Caring for All Creatures Great and Small: A Qualitative Analysis of Senior Veterinary Students’ Career Choices

DISSERTATION

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Abstract

Professional veterinary medical education in the United States is facing several major challenges at the beginning of the 21st Century. The role of the modern veterinarian has shifted significantly, since the origin of the profession, from supporting the use of horses and agricultural livestock, to a focus on the human-animal bond. Recently there has been much discussion in the profession about a further shift towards the need for veterinarians in less traditional, “One Health” areas of practice, in collaboration with other health professionals.

In the meantime, the demographics of the profession have undergone a profound shift, from a male-dominated profession in the 1970’s, when women made up only 6% of new graduates, to a newly feminized profession with women now making up over 80% of new graduates. Currently these graduates tend to choose careers in species-specific, usually small animal, private practice, with an increasing number entering specialist training programs after graduation. However, those career aspirations appear to be a mismatch for the projected veterinary careers of the future. In the current context of greater accountability in higher education, through outcomes assessment, it is important, therefore, for educators to understand how veterinary students make career choices, in order to inform practice to prepare graduates better for future career opportunities in the profession.
This research examines how veterinary students make career decisions, through the narratives that they construct about their career pathways. Data was collected from twenty men and women who are senior veterinary students at a veterinary college at a large, Midwestern, state university, using semi-structured interviews. The data was coded and analyzed, using an interpretivist methodology, in order to examine students’ career narratives. Particular attention was paid to the influence of gender on students’ career choices.

Results of the study provided important insight into the typical career pathways of veterinary students, and the influences on the career choices that they made once in the profession. Three main career pathways to choosing veterinary medicine emerged from the participants’ narratives. Furthermore, there was evidence of the strong influence of socialization, both external and internal to the profession, on students’ perceptions, terminology and preferences with regards to veterinary medical careers. These findings should lead to greater insight into how to recruit and train veterinary students, and sets the groundwork for future research.

This study is the first phase of a larger mixed methods research project whose purpose is to develop a theoretical framework for veterinary career choice across a larger population. The next step will be to use the results of this study to develop and validate a survey questionnaire that can be disseminated to veterinary students nationally.
This dissertation is dedicated to my parents, Bill and Margaret Murray, who taught me to aim high in all my endeavors and to do my best to help to build a better world; to my husband, Matthew, who has always supported and encouraged me in this, and many other, efforts to do so; and to my sons, Sam and Jack, who inspire me to keep going.
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I have been fortunate to work with a wide range of extremely talented and committed faculty and staff in my graduate work. This dissertation, as well as the work that prepared me for it, could not have been possible without the support and advice of many faculty and friends in both the Department of Educational Studies (or, the School of Educational Policy and Leadership, as it was called when I started), in the College of Education and Human Ecology, and the College of Veterinary Medicine at The Ohio State University. In particular, I would like to thank the chair of my committee, Dr. Ada Demb, who so expertly managed the tricky balance of encouraging and supporting me, while also challenging me academically and holding me accountable to do my best work at all times. I particularly appreciate the fact that even after her retirement, she was so willing to stay the distance with me, even though some personal and professional setbacks in my life during this time made me a frustrating graduate student to advise. She did all of this, while literally “writing the book” on advising mid-career graduate students such as myself. I am proud and privileged to be one of her last graduate students. Thank you, Ada!

I would also like to thank Dr. Susan Jones, for taking over as my academic advisor, when Dr. Demb retired. She has always been approachable and generous with
her time, and has provided me with invaluable guidance on qualitative and feminist research methodologies, as well as more general support and encouragement.

Dr. Linda Lord has been a mentor, colleague and friend above and beyond her role as my committee member. She was one of the first people to introduce herself to me when I first arrived at the College of Veterinary Medicine, and has continued to support me and my work throughout my graduate degree. Due to her vast experience and expertise in the profession of veterinary medicine, she has been an amazing resource. In addition, she generously provided much-needed funds from her own research account to fund my data collection. I look forward to continuing to work with her in the future.

Dr. Terrell Strayhorn taught me about diversity in higher education – both formally in the classroom, and less formally by challenging me to think about the concept and how it threads through my work now and in the future. His revisions and comments of my dissertation, at the proposal stage, always challenged me to be more inclusive and thoughtful in my analysis, and I thank him for making my work better as a result.

I am also incredibly grateful to the many talented faculty who taught me in my graduate program. In particular, I would like to thank: Dr. Patti Lather for introducing me to feminist methodology, and inspiring me to always figure out what sustains me in my research; Dr. Jan Nespor, who taught me the mechanics and theory of qualitative research; and, Dr. Claire Robertson, who taught me about academic rigor.

I would like to thank my colleagues and supervisors at the College of Veterinary Medicine, for their patience and support throughout this degree program. Dr. Stephen DiBartola has been unfailingly kind, supportive and understanding of my dual existence,
and, Dr. Rustin Moore, who has been an incredibly generous chair, and mentor to me. They both advocated for me professionally and personally, and were incredibly understanding about giving me the time and space I needed to complete my dissertation.

This research is both about, and for the students in the professional program at the College of Veterinary Medicine. I would particularly like to thank the students who gave generously of their time and insight as participants in this research.

Last, but certainly not least, I would like to thank my family for their constant support and understanding. I have been working on this degree for more than half of my youngest son’s life, and both my sons have spent many hours waiting patiently for me to get home, tip-toeing around the house while I try to work, or tip-toeing around me emotionally as I became increasingly curmudgeonly. A significant portion of this dissertation has been written on the sidelines of a soccer field. That has certainly been a challenge, but I wouldn’t have it any other way. My husband, Matthew, in the meantime, not only had to deal with the domestic disruption, but also became an informal academic advisor, proofreader, and consistent, stalwart cheerleader and supporter. I could not have completed this degree without him.
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Field of Study

Major Field: Educational Studies

Higher Education & Student Affairs
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Chapter 1: Introduction

In the history of veterinary medicine, as for any profession, key changes in social context have presented challenges to its integrity. The profession and its members have had to adapt and change in response to these challenges in order to survive and thrive as a profession. Three such major shifts have occurred in veterinary medicine in the past twenty to thirty years. The first of these is a shift in the demographics of the student population enrolled in professional veterinary programs. The second is the shift in the types and uses of the animals being cared for by the profession, and the third is in the role of animal health and veterinarians in the larger social context. These shifts signal the need to reevaluate the structure of veterinary education. As veterinary students make career decisions in this shifting environment, this study aims to begin developing data to support changes that may be required in veterinary education in response to these shifts.

In particular, this study addressed the following research questions:

Research Question 1: How do men and women in their senior year of a North American professional veterinary program describe their career decision-making process?

Research Question 2: What are the influences on this career decision-making process?

The study also began to address a third research question, which will be developed further in future research:
Research Question 3: In what ways does gender affect the career decision-making processes of veterinary students?

This chapter will introduce the structure and context of careers in the veterinary profession, and why these questions are particularly relevant to the changing needs of veterinary medicine and how it serves the needs of society as a profession.

Changes to the Profession

In the mid-1970’s, about 94% of graduates from United States (U.S.) colleges and schools of veterinary medicine were men (Hacker, 2003). They were often from a farming background and were most likely to go into mixed, general practice after graduation, to work with a wide variety of species used for companionship, work and production. In contrast, almost 80% of graduates of a U.S. college or school of veterinary medicine in recent years are women (Shepherd & Pikel, 2011, 2012).

Research from the social sciences indicates that feminization is more than just a shift in numbers and has greater consequences to the status and structure of a profession, both internally and externally, that can continue to support patriarchal structures and gender dynamics (Bolton & Muzio, 2008; Kuhlmann & Bourgeault, 2008). These processes will be discussed more in the literature review in chapter 2.

Furthermore, despite the low numbers of male graduates in veterinary medicine, the majority of graduates choosing jobs in food animal or production medicine are still men (Shepherd & Pikel, 2011), and there is evidence to suggest a male bias towards food animal practice or production medicine (Serpell, 2005). This indicates a degree of
horizontal “segregation” (Reskin, 1993) by sex across career categories within the profession, that is typical of a newly “feminized” profession (Bolton & Muzio, 2008).

The veterinary profession is now facing another shift in emphasis, and the potential role its’ practitioners will play in society. Veterinarians will continue to provide important clinical services to pet owners, the equine industry and agriculture (Felsted, 2011). Even before the current economic recession, however, visits to veterinarians by pet-owning households in the U.S. were declining, despite there being untapped opportunities in the market, with over 25% of the pet-owning population in the U.S. never visiting a veterinarian for their pet’s healthcare needs in 2006 (Felsted, 2011). This is likely to have deteriorated further due to the recession as pet healthcare may be seen to be more of a luxury for households that are already financially stretched.

In the meantime, agriculture is becoming more centralized and commercialized, with fewer family-owned small farms, and increasing numbers of large, intensive farms owned and run by international agribusiness. This is changing the face of production animal, or food animal, veterinary medicine. Increasingly, the provision of safe, healthy, nutritious food to the planet’s growing population, often derived from animal sources, is becoming a critical economic, humanitarian and security issue. Public health concerns are becoming global, and the rise and spread of zoonotic diseases are becoming more common, with 75% of all emerging infectious diseases coming from or through animals (L. King, personal communication, March 16th, 2012). This creates great opportunities for the veterinary profession, through new “One Medicine,” or “One Health” types of roles (Kahn, Kaplan, & Monath, n.d.; King et al., 2008), yet, veterinarians are still only
rarely directly involved in the oversight of the maintenance of food production from animal sources, especially in industry or on a global scale. Vets are usually only involved in responding to threats to food safety from a regulatory point of view, through government agencies such as the U.S. Department of Agriculture and the Food and Drug Administration (Fosgate, 2008; Larson, 2004; Maccabe, Matchett, & Hueston, 2008). There are opportunities here for the veterinary profession to become more proactively involved, and to partner more with global food industries (King, et al., 2008; Willis et al., 2007).

Such changes in veterinary medicine have caused concern about the future of the profession, and how well graduates are prepared to contribute to changing social needs (Fosgate, 2008; Maccabe, et al., 2008). Concerns of this sort are not new to the profession. There was a time when the decreasing reliance on the horse as a form of transportation led people to predict the decline in relevance of the veterinary profession to society, even leading to the closure of veterinary colleges (Dunlop & Williams, 1996). Instead, the profession adapted to the changing needs of society, and veterinary education changed accordingly. Similarly, the decline in agricultural practice gave way to a boom in companion animal practice which resulted in an explosion of veterinary specialties, advanced techniques and technology which rival medical expertise, and cutting edge research which has been influenced by and has influenced all of the health sciences (Brown & Silverman, 1999; Lloyd, 2006).

