	②	③	④	⑤
7. the use of animals for testing cosmetics	①	②	③	④	⑤

Consider the following uses of animals, and then indicate your level of agreement for each.

30. I want to know more about...	Strongly Disagree ①	②	③	④	Strongly Agree ⑤
1. alternatives to animal use	①	②	③	④	⑤
2. the use of animals in entertainment	①	②	③	④	⑤
3. the use of animals for food	①	②	③	④	⑤
4. the use of animals to produce furs (clothes & coats)	①	②	③	④	⑤
5. the use of animals in medical research	①	②	③	④	⑤
6. the use of animals for teaching	①	②	③	④	⑤
7. the use of animals for testing cosmetics	①	②	③	④	⑤

11

Exposure to animals: Please rate each of these items 1-5 with your level of exposure to animals through the following sources. 1 being "Not at all credible" and 5 being "Very Credible."

Marking Instructions:
Correct: ● Incorrect: ⊘ ○ *When answering questions completely fill in the box.*

31. How credible are the following sources of information about animals?	Not at all Credible ①	②	③	④	Very Credible ⑤
1. Animal Rights Organziations	①	②	③	④	⑤
2. Blogs	①	②	③	④	⑤
3. Commercials (Television, Radio, Internet)	①	②	③	④	⑤
4. Cosmetics Companies	①	②	③	④	⑤
5. Farmers and Ranchers	①	②	③	④	⑤
6. Government	①	②	③	④	⑤
7. Grocery Stores	①	②	③	④	⑤
8. Medical Associations	①	②	③	④	⑤
9. News	①	②	③	④	⑤
10. Researchers	①	②	③	④	⑤
11. Social Media (Facebook, Pinterest, YouTube, Twitter)	①	②	③	④	⑤
12. Television Programs	①	②	③	④	⑤

12

Mental capacity of animals: Please rate each of these items 1-5 with your level of agreement with each statement. 1 being "Not at all Capable" and 5 being "Very Capable."

Marking Instructions:
Correct: ● Incorrect: ⊘ ○ *When answering questions completely fill in the box.*

32. How capable are the following animals of feeling **pain**?	Not at all Capable ①	②	③	④	Very Capable ⑤
1. Cats	①	②	③	④	⑤
2. Chickens	①	②	③	④	⑤
3. Chimpanzees	①	②	③	④	⑤
4. Cows	①	②	③	④	⑤
5. Dogs	①	②	③	④	⑤
6. Horses	①	②	③	④	⑤
7. Pigs	①	②	③	④	⑤
8. Rabbits	①	②	③	④	⑤
9. Rats	①	②	③	④	⑤

33. How **intelligent** are the following animals?	Not at all intellignet ①	②	③	④	Very intellignet ⑤
1. Cats	①	②	③	④	⑤
2. Chickens	①	②	③	④	⑤
3. Chimpanzees	①	②	③	④	⑤
4. Cows	①	②	③	④	⑤
5. Dogs	①	②	③	④	⑤
6. Horses	①	②	③	④	⑤
7. Pigs	①	②	③	④	⑤
8. Rabbits	①	②	③	④	⑤
9. Rats	①	②	③	④	⑤

13

Thank you for your input!

34. In case you are selected for a future consumer engagement study, please provide your email address and phone number below. Be assured that this information will be kept confidential and that we will not reveal or sell your information to anyone. *(Please fill in the blanks)*

(□□□) □□□ - □□□□

_____

(Email Address)

We appreciate the time you took to answer our survey. Your input is very valuable to us. Be assured that we will not share any of your information, as confidentiality is very important to us.

If you have any further questions regarding this project please contact us.

