AN EXPLORATION OF THE BACKGROUND CHARACTERISTICS AND INTERESTS OF
UNIVERSITY OF ILLINOIS DEPARTMENT OF ANIMAL SCIENCES FRESHMEN

BY

SARAH D. ALBERT

THESIS

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Adviser:

Assistant Professor James C. Anderson II
Abstract

Understanding student interests and demographics is an issue that both departments in universities and recruiters must constantly consider. This study sought to explore the demographics, animal interests, and future career aspirations of incoming students to the department of animal sciences at the University of Illinois. The investigator conducted a questionnaire that was distributed to students who were current freshmen in the department of animal sciences to gather insights on their interests and background experiences. Students within the program were mostly female from urban and suburban areas, and had little to no previous experience in agriculture. Most students were interested in companion animal and equine species as compared to the more traditional production animal species. Many students were interested in pursuing a career in veterinary medicine, specifically with companion animals or equine. Students generally entered the program because of an intrinsic desire to work with animals in their future career. Recommendations for departments of animal sciences are to continue to add and improve courses and opportunities for students involving companion animals and equine species so they may be comparable to the opportunities for students interested in traditional production animal species. Recruiters should also work to promote these opportunities for students to work with these animals as a way to encourage students to enroll in their specific programs.
Acknowledgements

Many thanks are in order for many people who provided support throughout this project. First, thanks to Dr. James Anderson for his guidance in conducting my project. Thank you to Dr. Neal Merchen for providing his approval to introduce this research in the Department of Animal Sciences, and to Lauren Redman for coordinating the distribution of the questionnaire to students. Thanks also to Dr. Amy Fischer, Dr. Walter Hurley, and Dr. David Miller for providing their professional input on the questionnaire portion of this project. I would also like to extend my gratitude to those members of the faculty and staff of the University of Illinois’ Department of Animal Sciences who expressed their interest and support for this project. Finally, I would like to extend my deepest appreciation to those people who supported me every day throughout this project: my parents; my close friend, Claire Carter; my boyfriend, Brian Boyle; and Dr. Amy Fischer.
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Chapter 1: Introduction

Background and Setting

Agriculture is a rapidly growing field with new advances in technology being discovered regularly (Leach, Sumner, & Waldman, 2008). While colleges of agriculture strive to keep their students informed on these advancements, the demographics of the students entering colleges of agriculture are also rapidly changing (Buchanan, 2008). At the University of Illinois in Urbana-Champaign, where many students are being recruited in suburban and urban areas around Chicago, many departments have curricula which still cater to the more traditional agriculture students. In fact, the number of students enrolled at the University of Illinois who had completed high school agriculture courses, who had farm backgrounds, or who had experience in agriculture represented a clear minority (Dyer, Lacey, & Osborne, 1996). Within the Department of Animal Sciences, many students are entering with changing animal interests while the curricula still focuses heavily on livestock species, while there are more urban students with interests in horses, companion animals, and exotic animals (Buchanan, 2008).

The Problem

Professors within these departments are currently aware that there are new trends concerning the characteristics, background, and interests of freshmen entering their programs (Buchanan, 2008); however, many are uncertain of the full extent of these changes in their classrooms. Many institutions, such as the University of Illinois and the University of Iowa, have taken the initiative to introduce at least one companion animal course, outreach programs, or research related to companion animals (McNamara, 2009). Despite the fact institutions have provided new programs there still is a need to increase the scope of these programs, and the number of courses offered to students interested in these areas. This lack of available courses or
programs in many departments could potentially lead to disconnect between what faculty believe students want in their program and what students truly desire. This may lead to an eventual loss of those students entering the program and an increase in the number of students transferring out of the program. To this end, what are the characteristics and interests of students entering these programs and how can the further development of the curriculum be used to better recruit and retain the students within the program?

**Purpose of the Study**

The purpose of this descriptive study was to explore the characteristics, current interests, and future goals of incoming animal sciences freshmen. This study may help to further advance the effectiveness of curricula used within these departments as they adjust to a new demographic of students along with allowing for more effective recruitment and retention of students to agricultural colleges.

**Research Question and Objectives**

The research question and objectives that guided this study are:

What are the background characteristics, current interests, and future goals of incoming freshmen, majoring in animal sciences at the University of Illinois Urbana-Champaign?

1. Determine the demographics of incoming freshmen of the Department of Animal Sciences at the University of Illinois Urbana-Champaign on gender, age, agricultural experience, size of hometown, and animal experience.

2. Determine animal(s) of interest (beef, dairy, poultry, companion animal, exotics, equine, swine, or other) for incoming freshmen.

3. Determine future career goals as described by incoming freshmen during their first semester of college.
4. Describe motivations for choosing the Animal Sciences as a major, the University of Illinois as the institution of choice to pursue their degree, and animals as an area to be involved with in the future as described by incoming freshmen.

**Definition of Terms**

- Companion Animals: For the purpose of this study, the term “companion animal” will refer to domestic dogs and cats.
- Exotic Pets: For the purpose of this study, the term “exotic pets” will refer to small mammals, birds, reptiles, and amphibians kept as pets.
- Zoo animals: For the purpose of this study, the term “zoo animals” will refer to animals commonly housed in a zoo facility.