In order to adapt, however, we need to be preparing future members of the profession for these vital roles. There is a clear benefit to society if veterinarians are
better prepared to prevent and deal with these threats to public health, especially if they are likely to occur more often with increasing globalization (Maccabe, et al., 2008; Willis, et al., 2007). The concept of “One Health” or “One Medicine” which has evolved in response to the new roles, is based on the understanding of the relationship between the health of humans, animals and the environment, and, therefore, the recognition of the importance of collaboration between the health and environmental sciences, including veterinary medicine (Kahn, et al., n.d.).

Veterinarians training to be “One Medicine” specialists, however, need to be knowledgeable about agricultural food production systems, population approaches to medicine, and food animal species, as well as possessing a broad, interdisciplinary approach to problem solving (Larson, 2004; Maccabe, et al., 2008). If, however, students and new graduates are predominantly choosing small animal practice, or increasingly entering specialist training, there may be a mismatch between the evolving needs of the profession, and the skills of graduates that we educate.

This raises the concern that students currently admitted to veterinary professional education programs may not be willing and prepared to fulfill future roles for members of the profession. It is important, therefore, to understand how and why veterinary students make the career choices that they make. Since women, in particular, now dominate the student population, and will, increasingly, be the majority in the profession, it is important to understand how gender is involved in veterinary students’ career choices. Furthermore, this information will be important in creating a professional veterinary curriculum that prepares students better for the demands of the profession they will be
joining when they graduate, and for meeting society’s needs. This dissertation research investigated how veterinary students make decisions about their career choices and how they construct their career narratives with respect to gender in particular.

**Defining Veterinary Career Options**

Traditional career options for veterinarians have been focused around private, clinical practice, which is still the anticipated career option for most graduates. For example, private practice was still the primary choice for 60% of veterinary graduates in the graduating class of 2012 nationally, despite the fact that the economy has had a negative impact on the availability of jobs in that sector (Shepherd & Pikel, 2012).

The majority of recent graduates will choose a career with at least some species specialization, most often working with small, companion animals such as cats and dogs. For example, the approximately 42% of 2012 graduates who went directly into private practice were divided as follows: 28% in companion animal practice; 4% in food animal practice; 2% in equine practice; and, only 9% into mixed animal practice (Shepherd & Pikel, 2012). Of the remaining 59% of graduates, 45% accepted internship or residency positions in specialist training programs, which are also species specific (Shepherd & Pikel, 2012).

The private practice sector in veterinary medicine is usually categorized by species. Historically, this was as simple as “small animal,” and “large animal,” and the majority of practitioners saw a broad range of species in “mixed practice.” Increasingly, though, there has been an increase in specialization by species for practices as a whole, and for veterinarians individually. In addition, the different categories of species have
been redefined, and practices have come to be categorized more by the role that the
animals perform for their owners, than their size. So, for example, “companion animal”
has come to be largely synonymous with “small animal,” whereas “food animal” or
“production animal” are terms often used interchangeably with large animal. This is, in
many ways, a more useful way of looking at different types of practice, because the
structure and function of a practice varies more depending on the animals’ roles, than the
size of the animal.

However, the shift in terminology has led to confusing categorizations for some
animals. For example, many horses, these days, are often thought of by their owners as
companions, especially if they are “backyard” horses, or owned by a single owner who
rides the horse for recreational purposes (AHC, 2005; Gibbs, Moyer, & Martin, 1997).
Working on these types of animal as a veterinarian has much more in common with
traditional types of companion, small animal practice, than large animal practice where
the patients are largely used for production purposes.

The terminology is confusing, since the different types of categories are still often
used interchangeably, and it is hard to know whether to classify a practice by the size of
the animals worked on, or the role those animals play in their owner’s lives. For example,
as already mentioned, larger animals can also be thought of as companions (e.g. camelids
and pot-belly pigs), and small animals may be working or breeding animals (e.g. service
dogs, gun dogs), or, in the case of poultry, production animals can be thought of as small.
Furthermore, these categories generally assume that they refer to the common
domesticated species such as dogs and cats (“small animal”) and horses, cows, swine,
camelids and sheep ("large animals"). However, as new areas of practice emerge which deal with non-domestic species such as zoo animals, exotics (also called “pocket pets”), reptiles, birds, wildlife, and aquaculture, new categories need to be created. Table 1.1 summarizes the common usage of most of this terminology.
<table>
<thead>
<tr>
<th></th>
<th>Small Animals</th>
<th>Large Animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companion Animals</td>
<td>• Pet dogs, and cats</td>
<td>• Backyard horses</td>
</tr>
<tr>
<td></td>
<td>• Exotics (e.g. hamsters, gerbils, guinea pigs, reptiles), and birds</td>
<td>• Some camelids (llamas, alpacas)</td>
</tr>
<tr>
<td>Working Animals</td>
<td>• Service dogs, gun dogs, agility</td>
<td>• Performance horses, racehorses, and show horses</td>
</tr>
<tr>
<td></td>
<td>• Show dogs and cats</td>
<td>• Breeding stock</td>
</tr>
<tr>
<td></td>
<td>• Breeding dogs and cats</td>
<td>• Show stock (e.g. 4-H)</td>
</tr>
<tr>
<td></td>
<td>• Exhibition animals (zoos, etc.)</td>
<td>• Exhibition animals (zoos, etc.)</td>
</tr>
<tr>
<td>Production Animals</td>
<td>• Chickens, turkeys</td>
<td>• Food - Cattle, sheep &amp; pigs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Fiber – camelids, sheep</td>
</tr>
</tbody>
</table>
In this dissertation, I have strived to be clear, at all times, about the species and types of practice to which I am referring. For simplicity, I will address broad categories of practice as either small animal, equine or large animal, and companion animal, working animal or production animal. Small animals are generally companion animals, and large animals are generally production animals.

Table 1.2 summarizes the traditional types of clinical veterinary practice, available as career options for veterinarians, and some of their typical characteristics:
Table 1.2. Characteristics of main veterinary clinical practice settings

<table>
<thead>
<tr>
<th></th>
<th>Small/companion</th>
<th>Equine/performance</th>
<th>Large/production</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Training</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More species specific</td>
<td></td>
<td>Usually more species specific</td>
<td>More comparative across species</td>
</tr>
<tr>
<td>Medical specialization</td>
<td></td>
<td>Medical specialization more common</td>
<td>Generalization more common</td>
</tr>
<tr>
<td>encouraged/valued</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban/suburban</td>
<td></td>
<td>Suburban/rural</td>
<td>Rural</td>
</tr>
<tr>
<td><strong>Practice Structure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often multi-vet, rarely individual</td>
<td></td>
<td>May be multi-vet, often individual vet</td>
<td>Usually multi-vet</td>
</tr>
<tr>
<td>Medical support technicians</td>
<td></td>
<td>Support staff rarely available – rely on owners/managers</td>
<td>Clients’ staff often provide medical support role</td>
</tr>
<tr>
<td>Non-clinical business staff often internal to practice</td>
<td>Business advice often from external consultant</td>
<td>Business expertise often by vets themselves</td>
<td></td>
</tr>
<tr>
<td><strong>Out of hours</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refer to specialist emergency clinic out of hours</td>
<td>Emergencies handled in-house by primary practice</td>
<td>Emergencies handled in-house by primary practice</td>
<td></td>
</tr>
</tbody>
</table>

Continued…
Table 1.2. (Continued)

<table>
<thead>
<tr>
<th>Center of Care</th>
<th>Valued traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or, shared on-call likely</td>
<td>Sometimes shared on-call with others</td>
</tr>
<tr>
<td>Sometimes shared on-call with others</td>
<td>Rarely shared on-call with other practices</td>
</tr>
<tr>
<td>Patient comes to clinic</td>
<td>Usually travel to client site</td>
</tr>
<tr>
<td>Usually travel to client site</td>
<td>Travel to client site</td>
</tr>
<tr>
<td>Empathy for patient and their quality of life</td>
<td>Empathy for patient and their quality of life</td>
</tr>
<tr>
<td>Empathy for patient and their quality of life</td>
<td>Cost-benefit assessment for choosing treatment</td>
</tr>
<tr>
<td>Sympathy with client – culturally specific</td>
<td>Understanding of financial costs for client</td>
</tr>
<tr>
<td>Sympathy with client – culturally specific</td>
<td>Concern for the ‘business’ of the owner</td>
</tr>
<tr>
<td>Take time to educate and support client</td>
<td>Take time to educate client</td>
</tr>
<tr>
<td>Take time to educate client</td>
<td>Client usually well educated</td>
</tr>
<tr>
<td>Quality of life for animal</td>
<td>Flexibility about whether patient is pet or business</td>
</tr>
<tr>
<td>Quality of life for animal</td>
<td>Concern for animal welfare issues</td>
</tr>
</tbody>
</table>
The type of clinical practice determines not just what species the practitioner works with, but many other factors such as the geographical location of the work. For example, swine and poultry predominate in the south east United States, whereas bovine practice is largely in the north east for dairy and the west and midwest for beef (Graham et al., 2008; Lowe & Gereffi, 2009). Other factors include the environmental setting (e.g. urban, suburban or rural), as well as the expectation of work hours, on-call duty out of hours, and values or expectations related to how the animal and owner prefer to be treated. The type of practice can also have an impact on whether support staff are available, and who employs them, due to the center of care for the animal. I am defining the “center of care” as meaning the location of where the animals are most commonly treated, especially for more routine care. So small, companion animals such as dogs, cats and other family pets, are usually brought to a veterinarian’s clinic, whereas for most large or production species, the veterinarian will travel to where the animals are located and treat them on site. Horses are usually treated in their own barns, especially for more routine care, but may be transported more easily to a veterinary clinic than other larger animals for more complex care.

**Alternatives to Clinical Practice**

Recent events such as the global spread of H1N1 influenza originating in swine, and food poisoning outbreaks due to the contamination of the environment by intensive farming systems demonstrate that veterinarians can play a key role in responding to such crises due to their unique training in zoonotic diseases which cross multiple species (King, et al., 2008). Such an approach requires interdisciplinary teamwork, with health
professionals working together to maintain the health of these domains, and to respond cooperatively when that health is challenged.

There have always been opportunities for veterinarians beyond the traditional career in clinical practice. Veterinarians have been involved in a wide range of careers in the “nonprivate practice sector” (Howl & Walters, 2001, p. 199) since the beginning of the profession, such as the regulatory work that veterinarians do for the U.S. government, and important research and industry jobs. In the past, however, these were usually careers that veterinarians went into later in their professional lives. It was the Pew Report (Pritchard et al., 1988) that raised the profile of these career options, by identifying them as “areas of growth that would maximize the future of the profession” (Howl & Walters, 2001, p. 199). This made careers in these areas much more accessible to new or recent graduates. There are now an increasing number of externship and internship opportunities available to veterinary students in government, non-government agencies and the corporate sector. As the profession evolves, opportunities for careers in these non-traditional areas continue to grow. In chapters 4 and 5 these types of careers will be referred to as non-traditional career paths.