Digital Media Research & Development
267 AGLS
600 John Kimbrough Blvd.
College Station, TX 77843-2116

Jessica Johnston
Project Lead

jess-09@neo.tamu.edu
(979)458-7990

APPENDIX K

DIVISION OF RESEARCH

Research Compliance and Biosafety

DATE: February 16, 2015

MEMORANDUM

TO: Billy R McKim, Ph.D.
ALRSRCH - Agrilife Research - Ag Leadership, Education & Communication

FROM: Dr. James Fluckey
Chair
Institutional Review Board

SUBJECT: Amendment Approval

Study Number: IRB2013-0109D
Title: Digital Media Research and Development
Approval Date: 03/12/2013
Continuing Review Due: 11/01/2015
Expiration Date: 12/01/2015

Documents Reviewed and Approved:

Submission Components			
Study Document			
Title	Version Number	Version Date	Outcome
appendix_Y_information sheet	Version 1.0	12/15/2014	Approved
appendix_X_information sheet	Version 1.0	12/15/2014	Approved
appendix_W_information sheet	Version 1.0	12/15/2014	Approved
Amendment_DOPU-DOMB_Script	Version 1.0	11/26/2014	Approved
Amendment_QuestionsToDevelopSurveyContent	Version 1.0	11/26/2014	Approved
Amendment_DOMBInformationSheet	Version 1.0	11/26/2014	Approved
CoverPage_DOPU Survey- all versions- Final	Version 1.0	11/26/2014	Approved

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Comments: This Amendment has been approved.

This research project has been approved. As principal investigator, you assume the following responsibilities:

750 Agronomy Road, Suite 2701
1186 TAMU
College Station, TX 77843-1186
Tel. 979.458.1467 Fax. 979.862.3176
http://rcb.tamu.edu

DIVISION OF RESEARCH

Research Compliance and Biosafety

DATE: 11/24/2014

MEMORANDUM

TO: Billy R McKim, Ph.D.
ALRSRCH - Agrilife Research - Ag Leadership, Education & Communication

FROM: Human Subjects Protection Program
Institutional Review Board

SUBJECT: Personnel Change Request

Protocol Number:	IRB2013-0109D
Title:	Digital Media Research and Development
Review Type:	Process Administratively
Description of Submission:	Addition of : Tracy Rutherford, Wendi Kaspar, Annie Specht as Co-Investigators. Lori Costello, Karina Farias, Lindy Froebel, Tara Hale, Megan Homeyer, Jessica Johnston, Kaitlin Mcgraw, Hannah Miller, Brittney Postert, Victor Salazar, Kasee Smith, Ashley Stewart, Rachel Bedinger, Lauren Friend, Meagan Piwonka, Mary Winstead, Suzann Svatek, Danielle Bishop, Caitlin Curbello, Peyton Gilbert, Hayley Grimes, Shannon Seelye as Research Assistants.
Comments:	Victoria Pilger was not added to this study and should not be involved in study related activities.

This research project has been approved. As principal investigator, you assume the following responsibilities:

1. **Continuing Review:** The protocol must be renewed by the expiration date in order to continue with the research project. A Continuing Review application along with required documents must be submitted by the continuing review deadline. Failure to do so may result in processing delays, study termination, and/or loss of funding.
2. **Completion Report:** Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the IRB.
3. **Unanticipated Problems and Adverse Events:** Unanticipated problems and adverse events must be reported to the IRB immediately.
4. **Reports of Potential Non-compliance:** Potential non-compliance, including deviations from protocol and violations, must be reported to the IRB office immediately.
5. **Amendments:** Changes to the protocol must be requested by submitting an Amendment to the IRB for review. The Amendment must be approved by the IRB before being implemented.
6. **Consent Forms:** When using a consent form or information sheet, you must use the IRB stamped approved version. Please log into iRIS to download your stamped approved version of the consenting instruments. If you are unable to locate the stamped version in iRIS, please contact the office.
7. **Audit:** Your protocol may be subject to audit by the Human Subjects Post Approval Monitor. During the life of the study please review and document study progress using the PI self-assessment found on the RCB website as a method of preparation for the potential audit. Investigators are responsible for

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