**Limitations of the Study**

The investigator did not have direct access to the frame for the study. Students were contacted to participate in the study by the department of animal sciences and therefore confirmation that the entire intended population was contacted to participate was not possible.

Due to the sampling procedures used in this study, the freshmen entering the University of Illinois department of animal sciences, the findings in this study are not able to represent the entire student population within the department of animal sciences at the University of Illinois. These results are restricted for generalizing only the sample used in this study.

**Basic Assumptions**

For the purposes of this study, only incoming freshmen entering their first year of college were examined. This did not include any transfer students that may have entered the department from other institutions. Researchers were not able to directly contact students for the
questionnaire, the assumption was made that the department of animal sciences contacted the correct frame and the email sent was received by all students.

Within the study, investigators assumed that students provided honest answers concerning their background experiences and future interests. It was also assumed the sample had a general understanding of the information asked in the questionnaire.

**Significance of the Study**

Understanding the demographics and interests of students entering colleges of agriculture can assist in the recruitment and retention of these students. By looking more closely at the changing interests of students that are enrolling in animal sciences, the proper adjustments to curricula can be made in response. This is of significant interest to the faculty of these departments because the loss of students during the recruitment process and those who transfer out both lead to financial losses for programs. This is also of significance to the students who are enrolling, as programs will be better equipped to meet the expectations that match their career aspirations.
Chapter 2: Literature Review

Past Agriculture College Enrollment Trends

Over the past 40 years, enrollment in colleges of agriculture has fluctuated greatly (Peiter, Morgan, Coffey, & Kantrovich, 2004). Enrollment reached its peak in the early 1970’s, but drastically declined in the late 1970’s and early 1980’s with the onset of the farm crisis (Dyer, Lacey, & Osborne, 1996). Despite this change in enrollment, there were not many changes made to the curriculum at that time to attempt to increase recruitment and retention of a new demographic of students. During this time, most of the students were male, from rural backgrounds. In Illinois specifically, agriculture program enrollments decreased between the late 1970’s and early 1980’s by over 60% (Dyer, Breja, & Andreasen, 1999). Between 1978 and 1988, there was a 24% decrease in agriculture enrollments within land grant universities and a 13% decrease in agriculture enrollments within non-land grant universities (Manderscheid, 1988).

In the mid-1980’s, the beginnings of a new trend of students could be seen in enrollments within agriculture colleges. During the ten year period from 1985-94, a total of 4,847 freshmen enrolled in the College of Agriculture at the University of Illinois. Of these students, over 70% came from non-agricultural backgrounds (Dyer, Lacey, & Osborne, 1996). Throughout these few decades enrollment had decreased, but as students from more urban backgrounds began to replace those students from rural backgrounds, the enrollment was able to increase once again.

Current Agriculture College Enrollment Trends

Many departments have seen increases in their enrollment within the last thirty years, but the demographics of those students that are enrolling have changed dramatically (Buchanan, 2008; McNamara, 2009). The makeup of students entering these colleges changes as more urban
students with little to no background or experience in the field of agriculture enter these programs (Buchanan, 2008). Within departments of animal sciences, the proportions of urban and female students have increased. Fewer students intend to return to farming operations, and more have the intention of applying to a college of veterinary medicine (Edwards, 1986; Mollett & Leslie, 1986; Meyer, 1990; Reiling, Marshall, Brendenmuhl, McQuagge, & Umphrey, 2003).

Today, this trend has continued as many students within departments of animal sciences are urban females who intend to pursue an eventual degree in veterinary medicine. Students who have completed high school agriculture courses, who have a farm background, or who have experience in agriculture represents a clear minority in the University of Illinois College of Agriculture (Dyer, Lacey, & Osborne, 1996).

This trend does vary from institution to institution. Researchers in one study found that the percentage of students coming from large to medium urban areas to Iowa State University had actually declined from 43% in 1995 to 23.7% in 1996. This study shows that although there have been increases in enrollment of urban students at the University of Illinois; Iowa State University continues to attract students with rural or farm backgrounds who have completed high school agriculture courses (Dyer, Breja, & Andreasen, 1999).

Overall, freshmen within these two institutions differed in their overall demographics and their levels of agricultural experience. University of Illinois students were generally more urban or suburban, lacked agricultural experience, had little or no high school agriculture classroom experience, and were more ethnically diverse than were students from Iowa. In contrast, Iowa State University students generally had farm, rural or small town background, and considerable agricultural experience, which included enrollment in high school agriculture programs (Dyer, Breja, & Hasse Wittler, 2000). The differences in these studies suggest that the location of the
institution and the programs and experiences available to students prior to entering college have a great impact on the overall demographics of students entering those institutions.

More recently, a study conducted by Lyvers Peffer (2011) on the demographics of students in an undergraduate animal sciences course indicated that the majority, over 50%, of students were interested in companion animals followed by equine. This discovery, along with the fact that the majority of students enrolling are from urban and suburban backgrounds, coincides with numbers from the AVMA (2007) reporting that 77% of households share their homes with dogs or cats and 20% own horses.

**Current Suggested Changes in Curriculum and Teaching Strategies**

Many incoming students were not enrolled in agriculture programs in high school. Many of these students were not offered the opportunity to take a course as one was not offered in their school (Peiter, Morgan, Coffey, & Kantrovich, 2004). There has also been an increase in the variety of species that incoming students are interested in. This new interest continues to pose the question of whether or not zoo animal and companion animal courses should be more widely available for these students as was suggested in the 1990’s (Meyer, 1990).