“How Did You Decide to Become a Vet?”

Veterinary students start to construct answers to this question as soon as they make their first explorations into the profession, which can be very early in life. There is an extensive literature of career decision-making theories that can be applied to veterinary medicine, as for other career paths. These theories will be examined further in chapter 2.
Veterinary medicine is perceived to be a high profile career that is familiar to many young children, and which children often cite as a career goal at an early age, along with firefighter, astronaut or ballet dancer (Booth, 2009; Holden, 2006; Phipps, 1995). Also, anecdotally, there seems to be a perception amongst veterinarians that most of their colleagues chose their profession at a very early age (Harmon, 1971; Lightbody & Durndell, 1996; McKay & McKay, 2009). Arguably, this is such a widely held perception that veterinarians tend to choose their careers early in life, that it has become an accepted norm or career narrative for the whole profession.

If many vets do decide on the profession at such a young age, there are plenty of opportunities for potential future veterinarians to encounter new and different attitudes towards the profession and definitions of a successful career, throughout their high school, college and professional education. It is inevitable, therefore, that narratives of career construction for veterinarians, like for other careers, are shaped by many factors and influences, including individual’s backgrounds and family pet ownership (Savickas et al., 2009; Serpell, 2005). Furthermore, faculty mentors in veterinary professional programs wield a strong influence on students’ career aspirations (Barbur, Shuman, Sanderson, & Grauer, 2011). These individuals may influence, contradict or shape students’ narratives about veterinary career aspirations further, until, by the time the students graduate from their veterinary programs, and enter the profession, students have an established story of how they got there, and where they are going. This study aimed to explore some of those narratives, in order to understand career influences better.

The typical veterinary curriculum at U.S. colleges is a four-year professional program, usually after completion of an undergraduate bachelor’s degree, although the
latter is not required as long as pre-requisites in chemistry, organic chemistry and some biology, microbiology or biochemistry have been met. The traditional curriculum is based on the Flexnerian model of medical education, proposed by Abraham Flexner over 100 years ago, in which the student is taught the basic biological and medical sciences didactically before participating in a final clinical year, usually in a veterinary teaching hospital, based on an apprenticeship model (Cooke, Irby, Sullivan, & Ludmerer, 2006; Flexner, 1910).

Training students in a teaching hospital may have helped to drive an increasing emphasis on specialization in the profession, since students’ main exposure to clinical medicine is in a specialist, referral clinic. Like dentistry, and unlike human medicine, a professional veterinary degree licenses graduates to practice in general practice immediately after completing the program with no further training. Until recently, this was the chosen career path of the vast majority of veterinary graduates. In recent years, however, an increasing number of graduates are choosing to enter ongoing professional training in a specialty. For instance, almost half of all veterinary graduates in the class of 2011 nationwide opted to go on to further specialist training in internships and residencies (Shepherd & Pikel, 2011). This percentage is on the rise, with more than 50% of graduates going on to further education in 2012, in part due to the 20% drop in overall employment of new graduates, which appears to be a result of the poor economic climate (Shepherd & Pikel, 2012).

The National Board of Veterinary Medical Examiners (NBVME) is the national gatekeeper of veterinary licensure in the United States, although individual states have additional state regulations regarding licensure as well. In addition, the American
Veterinary Medical Association (AVMA) is designated by the Department of Education to oversee the accreditation of all US veterinary colleges, and AVMA accreditation is now increasingly sought after by veterinary schools and colleges outside the US (AVMA, 2009). There are now 20 veterinary specialist boards and colleges, each with their own further post-graduate professional training, usually through a one year internship and two-to-three year residency (AVMA, 2011b), and 43 recognized specialties (L. King, personal communication, March 16, 2012). The increase in graduates entering specialist training is often cited by colleges as an indication of the prestige of a professional program, due to the competitive nature of internship placements. It is possible, however, that it may also indicate a shift in emphasis of the career aspirations of graduates. For example, the structure of most veterinary training in a specialist referral hospital by boarded specialists may be sending the message to veterinary students that specialization is the most valued or best career option for them (Barbur, et al., 2011). The implied narrative that privileges specialization may contradict the colleges’ stated missions of preparing graduates primarily for general practice. Yet, there is very little published research available which attempts to examine these connections.

**Research Approach**

The primary focus of this dissertation research was to learn how veterinary students decided to become veterinarians, and then how they decided what type of veterinary work to pursue once they graduated. As a secondary issue, the research began to investigate if there were gender differences in this process. In addition to the formal research questions listed at the beginning of this chapter, there are secondary or related questions associated with them, and which help to deconstruct what this study addressed.
These included: How did veterinary students decide what area of the profession to enter? What were the processes or influences that guided them to apply for jobs in different species areas, or choose to undergo specialist training? Was gender a factor in how they made these decisions? If so, how did gender influence these career pathways? How did students make sense of their career constructions? What were the narratives that they used to describe those career paths?

There have been previous studies which surveyed large groups or cohorts of veterinary students and graduates to track broad patterns about when they make choices in their veterinary careers, and what they are most likely to choose, statistically (Chigerwe, Boudreaux, & Ilkiw, 2010; Heath, 2007b; Jelinski, Campbell, Lissemore, & Miller, 2008). These studies focused on trends, however, and explain little about the processes that influence those career choices. Other studies have attempted to identify the characteristics of what makes students successful in the admission to veterinary programs, what lead them to choose the profession, and how this compares to the characteristics of successful veterinarians (Chadderdon, King, & Lloyd, 2001; Ilgen et al., 2003; Kogan & McConnell, 2001; Lewis & Klausner, 2003). This study, in contrast, aimed to dig deeper into students’ narratives about how they constructed their careers, and how they made choices about their future professional paths at a critical time in their careers, when they were in their senior year, just prior to graduation and beginning their first jobs in veterinary medicine.

I used a narrative approach to explore the process of career construction, by interviewing senior veterinary students enrolled in their final year of a typical veterinary professional program about their perceptions of how they made their career choices. I
used semi-structured, open-ended interviews, and analyzed the transcripts of these interviews to develop the major themes of their responses.

**Significance of the Research**

This dissertation research, describing how students made decisions about their future career paths after graduation, is the first step in a mixed methods research project. The results from this first phase will be used later to develop formal hypotheses regarding how students make career decisions, and identify the key variables in this process. Then, a survey instrument will be developed and validated through pilot testing, cognitive interviewing of pilot participants, and peer and expert review. This survey will be deployed nationally, to veterinary students across the country, to test the hypotheses quantitatively, and also investigate the impact of gender on the variables identified by the first phase. It is my hope that this study will help to illuminate how veterinary education is involved in this process of veterinary career choice, and provide some insight into how we can better prepare veterinary students for the changing profession.

If there is, indeed, a mismatch between the way veterinary students are being socialized toward careers through the educational process, and the stated aims of the profession for serving society in the future, then the gap has important implications for both the future of the profession and for veterinary education. With all of the talk within the veterinary profession about the changing role of vets in society (Kahn, et al., n.d.; OSUCVM, 2010b; Willis, et al., 2007), there has been very little effort to look at the choices of graduating seniors in the current curriculum of a typical veterinary college in the United States, to see if and how they may be selecting these alternative career paths. In order to adjust to changes in the profession, and properly prepare our graduates for
their roles in it, we need to understand how and what they are deciding to do with their veterinary degrees. It is important to illuminate the processes influencing these career choices in order to adjust veterinary education, such as including career counseling, or exposing students to more varied veterinary experiences during their training, to prepare our graduates so that they will be adequately equipped for these visions of the future.

In addition, as in other professional education programs, there has been increased pressure to demonstrate educational outcomes of veterinary education to state and federal stakeholders, and the general public. In fact, it could be argued that as long as higher education has existed, it has had its critics calling for greater accountability (Lucas, 2007). The AVMA, which routinely and regularly reassesses its accreditation standards according to United States Department of Education (USDE) guidelines, made the decision to add outcomes assessment as an explicit standard in 2001 (AVMA, 2009). The AVMA are currently in the process of making this a more stringent requirement, by adding language that makes it required rather than simply recommended. This process was in response to the discussions about such measures in the Association for Specialized & Professional Accreditors (ASPA) and the Council for Higher Education Accreditation (CHEA), of which the AVMA is a voluntary member, as well as the example set by the accreditors of other health science professions such as dentistry (D. Granstrom, personal communication, June 3, 2009). These new standards mean that veterinary education programs need to formally track the careers of their graduates, and the career choices that they make, amongst other measures, in order to ensure that the mission of the college and the needs of the profession are being fulfilled. One aspect of such outcomes assessment should include the career choices that veterinary students and graduates make, and this
requires a better understanding of how they make those choices. More information about these processes will, in turn, allow veterinary educators to “close the feedback loop” (Huba & Freed, 2000) by adjusting the professional curriculum to prepare future graduates for the changes in the profession.

This study was a first attempt to understand veterinary students and their career trajectories, in order to begin to highlight any possible conflicts and tensions faced by graduates as they embark on their careers. It also attempted to describe how gender influences these processes. It is important for the veterinary profession to find ways to explore these issues further, to counteract or dismantle real and perceived barriers to success, and to support graduates as they attempt to negotiate them in their careers. If veterinary student career decision-making can be better understood, it will have an important influence on how the profession recruits, trains and supports veterinary students throughout their training and on into their professional lives.

Chapter 2 offers a review of the literature describing theories of career choice, and the feminization of professions, as well as current studies of the sociology of medicine and veterinary medicine. Chapter 3 describes the methodology used for addressing these questions of how veterinary students choose their careers, and chapter 4 presents the results. Finally, chapter 5 presents the significance and implications of these results.
Chapter 2: Literature Review

Many theoretical frameworks are relevant to the process of career choice by individual veterinarians in today’s profession. In this chapter, I examine the long history of research on career choice from both the disciplinary perspectives of psychology and sociology. These theories provide useful insights and practical tools for looking at an individual’s decision-making process with respect to their career, but often fail to account for broader professional issues such as the feminization of the profession, and social concepts of gender identity. Therefore, I also look at the literature from the social sciences about the impact of feminization on definitions of professions and apply it to veterinary medicine. Then, I examine the relationship between gender and caring work in the professions, and relate this to veterinary students’ perceptions about the options available to them. Finally, the literature about the sociology of work in other health professions is also relevant to veterinary medicine, and this will be reviewed last. While these perspectives are helpful in informing this current study, I will demonstrate why the literature is incomplete, and falls short of explaining what is occurring in the veterinary profession today.