In a paper regarding the current state of companion animal programs in animal sciences departments, McNamara (2009) suggests that while many departments are now offering at least one companion animal and equine course, extra effort is needed across the country to introduce more of these classes to students. In addition, additional opportunities in research should be made available for these students interested in companion animal and equine over food animals. Animal sciences departments should continue to prepare for this constant change in curriculum to include more opportunities in a diverse array of species and subjects to ensure the needs and aspirations of students are met (Kauffman, 1992).
Teaching methods utilized in animal sciences courses need to be reexamined. Currently, many students are simply given facts and imparted knowledge upon in the majority of their courses when students should be allowed to explore all methods, create their own, and defend their creation (Schillo, 1997). This method will lead to students who are better able to utilize decision-making and problem-solving skills in the future.

**Background Agricultural Experience and Its Effects on Recruitment and Retention**

Based on a better understanding of the background of students, improvements in recruitment strategies and curricula development can be made. There are more students with urban backgrounds with interests in companion animals, horses, and exotic animals (Buchanan, 2008). Departments must reach out to these new populations of students without ignoring the traditional students from farms and ranches (Buchanan, 2008). In addition to this, educators should encourage and challenge students to express and defend their opinions on challenging and controversial topics within agriculture. Not only does this further show a difference in interests, values, and background of the students enrolling and allow them to express their differences, but it is also needed to capitalize on the growing diversity in backgrounds and values in the agricultural classroom (Walter & Reisner, 1994).

More high school agriculture programs should also be made available to potential students to increase their experience and interest in the field of agriculture. In one study, a high percentage of University of Illinois College of Agriculture students did not plan to complete their degree. This percentage was higher in students that had not completed a high school agriculture course (Dyer, Lacey, & Osborne, 1996). This finding suggests that students may not be satisfied with the degree program once they enter. This dissatisfaction may be the result of a curriculum that does not focus on the students’ interests. The retention of students in agricultural degree
programs is higher in students with prior agricultural experience, including having a high school agriculture course. Students who participated in agricultural programs prior to attending a university rated it as good, and a majority of those students who did not participate in an agricultural program prior to attending the university cited their reason as having no program available to them (Peiter, Coffey, Morgan, & Kantrovich, 2004). Students that had taken a high school agriculture course seemed to also have generally positive attitudes toward the agriculture field and industry (Pieter, Morgan, Coffey, & Kantrovich, 2004).

Students coming in to colleges of agriculture also hold high expectations for their degrees and expect to gain technical skills along with decision-making and problem-solving skills. Female students also tend to have higher expectations for their degrees than males (Scofield, 1994). Considering the majority of students entering these programs are female, departments must adhere to the high expectations that their students expect.

A loss of students through a lack of recruitment or through a lack of retention both can lead to a loss of financial gains to the departments, a significant problem in colleges during current economic hardships.

**Intention, Belief, and Attitude Formation**

The conceptual framework used for this study came from the theory of planned behavior as reported by Ajzen (1985). This theory is supported by the foundation set by Fishbein and Ajzen (1975) in their theory of reasoned action in which they state that intentions, beliefs, and attitudes are formed based on many different variables such as knowledge, observations, or other information about an issue (see Figure 1). Within the theory of planned behavior, these behavioral intentions can be predicted by examining and understanding attitudes toward the behavior, subjective norms with respect to the behavior, and perceived control over
the behavior (Ajzen, 1991). With this in mind, this conceptual framework suggests that a person’s intent to study within the Department of Animal Sciences at the University of Illinois may be predicted by studying those factors that influence their selection of university and field of study, along with their future career choice.

Figure 1. Fishbein and Ajzen’s Model for Reasoned Action (1975).

In a study by Esters and Bowen (2004), one of the influencing factors for students entering to enter an urban agriculture program was an interest in animals. Students entering the animal sciences department would likely share this factor as a major influence on their decision to enroll in the degree program.

When considering the students’ perceived control over their behavior, departments must consider what the future interests and goals of students are and ensure the curriculum meets these to aid in the retention of these students. By looking at the demographics and interests of students entering college, their future career intentions and current interests can be better understood and examined. Thompson (2001) also stated that individuals tend to view situations or subjects positively if they have positive attitudes toward them. As a result, students who view curriculum and specific courses offered in an animal sciences department positively should be more likely to
view the entire degree program more positively. By analyzing a student’s beliefs and attitudes toward the degree program should be able to predict their overall support and intent to remain within the department (Kalme & Dyer, 2000). Knowing these factors can greatly help faculty and instructors understand how to achieve higher retention and recruitment rates of students.

Summary

Overall, as the enrollment trends of students in colleges of agriculture have changed over the past few decades, so too have the demographics of students entering. The students enrolling in these programs are no longer the rural males who are training to become farmers. Despite changes in enrollment and demographics, only small changes have been made in terms of how the curricula is delivered at many institutions and the methods utilized to recruit and retain students. This leads to a lack of interest in enrolling and an increase in transfers to other departments, leading to an overall loss in revenue for the department. In order to remain relevant in the face of this changing society, animal sciences departments must prepare to examine the diversifying population of students and make adjustments in curriculum as needed.
Chapter 3: Methodology

Research Design

This descriptive-survey research sought to explore the background experiences and motivations of students entering the department of animal sciences. Student characteristics that were examined included: student motivation, future plans, student background, agriculture experience, and prior animal experience. This is the first step in understanding the relationship between students’ past experiences, their career aspirations, and their decision to enroll in animal sciences (Kalme & Dyer, 2000).