Career Choice

Traditionally, the process of individual career choice was examined using psychological approaches that address the match between individuals’ personalities and
the attributes required for different occupations. Holland (1959), developed personality types, based on Strong’s (1943) “Modal Personal Orientations,” which he correlated to the predominant environmental types of different vocations, so that a person could be matched to a job or career based on how well their personality type matched the environment of that vocation. These occupational codes are still commonly in use today, with most careers classified using Holland codes (Gottfredson & Holland, 1996). These codes are applied by career counselors and researchers to guide and predict career choices, including in the health sciences (Borges, Savickas, & Jones, 2004). Gysbers, Heppner and Johnston (2009), provided a good review of Holland codes, as they are used today.

One problem with this approach is that Holland based his theories largely on research on White, middle class men, and his early work, in particular, used explicitly gendered language and assumptions, even classifying his personality types as either masculine or feminine. His work initially seemed to assume that women were largely absent from the workforce, or, if present, that they would conform to the same personality matching as the men he studied. Women have, of course, always worked inside and outside the domestic sphere, whether paid or not, although their work was not usually considered part of the economy of industrial capitalism historically (Amott & Matthaei, 1991; Engels, 1994; Mackintosh, 1981; Young, 1997). It was not until White, middle class women had greater access to white collar and professional work in the 1970’s that the career choice literature started to acknowledge that gender plays a role in career choice. This has been raised and discussed by various career theorists (Betz, 1993, 1994; Fitzgerald & Crites, 1979), but rather than leading to the development of new
theories of career development, these concerns initially only led to the modification of the existing, dominant theories. Holland revised his terminology so that his personality types were less explicitly gendered. He also started to include women in his sampling, although he maintained the results from men and women as segregated codes, due to observed differences between them (Holland, 1973).

Other theorists did start to speculate that other factors may influence career choice, and may account for some of the gender differences observed once women were included in the data, as well as individual variation in general. One area, beyond personality fit to environment, that is believed to have an influence on career choice is self-efficacy. Self-efficacy theory was developed by Bandura (1977), and was applied to career decision making shortly thereafter, through the development of an instrument which measured career self-efficacy (Betz, 2004; Betz & Hackett, 1981, 1986; K. M. Taylor & Betz, 1983). In particular, self-efficacy theory has been offered as an effective way of explaining some of the gender differences which were being observed in career choice (Betz & Hackett, 1997). Self-efficacy theory has also been applied to expectations of academic achievement and persistence (Lent, Brown, & Larkin, 1984, 1986), which are related to career development.

Social cognitive career theory (SCCT) goes a step further than simply using self-efficacy theory, and applies Bandura’s general theory of social cognitive theory (1986), which incorporates self-efficacy theory, to the concept of career interest (Lent, Brown, & Hackett, 1994, 2000). In contrast to self-efficacy theory, which attempts to attribute a lot of the variation in career choice between individuals to a single variable, SCCT attempts to integrate external social factors, such as barriers based on discrimination by gender,
with internal factors such as how self-efficacy influences an individual’s response to such barriers in the context of non-traditional career options. As these different psychological concepts were applied to career counseling, theorists attempted to try to put them together into unifying theories (Lent, Brown, & Larkin, 1987), but these unified theories do not seem to have been applied on a large scale to the practice of career counseling.

In contrast to the psychology literature on career choice and development, sociological research has taken a more holistic approach from the beginning. In an effort to fully explain individual career paths, sociologists have developed the theory of career construction, which takes into account other aspects such as environment, education and family influences (Savickas, 2005; Savickas, et al., 2009). Inspired by postmodernist approaches to making sense of the world (Savickas, 2008), theorists described career development as a social construction, which, by definition, varies by individual, taking into account people’s social identities, roles, and environment, as well as how they find meaning in the world. Such theorists drew on the psychological concepts of personality types and social cognitive theory as well, particularly as a tool for measuring individual differences in career choices within a broader career path, such as medical specialty choice (Borges, et al., 2004; Savickas & Taber, 2006).

Savickas (2005; 2009) wrote about career choice as a process constructed by the individual. His theory of career or life design considered all aspects of a person’s life in how they make meaning of their career pathways, and so it is a more holistic approach than much of the literature from psychological career counseling. Savickas’ theory acknowledges that the reality of career paths may be more subject to outside forces than is suggested by the more linear, step-wise process of individuals’ rehearsed career
narratives. He focused mainly on looking forward, with his theory emphasizing all these factors in explaining and counseling individuals in their career choices for the future. This theoretical approach, however, may also be useful for thinking about how individuals construct their career narratives in retrospect. The constructed narrative allows the individual to give meaning to what is sometimes a haphazard process, and helps them to justify or explain choices in the context of common expectations of rational, linear career paths, or in relation to their original career aspirations.

Rojewski (2005) defined occupational aspirations as “an individual’s expressed career-related goals or choices” (p.132, italics in original). These are “point-in-time expressions of occupational goals” (p. 132, italics in original) which are constructed by an individual based on past experiences and societal expectations. This means that it is possible, if not likely, that veterinary students will base their career aspirations on their own experience, both prior to and during their veterinary training, as well as the implicit expectations they have been exposed to by society based on their gender. Furthermore, Rojewski said that career aspirations may be compromised or attenuated when they are not supported by family or social expectations, or there are perceived significant community or societal barriers. This may even lead to premature educational and career-related compromises that restrict the range of career paths considered (p. 133). Such perceived barriers may be explicit or implicit, and they may be local or internal to a profession such as veterinary medicine, or external and more widespread.

Such an approach is much more helpful for studying the career choices of veterinary students, since it acknowledges the impact of broader social factors such as the feminization of the profession, the influence of gender schemas, and the implicit
narratives of career norms delivered through the educational process. In a sense, rather than attempting to narrow the theoretical lens to focus on one or two separately quantifiable variables to explain the process of career choice, the concept of career construction utilizes a much wider lens, which is more inclusive of all the factors that may influence those decisions. This approach was particularly important for the purposes of this dissertation research since I took a largely exploratory approach (see Chapter 3). I endeavored to determine all of the different variables and influences on students’ decision making. It is important, therefore, to provide a feminist perspective of the broader social context of the veterinary profession.

**Feminization of Professions**

A particularly relevant social influence on the veterinary profession in the United States is the rapid influx of women since the 1970’s. There is a substantial body of literature from the social sciences on how such a process of feminization impacts the status of a profession, and how its members are valued by society, above and beyond a simple increase in numbers. This, in turn, has a direct impact on how individuals about to enter the profession will navigate their careers. It is important, therefore, to contextualize this process in the literature from the social sciences on the feminization of professions.

**The Professional Project**

The concept of a profession is often thought of as a categorical, fixed, definition, associated with a specific occupation or vocation. However, Bolton and Muzio (2008), in their comparison of how three professional groups have responded to increasing feminization, point out that “professionalism is not a static concept” (p. 284), but is the result of an interaction between the members of an occupation and their external
environment. This description is an example of Adams and Welsh’s (2008) group of definitions of a profession that included those based on a more historically and socially situated “folk concept” (p. 256). These are the most flexible definitions, in that they consider social and historical contexts of how professions were defined, as well as including aspects and characteristics of the other types of definitions. The disadvantage is that these are not absolute definitions that can be used to generalize across different contexts. They do, however, draw attention to, and allow an analysis of how and why a profession is identified, not just what it looks like once it has been established. In other words, these types of definition emphasized that establishing professionalism for an occupation is a dynamic process, that is determined through “social activity, conflict and debate” (T. L. Adams, 2010b, p. 256). Furthermore, these definitions recognized that even once an occupation is established as a profession, it is not necessarily stable, especially when threatened by external pressures, or internal demographic changes. They are less structural, and more interpretivist or constructivist definitions, and, therefore, more consistent with an analysis of the power dynamics inherent in the concept of professionalism.

Becker (1962) argued that the difficulty with defining a profession, comes from the fact that the concept is used in two different ways. Social scientists attempt to define the term scientifically, using specific criteria, and it is also used in common parlance, to mean something more abstract in a more “morally evaluative sense” (p. 31). He suggested that while it should be possible to incorporate the morally evaluative criteria of the lay meaning of the word into the social scientists’ definition, the difficulty comes
from the fact that the lay definition varies so much, depending on various social factors and contexts.

Bolton and Muzio (2008) quoted Larson’s definition of the concept of the “professional project” as the “systematic attempt by occupations to translate a scarce set of cultural and technical resources into a secure and institutionalized system of occupational and financial rewards so as to pave the way for collective mobility and social advancement” (Larson, 1977, as cited in Bolton and Muzio, 2008, p. 284). In other words, this is an active process, pursued by the current demographics of an occupation in response to the evolving pressures and standards of society as a whole. It is also an ongoing process.

The changing demographics of the members of a profession affects how those members organize and view the profession, as well as how they present the profession to society. The changing demographics also affect societal perceptions of the profession. Furthermore, “gender and other ascriptive criteria such as class and ethnicity have historically played an important role in the unfolding of professionalization projects;” (Bolton & Muzio, 2008, p. 285). The “paradox of feminization” that Bolton and Muzio described, is that as the ratio of women to men in a profession increases, the inequity between women and men within that profession increases, and the status of the profession decreases. These two dynamics are revealed through decreased financial rewards and more symbolically, but equally powerfully, diminished access to resources and respect. “Thus feminization,” they conclude, “far from being evidence of equality, is a fluid, ongoing process that supports male interests and understandings” (p. 285). The effects of feminization are being looked at critically in a number of professions both academically
A feminist critique of this process would argue that the devaluing of a profession following feminization, is due to the patriarchal structure of society, which values the masculine over the feminine, and privileges work done by men over work done by women (Gardiner, 2000; Mackintosh, 1981). Therefore, as there is a shift in demographics in a profession from more male workers to more female workers, there is a concomitant shift in how the profession is perceived, from more masculine to more feminine. Furthermore, occupations perceived to be increasingly feminine are rewarded and admired less, and become less appealing to men. This process becomes a self-fulfilling cycle that serves to preserve the gender shift. The devaluing of a profession also forces the members to actively attempt to shore up the profession’s reputation, and strive to justify and explain the profession’s value to society much more. These kinds of processes have been observed and described in veterinary medicine, as for other feminized professions (C. A. Smith, 2002; C. A. Smith, 2006; D. M. Smith, 2002).

**Internal Professional Stratification**

The specific extent of the gender wage gap is often controversial (Babcock & Laschever, 2003; Faludi, 2006), but its existence is not disputed and it has not changed significantly over the last 30 years as more women have entered the workforce. Furthermore, the wage gap seems to be worse in certain professions compared to the general workforce, (Bolton & Muzio, 2008; Faludi, 2006) and may even be worse, still, in professions that were traditionally male-dominated and have recently been flooded with female members such as law (Bolton & Muzio, 2008) and medicine (Kuhlmann &
Bourgeault, 2008). This does not bode well for veterinary medicine, which currently has a wage gap between women and men in new graduates of 84 cents to the dollar (Shepherd & Pikel, 2012), down from 90 cents to the dollar just two years previously (Shepherd, 2010). There is a larger gender wage gap, of 69 cents to the dollar for private practice and 76 cents to the dollar for public or corporate practice, for the profession as a whole. This differential appears to be widening, as data suggests that women’s salaries in the profession are static, whereas men’s salaries continue to rise (AVMA, 2011a).