The questionnaire used attempted to capture data on students’ interests and experiences by allowing them to report their demographics in a multiple-choice format, while explaining their motivations and interests in a free-response format. Using this format, attitudes and past experiences can be recorded and observed to determine student motivation and intentions leading them to enroll in the department of animal sciences (Ajzen, 1991)

Instrumentation

This study used a combination of quantitative and qualitative measures in order to fully understand the background and characteristics of incoming freshmen (see Appendix A). In order to understand the broad variety of possible future career choices and motivations for choosing their institute of choice, the questionnaire developed allowed students to develop and describe their own thoughts.

In brief, the survey covered the following topics:

- Demographic questions including: gender, age, hometown, and size of hometown.
- Background agricultural experience questions including; 4-H and FFA participation and past experience in a farm setting.
• Background animal experience questions including; pet ownership, livestock showing, and livestock ownership.
• Animal interest upon entering.
• Description of future career goals.
• Motivation to major in animal sciences and attend the University of Illinois Urbana-Champaign’s program.

The questionnaire developed was examined by a panel of three experts formed from faculty within the department of animal sciences to ensure its content and face validity. A test-retest assessment was conducted to evaluate the reliability of the questionnaire. Through this, it was determined the percent agreement on this questionnaire was 78% or higher.

Subject Selection and Data Collection

For the purposes of this study, the accessible population included animal sciences freshmen at the University of Illinois Urbana-Champaign (N = 112). A census was taken by asking the University of Illinois, Department of Animal Sciences to email the questionnaire to all students who were current freshmen enrolled and majoring in animal sciences. Only freshmen were surveyed to determine motivations and interests of students prior to receiving information and experiences from time spent within their degree program. The researcher entered an introductory animal sciences course that all freshmen were required to take. The study was introduced during this class period and students were encouraged to respond to the upcoming email. To address those students that were not in attendance that day, the emails sent to the entire population of students containing the consent statements and online questionnaire informed them of the study as well. From the email sent, students followed a link to the online questionnaire hosted by the website Survey Monkey where they could respond to the questions.
These results were then sent back to the researcher. After one week, another email was sent to those students that had not completed the online questionnaire as a reminder to do so. Two other follow up emails were sent within the next week as a final reminder to participate in the study. The data collected and analyzed in this study could only be generalized to the department that is participating and only to the sample of students that responded, but the findings can be used to build a foundation for future studies.
Chapter 4: Results

Research Finding One

Research objective one sought to determine the demographics (gender, age, agricultural experience, size of hometown, and animal experience) of incoming freshmen of the Department of Animal Sciences at the University of Illinois Urbana-Champaign. Of the 46 participants in this study, the majority were female (91%), came from the city of Chicago or one of its suburbs (61%), and described their hometown as having over 10,000 residents (68%). The majority of incoming students did not participate in 4-H (72%) or FFA (80%). Of those students who did participate in 4-H or FFA, the majority had held a leadership position. For those students who participated in 4-H, the time spent in the program ranged from one to eleven years and 76.9% held a leadership position. For those who participated in FFA, time spent in the program ranged from one to five years and 88.9% held a leadership position. The majority of the participants had never completed an agriculture course in high school (67.4%). Many of these participants either had no agriculture course offered at their school, or were unaware that one existed (62.2%).

The participants in this study had a wide variety of past experiences with farming. Participants were allowed to choose all options that applied, or the one that most applied. The majority of the incoming students had never lived or worked on a farm before (see Table 1). These students reported farm visits with friends or family (24.3%), visits for school or organizations (23.0%), or seeing a farm while traveling (18.9%) as the extent of their experience.
Table 1

Extent of Experience on or Around Farms (n = 46)

<table>
<thead>
<tr>
<th>Farm Experience</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lived on a farm as a primary residence</td>
<td>8</td>
<td>10.8</td>
</tr>
<tr>
<td>Worked on or lived with a relative on a farm for a short period of time</td>
<td>13</td>
<td>17.6</td>
</tr>
<tr>
<td>Visited a friend or family’s farm</td>
<td>18</td>
<td>24.3</td>
</tr>
<tr>
<td>Visited a farm as an educational trip (school or organization)</td>
<td>17</td>
<td>23.0</td>
</tr>
<tr>
<td>Seen a farm while traveling</td>
<td>14</td>
<td>18.9</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Table 2 (n = 18) summarizes how participants who had once lived on a farm classified these particular farms. These were listed as hobby or production farms, and further broken down to animal, crop, or mixed farms. The majority of participants had previously lived on hobby farms, specializing in crops. In addition, those participants whose families had raised livestock (19.6%), the majority raised these animals for production purposes (42.9%), as opposed to showing (28.6%) or as a hobby (14.3%).

The majority of participants had no experience showing animals (65.2%), but those who did showed their animals for anywhere between less than one year to 13 or more years. There was a wide variety of animals that participants had experience showing from horses, various livestock species, small mammals, and dogs. The majority of students with showing experience focused on horses (34.4%).
Table 2

*Primary Residence Farm Classifications (n = 18)*

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production – Crop</td>
<td>2</td>
<td>11.1</td>
</tr>
<tr>
<td>Production – Animal</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Production – Mixed</td>
<td>4</td>
<td>22.2</td>
</tr>
<tr>
<td>Hobby – Crop</td>
<td>9</td>
<td>50.0</td>
</tr>
<tr>
<td>Hobby – Animal</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hobby – Mixed</td>
<td>1</td>
<td>5.6</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Almost half of the participants sampled had either volunteered or worked for a humane society or other animal rescue organization (47.8%). Slightly over half of participants had volunteered, worked, or job shadowed with a veterinarian before college (52.2%). Table 3 summarizes the different types of veterinarian specialties these participants had previously worked with.

Table 3

*Type of Previous Veterinary Experience (n = 26)*

<table>
<thead>
<tr>
<th>Veterinary Practice</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large (Livestock)</td>
<td>10</td>
<td>25.0</td>
</tr>
<tr>
<td>Small (cats, dogs, birds, small mammals, etc.)</td>
<td>17</td>
<td>42.5</td>
</tr>
<tr>
<td>Mixed (Large and Small)</td>
<td>7</td>
<td>17.5</td>
</tr>
<tr>
<td>Exotic (Zoo or Wildlife)</td>
<td>4</td>
<td>10.0</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>5.0</td>
</tr>
</tbody>
</table>
A very large majority of participants had either owned a cat or dog at some point in their lives (93.5%). In addition, a majority (65.2%) had also owned at least one exotic pet such as a small mammal, reptile, bird, or other exotic small animal in their life.

Table 4 summarizes the past experiences participants had with horses before entering their freshmen year of college. The majority of students had some experience with horses and the variety of experiences with and purposes for the horses were apparent.

Table 4

<table>
<thead>
<tr>
<th>Horse Experience</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family has owned their own horse(s)</td>
<td>11</td>
</tr>
<tr>
<td>Did not own, but rode horses</td>
<td>21</td>
</tr>
<tr>
<td>No previous horse experience</td>
<td>13</td>
</tr>
<tr>
<td>Showing horses</td>
<td>5</td>
</tr>
<tr>
<td>Riding for pleasure</td>
<td>21</td>
</tr>
<tr>
<td>Competing</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
</tr>
</tbody>
</table>

Research Finding Two

Research objective two sought to determine the animal species that participants most preferred to work with throughout their future career. Table 5 summarizes the species of animal that participants reported as being the most interested in. Participants were asked to rank their top three animal species they would want to work with during their future career. As represented from the higher overall number of votes and lower median scores, participants reported equine and companion animals as their most preferred animals of choice to work with. The second most popular grouping of preferred animals by participants was that of exotic pets and zoo animals.
Food production animals (beef, dairy, swine, and poultry) received the lowest number of total votes and the highest median scores, indicating the least amount of interest among participants.

Table 5

<table>
<thead>
<tr>
<th>Future Career Animal Species Preference (n = 46)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species of Animal</td>
</tr>
<tr>
<td>Beef</td>
</tr>
<tr>
<td>Dairy</td>
</tr>
<tr>
<td>Swine</td>
</tr>
<tr>
<td>Poultry</td>
</tr>
<tr>
<td>Equine</td>
</tr>
<tr>
<td>Companion Animals (dogs and cats)</td>
</tr>
<tr>
<td>Exotic Pets (small mammals, birds, reptiles, etc.)</td>
</tr>
<tr>
<td>Zoo Animals</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

Note. The scores were as follows: 1 = most preference to work with, 2 = second most preference to work with, 3 = third most preference to work with.

Research Finding Three

Research objective three sought to determine the future career goals of students as self-described by participants in a free-response question. Participants questioned on their future career interests revealed three major thematic areas. This included; pursuit of a degree in veterinary medicine, working with zoo or exotic animal species, and working in food animal production. While these were major thematic areas, some areas overlapped in individual responses.

Pursue a degree in veterinary medicine. The first major thematic area that emerged from questioning participants on their future career interest was to pursue a degree in veterinary
medicine. The largest majority those sampled reported an interest in entering veterinary school following graduation. Within this, participants cited a large variety of species they preferred to work with which correlated with their choices expressed previously on the questionnaire. This theme can also be seen throughout the other represented themes as an interest in being a veterinarian also overlapped with other career options. Through the free-response question listed on the questionnaire, the following quotes represent the variety of answers expressed, related to the theme of an interest in the eventual pursuit of a veterinary degree:

“I would like to operate a small/large animal clinic in a rural area.”

“I would like to go on to Vet School and become a large animal veterinarian, specifically working in an equine hospital”

“I am planning on becoming a veterinary parasitologist and working for the CDC or NIH.”

“I would like to work either in the humane society for companion animals or work at a vet in the equine racing industry.”

“I would like to become a Veterinarian, mainly for companion animals.”

“I want to go to veterinary school and become a zoo vet.”

**Work with zoo or exotic animal species.** The second major thematic area that emerged from questioning participants revealed an interest in a career working with animals in a zoo setting or with other exotic animals. While this was a smaller percentage of those sampled than in the first thematic area, many students still found interest in this area. Many students even planned to pursue a degree in veterinary medicine and continuing to work in a zoo setting. The following quotes represent the theme of working with zoo or exotic animal species:

“I want to complete vet school at UIUC and specialize in exotic birds.”