Inequity within a profession also occurs in terms of the specialties that women are encouraged to pursue, (“horizontal segmentation,”) and the rank that they are likely to attain, or “vertical stratification” (Bolton & Muzio, 2008, p. 286). For example, women are much more likely to be primary school teachers, but a disproportionate number of elementary school principals are still male; and, women business managers are often “relegated to less prestigious ‘female’ specialisms,’ such as human resource management, which “offer less pay, prestige and fewer career promotion opportunities” (p. 289). This stratification, especially the vertical kind, leads to greater gender inequity, in addition to the wage gap. For example, in veterinary medicine, the gender wage gap is significantly higher for practice owners, compared to practice associates, across all areas of private practice. The wage gap is most marked for owners of mixed practices (48 cents to the dollar), and least marked for private practice associates in small, companion animal predominant practices (92 cents to the dollar) (AVMA, 2011a).

In veterinary medicine horizontal segmentation can be seen as female graduates are still less likely to fill large animal positions than men are, despite their higher numbers (Shepherd, 2010; Shepherd & Pikel, 2011, 2012). Those women who do enter
large animal specialties, are much more likely to leave those jobs for careers in small animal practice, or outside the profession entirely, later in their careers (Chigerwe, et al., 2010; Heath, 2007b). Traditionally, this gender segregation has often been attributed to the physical differences between men and women, but with modern drugs and restraint techniques, this is no longer an adequate excuse (Krieger, 2008). Instead, it is possible that issues surrounding lifestyle differences of the different species specialties, as well as gendered expectations of appropriate veterinary practice for women, may contribute to women’s alienation from large animal practice.

Advocacy for changes in these lifestyle issues has occurred much more successfully in the small animal specialties, with a rapid increase in job-sharing, part-time work, limited on-call and more flexible family leave opportunities. This change may be due to the fact that women entered small animal practice sooner and in much greater numbers when they first entered the profession (Serpell, 2005). This process, too, is similar to other professions’ experiences, where women have advocated for greater quality of life in specialties where they predominate. In other examples, such as nursing and teaching, the lower prestige that has developed due to the increasing number of women, has also acted as an incentive towards greater professionalization with “solid professional institutions” (Bolton & Muzio, 2008, p. 289). This is an example of how the members of feminized professions have had to work harder for recognition and value in society. Certainly small animal practice has become more of a prestigious, well-remunerated specialty than large animal practice for women and men in recent years, although this may be due to other factors as well, such as the public’s increasing willingness to spend money on their pets (Lloyd, 2006), at least until the recent recession
(Felsted, 2011). This is part of the paradox that Bolton and Muzio (2008) describe, whereby the lack of status in a feminized profession or specialty can lead to greater organization and advocacy, which in turn, eventually, leads to greater rewards for all members of the profession. However, this change requires a fundamental shift in how the profession is organized, and how its members represent their value to society.

Finally, just like in other professions, (Bolton & Muzio, 2008; Faludi, 2006), women in veterinary medicine are much more likely than men to work in part-time or temporary positions, and are much less likely to be practice owners (Brown & Silverman, 1999). This is not necessarily due to professional circumstances, but more often due to the unequal expectations that women face domestically. Like other professions, such as law (Bolton & Muzio, 2008), medicine (Pellegrino, 1999), and pharmacy (Muzzin, Brown, & Hornosty, 1994), veterinary medicine is becoming increasingly commercialized, with compensation being linked much more to productivity than more traditional “criteria such as seniority or technical competence… Thus apparently neutral criteria such as billable targets and revenue generation act as powerful exclusionary mechanisms and reinforce a masculine code of professionalism” (Bolton & Muzio, 2008, p. 287). Like in other professions, this has a dual effect on women in veterinary medicine: first of all they earn less in the short-term on a production basis when they are juggling career and family obligations, and then they are penalized by being less likely to progress professionally to partnership or practice ownership in the long term.

**External Loss of Status**

Veterinary medicine has traditionally been a well respected and admired profession (Brown and Silverman, 1999). Few professions have a famous member as well-known
and well-loved as James Herriott (Herriot, 1972; Sternlicht, 1995), and are as well-documented by largely positive press (Kilborn, Hibberd, & Boyle, 2001). Even individuals who do not own pets seem to respect veterinarians for their apparent devotion to “man’s best friend” and other animals. Ironically, this appreciation for the devotion of veterinarians has often worked against veterinarians when it comes to financial remuneration, as veterinarians are perceived to enter the profession “for the love of it.” Also, like most stereotypes, this vision of the veterinary profession vastly oversimplifies the contributions veterinarians make to society. Feminist theory would argue that this stereotype has become more entrenched as women have entered the profession, and the work that they do is seen more as a form of caring or nurturing, than when the profession was more masculine (Mackintosh, 1981; Reskin, 1993).

In addition, the veterinary profession has done little to address the inequity of salary among the health professions: although veterinarians graduate with the same or greater debt than other health science graduates, they will earn only about a third as much, with an average debt-to-starting salary ratio of 2.8 (Shepherd & Pikel, 2012), and they will continue to earn less for most of their professional lives (AVMA, 2011a; A. E. Lincoln, 2010). Women in veterinary medicine may have contributed further to this inequity, as women in private practice “may price as much as 9% lower than men on average” (Brown & Silverman, 1999, p. 169). This may be due to the gender expectations by society for women to be more nurturing and less motivated by financial rewards, and also because women in the profession generally report “a lower self-evaluation of their communication, personnel management, business management, and marketing skills than males” (p. 169). A feminist analysis helps to highlight these kinds of gender narratives,
and strives to address them, for example through better education in business skills, and the empowerment of veterinarians through better self-evaluation of their contributions to their clients.

The impersonal infrastructure of a large company buffers the practitioner from these issues better than in a small business where practitioners are personally responsible for setting and collecting their own fees (Lloyd, 2006). This may be one of the reasons that corporate veterinary practices are increasingly appealing to veterinary practitioners, since the centralized business model allows vets to distance themselves from the business management of the practice and focus more on the clinical work. Such corporatization of veterinary clinical practice is, however, often characterized as a threat to the status of the profession (Lofstedt, 2003). This may be especially true in academic veterinary practice, where there is also a distancing of clinical work from the business aspects of the work, and the overt mission of making a profit of corporate practices is looked down upon. This process is typical of the professional project, since members of an occupation would historically attempt to establish their professionalism by demonstrating characteristics such as a service orientation, which separates their members’ services from financial remuneration as much as possible (T. L. Adams & Welsh, 2008).

There is a clear precedence for the loss of status of a profession as it includes more women. Teaching and nursing are classic examples, exemplified by the fact that they are often considered only “semi-professions” (Bolton & Muzio, 2008). Teaching demonstrates this premise vertically as well, where “income, prestige and autonomy, all of which are hallmarks of professionalism, clearly rise in the gradual move from the predominantly female area of primary school teaching to the predominantly male arena of
If veterinary medicine does not address this trend, then it is clearly in danger of being seen as a lesser or even a semi-profession. Furthermore, the gender segregation by specialty and interest is likely to continue, or even become more pronounced. This has consequences for the recruitment of new veterinarians as well as choices by current students about their careers as they enter the profession.

There is conflicting evidence about the number of applicants to veterinary programs. Some sources suggest that the number of applicants has been static in the last few years, in contrast to an upward trend for other health sciences (A. E. Lincoln, 2010; VMCAS Statistics - 2010, 2010). However, there is some regional evidence that the number of applicants has increased in the last year, maybe in part due to the economic recession, and fears of poor job prospects in other areas. I will, therefore, look at the literature on sexual segregation in the workplace, as well as theories of gender, since, according to the career choice literature, it is the interaction of external social forces and the internal responses of an individual to those forces, which shape that person’s career construction.

**Feminist Economic Analyses of Gender Segregation**

Barbara Reskin (1993) laid the foundation for measuring and analyzing the process of gender segregation in her paper “Sex Segregation in the Workplace,” in which she divided possible explanations of sex segregation into “supply-side” workers’ or “demand-side” employers’ preferences (p. 248). Since the practice of veterinary medicine requires licensure following graduation from an accredited college of veterinary medicine professional program, Lincoln (2010) argued that the gatekeeping on the demand-side of
the profession is through the admissions process in these colleges, rather than through employers’ choices in who they hire. This phenomenon of training programs being the gatekeeper of who is qualified to perform a particular job is another one of the hallmarks that distinguishes a profession from other occupations (T. L. Adams & Welsh, 2008). Lincoln’s point regarding employers is well taken, but her theory implies that professional college admissions are contributing to creating the gender disparity. In fact, the admissions statistics of veterinary colleges indicate that the proportion of women being admitted is an accurate reflection of the applicant pool (VMCAS Statistics - 2010, 2010). There is even anecdotal evidence that some veterinary colleges may practice a degree of unofficial affirmative action with respect to gender, in order to recruit more men into the profession (Gose, 1998). So, with respect to gender, the admissions process is not providing a gatekeeping function, but merely reflecting the interest of applicants.

It is important, therefore, to understand the appeal that draws both men and women to the profession, in the first place. This is likely to be influenced by many socio-economic factors, such as family, background and socialized gender roles, long before an applicant sends in their application to vet school (Auster & Auster, 1981). In addition, employers, as well as veterinary educators, do also play an important role in the job segregation of graduates by sex into species specialties once they graduate and enter the profession.