“Marine mammal trainer.”

“I would like to see myself as a veterinarian working full time on zoo animals.”
“Work at a zoo or something around those lines with large animals.”

**Work in food animal production.** The third thematic area that was represented was an interest in working in food animal production in some way. This was the least represented group of participants, but those who were questioned expressed very specific goals related to this theme. Each participant which expressed interest in working with food animals had a very specific career goal in mind. This specificity and interest in food animal production is expressed by the following quotes:

“In the future I plan on becoming a large animal veterinarian specializing in bovine. I also plan on working on a master’s in genetics so that I can also own and operate an embryo transfer facility.”

“One thing I am particularly interested in would be working with the livestock and meat processing companies to help make the process more humane for the animals and therefore more productive for the producer.”

“I would like to build my own food animal veterinary practice in which I would service my home area in addition to managing my family's grain farm and Angus Cattle Herd.”

“I wish to work in research at a feed company.”

**Research Finding Four**

Research objective four sought to understand the major motivations for students to major in animal sciences specifically, to seek their degree at the University of Illinois, and for working with animals in the future. Free-response questions were posed to participants in order to understand these motivations.

When participants were questioned on their specific reasons for choosing to major in animal sciences, two major thematic areas were revealed; affinity towards animals and advancement towards future career choice. The two major thematic areas were very common responses among all participants.
**Affinity toward animals.** The large majority of those sampled expressed a desire to work with animals due to an overall affinity towards animals. There were many different explanations for this overall affinity, but the love of animals in general influenced many students to pursue a career where they could work around animals. The following quotes represented this major thematic area:

“I am interested in animals! If I'm paying to go to school I wanted to be able to study something I actually like.”

“I am passionate about animals.”

“I have always wanted to work with animals ever since I can remember, and I thought this program would help me reach my goal.”

“I have been involved and extremely interested in the cattle from a very young age. I also really loved my dogs. Animals have always been a big part of my life, and it became evident to me that I could pursue an education and ultimately a career in Animal Sciences to continue my passion for animals.”

“I have always had a passion for animals, and school wise, the medical fields have interested me. So, for me, Animal Sciences was a field I could succeed in and enjoy at the same time.”

“I love animals and I would like to take care of them in the future.”

“I have always been around pets and animals and I have always found them to be very interesting. I wanted to learn all I could about them and I feel that a major in Animal Sciences will allow me to do that.”

**Advancement toward future career goal.** The second thematic area that was expressed when questioning participants on the reason they chose to major in animal sciences was an overall advancement toward their future career goal. Many students found animal sciences to be a stepping stone towards their overall career goal. The following quotes represent the second major thematic area:

“It seemed like a good choice if I wanted to be a vet. You get more experience and more specialty than if you just majored in chemistry, biology, etc.”
“Animal Science is a good major to have when applying to vet schools.”

“I wanted to be pre-vet and that's the major that I ended up in.”

“I chose to major in animal science because it is a very broad and general degree that allows me to help pursue a future in working with large animals.”

“I have always wanted to be a veterinarian and I felt that majoring in animal science would best prepare me for vet school later.”

Participants sampled on their reasons for choosing the University of Illinois as their academic institute of choice cited a variety of reasons. Three major themes emerged from the sample questioned. This included: presence of a school of veterinary medicine, family tradition of attending the University of Illinois, and the perceived academic reputation of the animal sciences program over others in the country.

**Presence of a school of veterinary medicine.** The first thematic area that appeared when participants were sampled was the importance of having a school of veterinary medicine present on the same campus. This coincides with the future career goal of many of the students to become a veterinarian after graduation. Many students believed that having the veterinary school located on the same campus increased their likelihood of eventually going to veterinary school after receiving their bachelor’s degree. This attitude can be observed with the following quotes:

“I wanted to go to a school that had a veterinary school because I figured it would give me the best education I could get since I want to get into vet school.”

“I assumed that since U of I had a good vet school, getting an undergraduate degree here would prepare me extremely well for the application.”

“University of Illinois has a veterinary school and the College of ACES.”

“The University of Illinois at Urbana-Champaign is one of the top 20 veterinary schools.”
Family influence. The second major theme that was revealed when questioning participants on their reasons for attending the University of Illinois included not only a family history of attendance, but the appeal of going to an institution that was located close to their family. Family influence seemed to be a strong influence over many students’ reasons for specifically attending the University of Illinois. This can be seen by looking at the following quotes:

“My sister previously graduated from this university. It is also very close.”

“Attending the University of Illinois is a family tradition for me.”

“I've loved the campus since I was in 5th grade. It's relatively close to home. My parents also did University of Illinois, so there was a lot of incentive to go to U of I because it's the best state school in Illinois.”

“Close to home and my whole family has gone to school.”

“In-state tuition vet school, close to home.”

Perceived academic reputation. The third major theme that appeared when participants were questioned was that of a perceived reputation of the quality of the academic program they were entering. Students had determined that the animal sciences program offered at the University of Illinois was of high quality and was the best they could be enrolled in for the degree they were seeking. This was a strong influence for many students who decided to come to the University of Illinois. Students were very concerned with the quality of their education. This can be seen in the following quotes:

“The academics are outstanding and it is a very prestigious school. I felt as if any degree I got a University of Illinois would be very well respected.”