Mackintosh’s (1981) theory was that socioeconomic change can lead to changes in the sexual division of labor, which has been borne out by the dramatic feminization of many previously male-typed professions, including veterinary medicine. Her underlying assumption, articulated further by other scholars in a more global context (Rai, 2002; J.
Smith, 1994; Visvanathan, 1998), was that these shifts occur as the economic needs of society change, and women’s relatively lower paid labor is required in higher numbers in previously masculinized work. Women, in other words, provide cheaper, more flexible labor in industries that see an increase in demand, and capitalism benefits from this exploitation. This fits with Reskin’s (1993) analysis that cited the demand for workers and economic pressures on employers to reduce costs or increase profits as major causal factors in the integration, and eventual resegregation of previously male occupations into female ones. This is particularly true when coupled with structural changes that increase access to training and to previously male-dominated professions through laws preventing explicit sex discrimination at work, e.g., Title VII of the 1964 Civil Rights Act, and in education through Title IX. All of these events occurred in the profession of veterinary medicine starting in the late 1960’s and early 1970’s at the same time as the focus of veterinary work shifted from large-scale production medicine in agriculture to companion animal medicine, and on into the 1980’s and 1990’s, as the demand for small animal veterinarians increased dramatically (Brown & Silverman, 1999; Slater & Slater, 2000). In addition, most veterinarians are employed in practices that are small businesses, (Lloyd, 2006), which are very sensitive to economic pressures, forcing them to be more adaptable to the potential for cheaper labor as Reskin (1993) described. Other similar professions, however, experienced at least some of these same pressures, and either became more equitable in terms of the number of men and women than veterinary medicine (e.g. law, medicine), or have largely failed to feminize at all (e.g. engineering), which implies that economics are not the whole story, and that other factors neglected by these authors may also be involved.
The demand for more veterinarians was initially the greatest in small animal specialties, with the rise of companion animal medicine, and it is in this area of the profession that women entered in the highest numbers, and continue to do so today (Serpell, 2005; Shepherd & Pikel, 2012). As a result, in small animal practice, by contrast with large animal practice, there has been a much higher and more rapid increase in job-sharing, part-time work, limited on-call and more flexible family leave opportunities as small animal practices have adapted to the needs of its members. There has also been an increasing tendency towards corporatization in this area of the profession (Lofstedt, 2003) as a rapidly growing proportion of small animal veterinary practices are taken over by large, commercial chains such as Banfield, The Pet Hospital and VCA Animal Hospitals. This process appears to contradict Mackintosh’s (1981) theory that female labor is devalued, since it has led to higher wages and better benefits in this part of profession, but fits when considerations of class are factored into the economic analysis, since women are less likely to be practice owners or even full-time workers than men in these circumstances. The corporatization of small animal veterinary practices has also created and then perpetuated job sex-type segregation or horizontal segmentation within the newly feminized profession (Bolton & Muzio, 2008; Chieffo, Kelly, & Ferguson, 2008). The effects of the trend in veterinary medicine towards corporatization, therefore, may be complex, with advantages and disadvantages for veterinarians, and with the potential to change perceptions of the profession by outsiders.

Neoclassical economic theory defines human capital as “the outcome of deliberate investment on the part of individuals deciding to incur present costs for the sake of future benefits” (Gardiner, 2000, p. 62). In contrast, Gardiner (2000) offered a wider, feminist
economic definition of human capital to mean “the knowledge, skills and other attributes relevant to working capabilities which are embodied in the person,” (p. 62). She did this because, she argues, the former, more traditional, definition did not account for the potential human capital gained by women in the unpaid labor market. Gardiner also critiqued traditional neoclassical economic theory for not allowing for the transference of skills between the household and the market, whereas she argued that managing a household and raising well-adjusted children to be future wage earners requires skills that are not only transferable, but also potentially useful to the market economy. Gardiner’s distinction was similar to Elson and Pearson’s (1981) description of the way in which women’s “socially invisible skills,” are often undervalued by traditional economic theory, and recognized that human capital may include more traditionally “feminine” skills of nurturance, communication and managing social relations.

It could be argued that the veterinary profession’s increasing emphasis on the human-animal bond (HAB) in companion animal practice has contributed to the increase in women’s entry into the profession in this way. Protecting and maintaining the HAB has come to be seen as an important role for veterinarians (Martin, Ruby, & Farnum, 2003; Sherman & Serpell, 2008). So women’s perceived “feminine” abilities to nurture and manage this social relationship has given them an advantage in presenting themselves as well-suited to this role. In other words, according to Gardiner’s (2000) definition, women are perceived to have the human capital to be successful in this newer vision of the veterinary profession. I would argue that this makes the profession more attractive to women, and that they are much more likely to be encouraged by others to consider it as a
career path than in the past when such attributes were not so closely associated with veterinary medicine.

Reskin (1993) pointed out that human capital theory in traditional neoclassical economic theories “trace(s) sex segregation to women’s expectations that family obligations – especially childrearing – will limit their market work” (Reskin, 1993, p. 257). This relationship also helps to explain the appeal of corporate ownership of practices to female veterinarians since they can be more accommodating to flexible work arrangements and absences from the market place due to family.

Human capital theory, however, in this traditional sense, fails to account for more social or ideological factors, which may contribute to what Reskin (1993) called the “supply-side” causes of sex segregation. For example, Valian (1999) cited the concept of “gender schemas” to explain men and women’s socialized conceptions of appropriate women’s or men’s work. These conceptions are more complex than are simply explained by economics, and may be beyond even Gardiner’s (2000) conception of a feminist version of human capital.

Reskin’s (1993) explanation of “supply-side” factors in sex segregation also included male abandonment of an occupation, either as a cause of opening the profession up to women, or as a consequence. The fact that feminization leads to devaluing of the profession further, both in terms of status and financial compensation (Bolton & Muzio 2008), contributes further to men fleeing the profession, and this has been partially borne out in recent research in veterinary medicine (Lincoln 2004). As Reskin pointed out, neoclassical economic theories that women value different aspects of an occupation, which lead them to be attracted to positions considered inferior by men, are not
demonstrable empirically. In fact, research has shown that “the sexes are more similar than different in their work values” (p. 263). Feminist economic theorists such as Mackintosh (1981), did a better job of explaining the continuing influx of women into devalued professions to fill the gap left by the men no longer choosing those professions, since they have fewer choices available to them.

The Ethic of Care Theory

Society’s perception of veterinary medicine as an increasingly “caring” profession matches the gendered expectations of women as nurturers and carers, and may partially explain the influx of women into the profession. It is important, therefore, to look at the literature on theories of gender, and the concept of an “ethic of care,” (Gilligan, 1982/2003; Noddings, 1984) and how it may influence how women in the profession see themselves fulfilling those roles in their careers differently from men.

In the 1980’s, Carol Gilligan (1982/2003, 1997) challenged the traditional models of moral development by Erikson (1950, as cited in Gilligan, 2003), Kohlberg (1958, as cited in Gilligan, 2003) and Perry (1968, as cited in Gilligan, 2003) as being too masculine, having been based almost exclusively on male subjects. She argued that there are fundamental differences in the way that women’s identity and moral judgment develops, and that trying to fit women into the masculine models, or “fashion women out of a masculine cloth” (Gilligan, 1997, p. 199) did them a disservice, and often undervalued or failed to recognize their maturity and sense of self.

Gilligan argued that one of the hallmarks of women’s moral development is that it is mediated through communication in relationship with others, or the need to “talk it out,” (Gilligan, 1982/2003, p. 374), and that it is based on a “recognition of
“Ethical caring” (p. 375) for one another, due to an awareness of connection. She defined this as an “Ethic of Care” (p. 375), and contrasts it with the masculine “Hierarchy of Power” (p. 377).

Nel Noddings (1984) developed the concept of “ethical caring” more fully, defining it as “the relation in which we do meet the other morally,” (p. 4). Furthermore, she describes caring as:

> The human condition that we, consciously or unconsciously, perceive as “good.” It is that condition toward which we long and strive, and it is our longing for caring—to be in that special relation—that provides the motivation for us to be moral. We want to be moral in order to remain in the caring relation and to enhance the ideal of ourselves as one-caring. (p. 5)

Noddings acknowledged, however, that this is a feminine approach to morality, and contrasts it with a more traditionally masculine definition of moral judgment, with rules and principles that are universalizable to all people and conditions. She emphasized, however, the subjective experience to those involved in an ethical encounter, which is so important because circumstances are rarely “sufficiently similar” (p. 5) for generalizability.

Noddings’ (1984) theory of caring was explicitly feminine, because it emphasized the relational nature of caring, between the “one-caring” and the “cared-for.” She argued that, “an ethic built on caring is… characteristically and essentially feminine,” (p. 8). She emphasized that this does not mean that it cannot be shared by men, since we all have access to memories of caring and being cared for. However, she claimed that the concept
of an ethic of caring comes out of the experience of women, as Gilligan (1982/2003) first described it. She explicitly stated that this is why it is important to consider it as an approach to morality, as an alternative to more masculine models. This makes Noddings’ theory also implicitly feminist, since she claimed that her theory is an attempt to illuminate the existing divide between men and women’s socialized perceptions of morality and caring. She said that exposing the “chasm” between men and women in this way is the only way the gender divide can be overcome, through entering into a “dialogue of genuine dialectical nature” (Noddings, 1984, p. 6).

Gilligan and Noddings’ theories of the femininity of caring may be particularly relevant and revealing to the process of feminization of veterinary medicine. As the focus of the veterinary profession shifted away from agriculture towards taking care of companion animals, and consideration of the human-animal bond, veterinary medicine became more of an explicitly “caring” profession. This may, in part, explain why veterinary medicine became so much more rapidly feminized than other professions, once some of the structural barriers to women working in the professions were dismantled. It also helps to explain how veterinary medicine has lost status as more women have entered the profession, especially when caring work is examined in economic terms.

**The Economics of Caring**

Gilligan made the point that the sensitivity and kindness developed as part of girls’ gender identities have little market value since conceptions of adulthood are usually predicated on masculine conceptions, which value separateness over connection (Gilligan, 1997). This assertion fits with feminist economic theory, which describes how women’s skills are often devalued in the workplace since they are “socially invisible
skills” learned in the domestic sphere (Elson & Pearson, 1981), and critiques traditional neoclassical economic theory for not accounting for the transference of skill, or human capital, from the household to the market (Gardiner, 2000). These processes may explain why veterinary medicine became feminized so much quicker and more dramatically than other professions exposed to the same sociopolitical climate. The greater reliance on the skills and abilities that are considered to be the domain of women, and that are less valued by society, and the economic marketplace, may also have contributed to a devaluing of the profession in relation to those other professions. Finally, this phenomenon may help to explain the predominance of men in production animal practice: it is the one area of practice that is not so reliant on nurturing or caring skills.

**Critiques of the Ethics of Care Theoretical Model**

There is a paradox in Gilligan’s (1997, 2003) and Noddings’ (Noddings, 1984) attempts to give women a “voice” that is different to the masculine conceptions of their predecessors: in trying to represent women, they both essentialized women’s experiences, and, by defining them in contrast to men, re/created the “other” to the hegemonic male “self.” By the standards of more recent postmodern feminist theorists, therefore, Gilligan and Noddings committed a kind of violence against women, by constraining them in the very difference that they are attempting to explore, and diminishing their individuality and diversity in the process. Rather than deconstructing the dualism of patriarchy that marks feminine development as “deviant,” they seemed to be attempting to reverse it, and created a new hierarchy that privileged a narrow, oversimplified description of women’s moral development over men’s experience. In this, they may have been a product of their time and place in the historical context. As second wave feminists, they were reacting to
the implicit, male, hegemonic definitions of what was “normal” versus “deviant” and calling them out into the open air of critical theory. Before a dichotomy can be deconstructed, it must be identified; there is no discourse without all parties understanding what is being discussed. Presenting the unspoken, silenced “voice” of women was a necessary step prior to deconstructing the dualism of male|female or masculine|feminine. Although it is important to be aware of the limitations of such a step, they should not be judged too harshly from our privileged view of history.

Lather (2010) troubled the concept of “waves” of feminist thought and methodology, by reconstructing the different theoretical approaches as “1.0,” “2.0” and “3.0,” using the culturally dominant concept of new “versions” (of computer software, personas, theories…). In this way, rather than sweep in and replace previous theories, later “versions” build on previous layers of thought, taking and using what is best about them, and interweaving them with the “messiness” of troubled paradigms and theories. In this sense, “foundational texts” form the concrete structures on which we build new theories, and are necessary for supporting what comes after and above them. It is in this way that I attempted to use Gilligan (1982/2003, 1997) and Noddings’ (Noddings, 1984) theories of the “Ethic of Care.” Rather than taking them on wholesale, as complete, universal theories of all women at all times, I applied them to the specific context of women in a newly feminized veterinary medical profession at the beginning of the 21st Century, as a means to highlight the gendered expectations and roles within the profession and to start the discourse about how and why they have been created. I highlighted the limitations of the theoretical structure of the Ethic of Care, and challenged or extended the binary that Gilligan sets up between the masculine “Hierarchy of Power”
versus the feminine “Ethic of Care” by attempting to encompass the continuum between them, and creating space for the subjective, lived experience of men and women within the profession.

Gilligan’s and Noddings’ theories, as applied to women’s career options, can also be criticized by more conservative theorists on the basis that women are not forced into these roles, either in veterinary medicine or more generally, and that they could choose to compete with men on equal terms. As Apter and Garnsey (1994) argued, however, women’s agency is rendered impassive by the (historically contingent) social structures that they encounter, which force them to be complicit in their own oppression. This is similar to the constraints that women in the academy and other “fast-track” professions face, when the dominant discourse discourages them from using family leave policies, or even having children in the first place if they want to succeed (Mason & Ekman, 2007; Ward & Wolf-Wendel, 2008). In other words, choice is not really choice if it is not a “free and equal one” (Ward & Wolf-Wendel, 2008, p. 260), and this is why the liberal feminist agenda of simply offering more opportunities to women, and increasing their numbers in professions such as veterinary medicine, does not necessarily achieve the professed equality between the sexes that liberal theorists claim they will. Apter and Garnsey (1994) made the structuralist argument that women’s complicity in their own oppression is socially reproduced and maintained by education, amongst other things, and so this is a critical area to examine how the complicity can be challenged.

Valian’s (2000) concept of “schema” are mental constructs that “allow us to recognize people at a glance” (p. 22) and which provide cognitive frameworks that help us to understand or hypothesize about others’ future actions, professional roles, or
people’s place in society. In this context, gender schemas are our mental constructions of what we expect to be “typical” or “normal” appearance, behavior and roles for men and women. Such schemas are useful for making sense of the world around us, and helping us to navigate complex social interactions. However, like the social constraints that Apter and Garnsey (1994) described, they are often implicit, and, therefore, not critically examined, which means that they can restrict both men and women’s conceptions of themselves and of each other, and the professional roles that they may choose.

Apter and Garnsey’s (1994) solution, therefore, was to integrate theory and praxis, to acknowledge the interplay between structure and agency as opposing principles. Their approach privileged subjective experience in order to understand and change existing inequalities, no matter what the historical, cultural or social context. This approach was similar to the advocacy of standpoint theory as an “axis of investigation” (Naples, 1999, p. 30). In other words, Apter and Garnsey (1994) argued that gendered social roles enforced by structural mechanisms are “largely tacit, sometimes unacknowledged,” but that participation in them by members of society is “essential to their reinforcement” (p. 28). Ironically, Gilligan (1982/2003, 1997) and Noddings (1984) contributed to this process of reinforcement by universalizing women’s development. Crigger (1997) goes further, and argued that Gilligan’s “Ethic of Care” actually may be used to justify the exploitation of women, or those in the “caring” professions. However, Gilligan was also shining a light on the gendered roles as they are constructed in our society, and, according to Apter and Garnsey (1994), change is only possible if these social constructions are first made explicit.
Another approach, however, is to challenge the very underlying structures that produce the constraints. One way to do this is to examine the way in which we educate veterinarians. If we find similar constraints, our goal becomes not only to help students to become aware of the problems, but to equip them to challenge the underlying structures and enact meaningful change for themselves.

Further criticism that could be aimed at Gilligan and Noddings’ theories of the “Ethic of Care” is that in addressing the differences in the moral development between men and women, they failed to address the intersectionality of difference. They did not talk about how race, culture, class or sexual orientation played into moral development, but tended to fall into the trap of essentializing women’s experiences as those of white, middle class women in the United States. This weakens their arguments, especially since feminist thought has long since advocated the importance of addressing multiple identities and how they interact, (Brewer, 1997; Crenshaw, 2000). This is also ironic, since it is the same mistake for which Gilligan criticizes the male theorists that came before her – that of failing to see differences in the development of individuals with different identities to navigate. There does, however, appear to be at least a kernel of truth in Gilligan’s model that is universal for women across culture, race and class in most modern societies, as demonstrated by the diverse groups of women that have embraced aspects of her theory. Ladson-Billings (2000), for example, argued that not only does the “Ethic of Care” resonate with black women, but that it is central to African American women’s lives and scholarship. She cited Collins (1991, as cited in Ladson-Billings, 2000) as saying that “these convergent notions of white and black women about caring do not negate its importance in developing and understanding an Afrocentric feminist
epistemology,” (p. 348). Instead, the convergence strengthens Gilligan’s theory as it is adopted and applied by women of different races and cultures. In this sense, Gilligan and Noddings’ theories may play important pragmatic roles in uniting women across difference, although we must always be aware of the risks of attempting this to diminish individual women’s lived experience.

Furthermore, while the number of women has increased in veterinary medicine, there has been very little increase in the diversity of members of the profession otherwise, with the profession being almost exclusively young, white, middle class women (Shepherd, 2009; Strayhorn, 2009; VMCAS Statistics - 2010, 2010). So the fact that Gilligan and Noddings’ analysis is based on this population is actually relevant in this case. Of course, this lack of diversity should be challenged if veterinary medicine is to thrive. Every effort should be made to recruit and make welcome a more diverse population of students and practitioners to the profession, since this will benefit and strengthen both the educational experience and the profession as a whole (Strayhorn, 2009). However, Gilligan and Noddings’ theories fit the current population, and, with careful analysis and an openness to intersectionality, it may be adapted to the ongoing needs of the profession.

A final concern about applying Noddings’ theory to veterinary medicine is that her definition of ethical caring was contingent on reciprocity. So both parties – the “one-caring” and the “cared-for” – must contribute to the relationship, even if the “cared-for” only contributes an affective response. This is a problem for Noddings when the one “cared-for” is not human, since she said that animals do not contribute to the relationship. So she claimed that caring for animals (or other non-sentient or inanimate objects) is not
truly ethical, even if they are “cared-for,” and that they certainly cannot be the “one-
caring.” She argued, therefore, that caring for animals is more esthetic than ethical.

This argument can easily be countered by using the concept of the human-animal bond (HAB), and explaining the caring work of veterinarians as ethical caring for the animals’ owners or managers. In this way, the reciprocity of the relationship is clear, and often manifests itself in terms of payment for services. However, I would go further, and argue that animals actually do contribute at least an affective response to the caring relationship. In fact, recent research on the human-animal bond indicates that animals can even care for humans in a very real sense – contributing to health and wellness in pet owners, and animal caretakers (Barker, Rogers, Turner, Karpf, & Suthers-mccabe, 2003; Hemsworth, 2003; Sherman & Serpell, 2008). This is, however, harder to argue due to the lack of evidence of the intent of the animal to care for humans. A full philosophical discussion of if and how animals contribute to the caring relation is beyond the scope of this dissertation, but it is safe to say that for veterinarians, and animal owners, the work of caring for animals fits very much into Noddings’ concept of ethical caring. So Noddings’ theory continues to be useful.

If Gilligan and Noddings’ theories help us to understand what has occurred in veterinary medicine as it has become feminized, how does this understanding relate to individual veterinary students’ experiences as they are socialized into the profession, and how does that influence their career decision-making? There have been some efforts to look at the impact of feminization and gender roles in various health care professions. These considerations of socialized gender expectations in the context of the professions are examined in the next section.
Gender, Work and Feminization in the Health Care Professions

“Just so you know, doctors are here to diagnose, not heal. We (nurses) heal.”

“Nurse Jackie” Season 1 Episode 2 (Zisk, 2009)

Sociological approaches to work and professionalism in other health care professions included the idea that the work of caring is disproportionately performed by women, especially in medicine and psychotherapy, similar to my argument about veterinary medicine. In particular, the traditional segregation of nurses and physicians by gender is intimately tied to the roles and work that women are expected to contribute to medicine, and the evolution of the definition of the profession of medicine (T. L. Adams, 2010a). One study, for example, indicated that the different work that nurses and physicians perform in relation to caring for patients in medicine, is more related to perceived gender roles than the actual requirements of their respective professions (Peter & Gallop, 1994).

Late in the nineteenth century, a debate arose in medicine in response to the “bacteriological revolution,” about how to reconcile the new “scientific” objectivity in the practice of medicine, and its emphasis on patients as clinical “objects of study, with more traditional values of interpersonal knowledge of unique individuals” (Milligan & More, 1994, p. 3). Prior to the discourse on “empathy,” the earlier concept of “sympathy” was traditionally seen to be “the chief moral quality of the humane physician” (More, 1994, p. 22). Sympathy was seen as a “universal human capacity,” (p. 22) such that if it was gendered at all, it was masculine. As this vision of physicians came in conflict with the newer scientific approach, which was pivotal in the context of the professional project of medicine, “the language of sympathy was not only feminized, it was devalued and
sentimentalized,” (p. 23). Often this gendering of sympathy was enacted by female physicians themselves, such as Elizabeth Blackwell, the first woman to be placed on the British medical register, who argued that it was a particular contribution that women could make to the profession, in an effort to gain a foothold for the first formally trained female physicians (Morantz-Sanchez, 1994). This, however, had unintended consequences:

Ironically, though her [Blackwell’s] intention was to mount a critique of the changes in medicine, defining a particular form of behavior as female may have had exactly the opposite of her intended effect, because it linked interpersonal concern with a subordinate social group. (Morantz-Sanchez, 1994, p. 45)

Thus, female physicians came to be associated with a devalued characteristic in the new, “scientific” version of the medical profession, and the concept of empathic interpersonal skills came to be seen as outdated. William Osler, the famous Canadian physician who had “more influence on medical training in England and North America than any other physician at the turn of the century” (Pringle, 1998, p. 28), actively excluded women from medical education because he believed that they were not able to maintain the cool detachment and rigorous hours required of a physician. In a very real sense, therefore, women physicians were seen as a threat to the professionalization of medicine, even as they were having more success in being admitted to medical education.