“I chose to seek a degree at the University of Illinois Urbana-Champaign because it has a strong Animal Sciences program.”

“Best Animal Sciences program closest to home.”
“They have one of the top Animal Science programs.”

“I've heard good things about its animal science program.”

“This school has great teachers within the Animal Science department.”

**Motivation for working with animals: intrinsic motivation.** When participants were asked about their overall motivation for wanting to work with animals, almost all participants expressed true intrinsic motivation as their primary reason. There were little extrinsic motivational factors that influenced students’ reasons for wishing to enter a career working with animals. Most students cited a love for animals in general, or a desire to help these animals. Some students cited an overall reward for their work, but this was also related to intrinsic motivational factors such as a general positive feeling after helping an animal in need. These motivational factors can be seen in the following quotes:

“I love when you do something to make them happy how obviously happy they are. I love how much they love you back.”

“Pleasure and peace I got from just seeing animals.”

“I love working with animals because it just makes me happy! They are so fun and interesting and have always been my passion.”

“I enjoy being around animals is the most basic way to put it. When I work with cattle, I could do that for hours, especially show cattle. If I get bored at college I drive around all of the beef farms in the area just to see the cattle grazing in the fields.”

“I have always loved working with animals and I love the feeling you get after you know you helped them.”

“I enjoy being able to help animals and learn more about them.”
Chapter 5: Conclusions

Although this study is not generalizable past the sample used, it can be used as a way to look at the potential demographics and interest of students entering other departments of animal sciences and to build a foundation for future studies.

As examined in the previous literature, and investigated in research question one, students surveyed were mainly from urban backgrounds with little to no previous agricultural experience. As Buchanan (2008) noted, more of these students have interests in companion animals, equine, and exotic animals as opposed to the more traditional food production animals. This assertion ties in with the theoretical framework provided by Ajzen (1991) which states that students are more likely to form their beliefs and intentions based on previous experience and assumptions. Students sampled were from urban backgrounds, had many previous experiences with companion animals and equine, and had little agricultural experiences. This observation indicates that students are entering departments with different viewpoints and personal experiences than more traditional agriculture students may have. This difference is not something departments should avoid; this is something that can be embraced to create a more diverse classroom. As Walter and Reisner (1994) suggested, students should be challenged while being introduced to controversial topics in agriculture and in issues involving companion animals, equine, and zoo animal species. Students can utilize their differing opinions and experiences, combining them with the science they have learned in the classroom to examine these issues, form opinions, consider alternatives, and justify their decisions. In this way, the diversity exhibited within the student population can be used to enhance the students’ overall classroom experiences.
When examining the results related to research question two, it was observed that incoming students were very interested in companion animal, equine, zoo animal, and exotic species as opposed to the more traditional food production animal species. One recommendation regarding the demographics of incoming students is for these departments to consider their interests when creating new courses and opportunities for students. Currently, many animal science programs are catering to the minority of students with interests in livestock species while the majority of students entering have interests in companion animals, equines, exotic species, and zoo animals. While there is great importance in continuing to offer courses with livestock and broadening the experiences of these urban students, it is also important for departments to examine adding more courses and programs that match with student aspirations. The typical animal sciences department receives much of their funding from the production animal sector and far less from companion animal, equine, and zoo animal industries. While industries help fund much of the research that is ongoing is funded by the food animal industry, there are possibilities for funding in companion animals, equine, and zoo animal endeavors as well.

According to the AVMA (2007), 61.1% of U.S. households own at least one companion animal with 49.7% of owners considering these pets to be members of the family. In addition, the American Pet Product Association estimates that 52.87 billion dollars will be spent on companion animals in 2012, with increases in revenue seen each year (APPA, 2011/2012). The companion animal industry is growing each year, and pet owners are spending more money on their pets. The pet industry and pet owners who view their animals as family members may provide a source of revenue for teaching, outreach, and research in the future. Departments of animal sciences can involve these parties in their efforts to further benefit companion animals. Horse owners and those in the equine industry could also be approached for involvement,
funding, and partnerships within animal sciences departments. Zoos and aquariums could be approached for partnerships to allow students to gain hands-on experience with these animals in internships. These partnerships with owners and industries can be used to help create more opportunities with companion animal, equine, and zoo animal species that can compare to the opportunities currently given involving food production animal species.

When examining the results related to research objective three, the investigator observed a strong desire from students to enter the field of veterinary medicine. This dominated over all other future career goals with students. These results also tie in with one result from research objective four. Many students picked the University of Illinois’ department of animal sciences specifically because of its connection to the veterinary medicine college. This is an excellent opportunity for recruiters to take advantage of this connection. One recommendation for departments within animal sciences, especially one connected to a veterinary medicine college, is to constantly expose students to a variety of potential career options in an attempt to get these students to consider alternative options once they have entered the program. Some students who participated in this study did consider other options already, while some others had no interest in veterinary school, but this was a minor percentage compared to the rest of the student sample.

The results from research question four indicated that most students were interested in the University of Illinois because of its academic reputation, family connections, and for the proximity to the veterinary medical college. These results indicate that students have strong connections to this particular university and are likely to have already decided to apply to this institution. Students also indicated a strong intrinsic affinity towards working with animals. Considering both aspects of these results indicates that students are extremely passionate in their decision to enroll at the University of Illinois and to enter the department of animal sciences.
One recommendation is for recruiters to take advantage of this affinity towards animals that students already have by making note of the opportunities that students will have to work directly with animals while in the program. Another recommendation, to address the large number of incoming students with an interest in veterinary science, is to create programs for students within the program and those who are in high school currently to broaden their perspectives. Students can be introduced to other careers that involve direct work with animals, but outside of the medical field. This will help students who are interested in a veterinary medicine degree, but are not accepted into a degree program due to high competition from other students and limited admission in these programs. One alternative may be to recommend some of these students to enter agriculture education programs at the secondary and post-secondary levels.

Further investigation is needed to see if these students are satisfied with the current courses being offered to them in these departments. This study should also be repeated to obtain a larger sampling of the student population. Another questionnaire could also be given to students at the conclusion of their degree program to examine how their interests and career aspirations changed over time.
References


Appendix

Survey Instrument Design

Section 1: Background Characteristics and Agricultural Experience

1. Gender:
   ____ Female
   ____ Male
2. Hometown: _____________
3. Size of hometown (please select one):
   ____ Large City (Over 250,000)
   ____ Urban (Over 10,000-250,000)
   ____ Small Town (2,000-10,000)
   ____ Rural Small Town (<2,000)
   ____ Farm
4. Did you ever participate in 4-H?
   ____ Yes
   ____ No
5. If yes, how many years did you participate?
6. Did you ever hold a leadership position in 4-H?
   ____ Yes
   ____ No
7. Did you ever participate in FFA?
   ____ Yes
   ____ No
8. If yes, how many years did you participate?
9. Did you ever hold a leadership position in FFA?
   ____ Yes
   ____ No
10. What is your background experience with farms?
    ____ I have lived on a farm, with my family, as a primary residence.
    ____ I have spent time working on a farm or have lived with a relative for a short period of time.
_____ I have visited a friend or family’s farm before.
_____ I have visited a farm before on an educational trip (for a school or organization)
_____ I have seen a farm before while traveling.
_____ Other
11. If you have lived on a farm, what type of farm did you live on?
   _____ Production-Crop
   _____ Production-Animal
   _____ Production – Mixed (Animal and Crop)
   _____ Hobby – Animal
   _____ Hobby – Crop
   _____ Hobby – Mixed (Animal and Crop)
   _____ Other
12. Did you ever complete an agriculture course in high school?
   _____ Yes
   _____ No
13. If you did not complete an agriculture course, to your knowledge, was there an agriculture course offered at your high school?
   _____ Yes
   _____ No
14. Please describe any additional past agricultural experiences you have had prior to entering the University of Illinois.

Section 2: Animal Experiences and Interests
15. Did you ever show animals for competition?
   _____ Yes
   _____ No
16. If you have showed animals for competition, how many years did you show?
17. If you have showed animals for competition, what type of animal(s) did you show?
18. Have you ever visited a humane society or other animal rescue organization?
   _____ Yes
   _____ No
19. Have you ever volunteered or worked for a humane society or other animal rescue organization?
   _____Yes
   _____No
20. Have you ever worked, volunteered, or job shadowed with a veterinarian?
   _____Yes
   _____No
21. If yes, did you work, volunteer, or job shadow with a large, small, or mixed (large and small) practice?
   _____Large (Livestock)
   _____Small (Dogs, cats, small mammals, birds, etc.)
   _____Mixed
   _____Exotic (wildlife or zoo animals)
   _____Other
22. Have you, or your family, ever owned a companion animal (cat or dog) as a pet?
   _____Yes
   _____No
23. If yes, which type(s) of companion animal did you own? [Check all that apply]
   _____Dog
   _____Cat
24. Have you, or your family, ever owned an exotic (small mammal, bird, reptile, etc.) as a pet?
   _____Yes
   _____No
25. If yes, please list the animal(s) you or your family have owned.
26. Do you have any experience with horses?
   _____Yes, my family or I have owned our/my own horse(s).
   _____Yes, we did not own a horse, but I rode horses.
   _____I have no previous experience with horses.
27. If you do have previous experience with horses, what was the purpose of the horse? (Select the best answer)
   _______Showing
28. Have you, or your family, ever raised livestock?
   _____Yes
   _____No
29. If you or your family have raised livestock, please list all species that you or your family have raised.
30. What was the primary purpose of raising livestock?
   _____Showing
   _____Production
   _____Hobby
   _____Other
31. From the list provided, please rate your top 3 animals of interest to work with in your future career. (1 should be your highest preference)
   ____Beef
   ____Dairy
   ____Swine
   ____Poultry
   ____Equine
   ____Companion Animal (dog or cat)
   ____Exotic Pets (small mammals, birds, reptiles, etc.)
   ____Zoo Animals
   ____Other

Section 3: Future Goals and Motivation
32. Please describe your future career goals.
33. Please describe why you chose to major in Animal Sciences.
34. Please describe why you specifically chose to seek your degree at the University of Illinois Urbana-Champaign.
35. Please explain the reason you want to work with animals in your future career. What is the thing you enjoy the most about working with animals?