In the meantime, the concept of empathy, as formalized by Freud and others in the context of psychoanalysis, was developed in an effort to link the intimacy and interpersonal connection of health care professionals to the scientific technique (More, 53
Despite this effort, empathy was also soon associated with the feminine, and is still seen as being highly gendered in the medical professions (Milligan & More, 1994; More, 1994). Gilligan’s “Ethic of Care,” (1982/2003) as well as her theories on the difference in moral development for women compared to men (1997) are often cited as explanations of the ongoing differences in how women practice medicine, and the specialties they pursue (Bickel, 1994; Gilligan & Pollak, 1988; Surrey & Bergman, 1994).

More recently, there has been a backlash to the idea that physicians, and other health professionals, should be wholly objective and distanced from their patients, and there has been a growing focus on the benefits of empathy and interpersonal skills amongst physicians, and how to teach “moral development” to health professional students (Bebeau, 1994; Branch Jr, 2000; Self, Olivarez, & Baldwin Jr, 1998; Self, Schrader, Baldwin Jr, & Wolinsky, 1993). This is particularly relevant amidst concerns about findings that traditional models of medical education, and changes to the structures of the profession tend to suppress moral and ethical development in its practitioners (Cooke, et al., 2006; Feudtner, Christakis, & Christakis, 1994; Pellegrino, 1999). As Milligan and More characterized it in their examination of why empathy needs to be reclaimed as a defining characteristic of physicians: “medicine’s modern adaptation to the culture of science had had serious implications for the ethical core of clinical practice” (Milligan & More, 1994, p. 2). Nearly a century and a half after Blackwell made claims about women’s strengths in this area, the influx of women into the medical profession is now being seen as part of the solution to this problem, as women are being
represented as “the new ‘human’ face of a humbler form of medical practice” (Pringle, 1998, p. 7).

With these terms and attributes still so explicitly gendered in the cultures of medicine, the challenge seems to be “to reclaim the validity of empathy as intersubjective knowledge without simultaneously marginalizing it” (More, 1994, p. 33). The concern is that with the feminization of the health professions, and this return to a more holistic approach to medicine associated with the feminine, that the status and authority achieved by the scientification of medicine will be eroded:

Part of this ‘trouble’ with medicine has to do with gender. Both medicine and modernity have been linked with masculine power and domination (Davies, 1996). The reversals to medical triumphs can be seen as a colossal blow to the masculine ego. Women have to some extent caused the ‘trouble’ in attacking patriarchal medicine and demanding new forms of health care. (Pringle, 1998, p. 7)

So, although women are now entering the medical profession in higher numbers than men, they still tend to be segregated in certain specialties, such as family practice and pediatrics, and there is a differential distribution of women and men in the medical hierarchy similar to that seen in veterinary medicine (T. L. Adams, 2010a; Pringle, 1998; Wedin, 2009).

This is consistent with the literature on the feminization of other professions cited earlier (Bolton & Muzio, 2008) and indicates that the cultures of medicine are still predominantly masculine and hierarchical, especially as the status of the profession is seen to be under threat by the feminization process. As Miles (1991) characterized it,
“that women in medical schools are no longer a minority makes it the more interesting to observe that they often behave as though they are” (p. 134).

Many studies have examined this paradox in medicine (T. L. Adams, 2010a; Levinson & Lurie, 2004; Riska & Wegar, 1993). For example, Pringle (1998) used Foucault and Bourdieus’s theories to analyze the impact of the growing number of women in medicine through interviews with 150 women doctors in the United Kingdom and Australia about their work, and how it is informed by the “discursive practices that structure teaching and learning, their interactions with patients, with doctors and other health workers, and with all whose acknowledgment confers on them the position of ‘doctor’” (p. 21). In the meantime, the traditionally feminine professions in health care, such as nursing, still fight for status and authority by attempting to distance themselves from conceptions of them being seen simply as “caring” professions (Crigger, 1997).

Increasingly though, rather than seeing each profession as an individual case study, there is a growing recognition that there is much in common across the health care professions, especially with respect to the impact of feminization on the professional project, and that we can learn from each others’ experiences (T. L. Adams, 2003, 2010a; Muzzin, et al., 1994; Philipson, 1993). Veterinary medicine should be included in this discourse, especially since it can be seen as the extreme example of the feminization process, with the biggest shift in numbers of women into the profession. In this sense, veterinary medicine becomes what Gluckman describes as the “apt illustration” (as quoted in Mitchell, 1983, p. 193) in which the general principle of the effects of feminization on the gender segregation of work within the health professions is illustrated most clearly.
The Case for Veterinary Medicine

The dramatic feminization of veterinary medicine has been remarked upon extensively in both the academic and lay literature (Heinke & Sabo, 2009; Krieger, 2008; Lloyd, 2006; Lofstedt, 2003; Rucker, 2002; Slater & Slater, 2000; C. A. Smith, 2006). Much of this literature focuses on efforts to explain the reasons for feminization (A. E. Lincoln, 2010; Maines, 2007). There have also been discussions about potential impacts on teaching and learning in veterinary education (Foster, Gardner, Kydd, Robinson, & Roshier, 2010; K. A. Taylor & Robinson, 2009) and gender differences in non-technical skills, knowledge and attitudes (SKA’s), especially with respect to business competencies (Brown & Silverman, 1999; Miller, 2008). There has been plenty of documentation showing gender differences in the career choices of veterinary graduates, and the effect on income (Heath, 2007a; Heath & Lanyon, 1996; Shepherd, 2010). There is no literature, however, analyzing the gender effects on how or why students and veterinarians make the career choices that these studies document. In addition, the largest of these, Heath’s study, which started to follow a cohort of students over 20 years ago is situated in Australia, which is a very different environment from current veterinary education in North America.

There is a difference in the balance of traditional gender roles in the division of labor in veterinary medicine, compared to human health care. In human health care, medicine defined itself as a male profession, despite the fact that historically, women had been largely responsible for healing and healthcare in the domestic sphere. Women were excluded and marginalized through gendered social ideologies, (T. L. Adams, 2010a), and medical and dental nursing were defined as work for them, in order to support men in
their professional work, and under male supervision. According to Adams, “men’s and women’s health care roles have been defined in contradistinction,” and “have been mutually defining” (p. 456).

Veterinary medicine was also gendered masculine early in its history, due to its association with agriculture and physical labor (Dunlop & Williams, 1996; Irvine & Vermilya, 2010), which required an “unsentimental attitude,” (Irvine & Vermilya, 2010, p. 59) inconsistent with female gender roles of the time. In contrast with human health care, however, there were no equivalent supportive “semi-professions” for women, to serve as a counterpoint for the male veterinarian’s role. Only since the rise of companion animal practice has veterinary technical work evolved as a semi-profession, similar to nursing. Veterinary assistants are helpers employed by veterinarians to help with medical care, but who are not formally educated or licensed at all, and, therefore, have even less legitimacy than veterinary technicians. These roles did not evolve early in the history of veterinary medicine for practical reasons, because veterinarians treating agricultural animals generally travel to the site of care, and it is only since veterinarians started to treat smaller, companion animals, and their patients have been able to come to a centralized clinic for care, that it has been practical to train and supervise veterinary assistants and technicians. Prior to that, and for most large animal practitioners even today, veterinarians have been very independent, working on their own, or with the help of clients and staff at the site of care.

Veterinary technicians and assistants, as well as much of the lay staff in veterinary practices, are almost always women, just as in nursing and other medical “paraprofessions.” However, these staff roles only evolved significantly after the number
of women increased in the veterinary profession. So veterinary medicine was defined as masculine without the benefit of an “othered,” feminine role for contrast in the work they performed. I would argue that this meant that veterinary medicine had to work all the harder to maintain its hegemonic masculine elitism historically, and that the socialization required in order to achieve this masculinity through rugged independence remains today.

The Gendering of Work in the Veterinary Profession

According to leading animal ethicist, Dr. Bernard Rollin, the fundamental question of veterinary ethics is whether veterinarians’ primary role lies with the client or the animal under their care (Rollin, 2006). He went on to define the two main roles of veterinarians as “pediatricians” or “garage mechanics” (C. L. Adams & Ladner, 2004; Rollin, 2006, p. 27): clients who seek veterinary care for their companion animals are more likely to expect a “pediatrician” style of practitioner, who will advocate for the animal, whereas owners of production animal operations who are more concerned with the financial profitability of their livestock, are more likely to seek veterinary services presented in the style of a “garage mechanic.” Clearly these terms have gendered associations and implications.

Irvine and Vermilya (2010) examined the gendering of work in veterinary medicine, through a series of interviews with women veterinarians and veterinary students, in which they characterize the profession as a gendered organization. They claimed that, “gender is a constitutive element in organizations” (p. 57). They went on to say, “the characteristics of an organization reproduce gender inequalities through policies, practices, culture and interaction... Gendered expectations about workers’ attitudes, behaviors, and interactions are embedded in the organization” (p. 57). The
authors made a case that despite women now making up a numeric majority in veterinary medicine, as a profession, or an institution, veterinary medicine is still stereotypically masculine in its actions and attitudes, and is, therefore, not truly “feminized” at all.

Irvine and Vermilya (2010) argued that the origins of the profession are so rooted in the masculine culture of the “barnyard environment” (p. 59), that the profession maintains a “hegemonic masculinity” (p. 73). For example, the interviewees in their study gave examples of being treated in an “unprofessional” way by clients and staff, different from their male colleagues. The authors cited evidence of the “hegemonic masculinity” of the profession being the gender pay gap, the continued underrepresentation of women in leadership roles in professional organizations and schools of veterinary medicine, the low numbers of women who own practices, and the gender segregation of workers amongst the specialties within the profession.

Furthermore, Irvine and Vermilya noted that the women in their study “participate in the patterns of practice that sustain and justify the status quo, and thus preserve hegemonic masculinity” (Irvine & Vermilya, 2010, p. 74). They also noted that the women reported that not only were they less likely to be paid as well as men in the profession, but felt that women were also less likely to negotiate for better salaries because they were expected to “love what they do” (Irvine & Vermilya, 2010, p. 70). Apter and Garnsey’s (1994) might have described this as women’s loss of agency in the face of oppressive social structures.

Participants in the study felt that there was a “double-burden” faced by women, due to the difficulties of “balancing work and family,” (p. 71), which helped to explain both the lack of women who are practice owners and the gender pay gap. However, they
also believed that women practiced less effective business models. The authors argued that these are examples of the discursive strategies used by their participants:

The profession allows or even requires women to manage a dual identity. As women, they bear an identity that is gendered as female. On entering veterinary medicine, they brought this identity into a professional universe that has accommodated women but remains gendered masculine. The gender work of women veterinarians thus involves creating a professional identity within a masculine system of meanings. Consequently, both role encapsulation and distancing maintain inequality by preserving the masculine ethic of veterinary medicine. Although women are not overtly asked to “keep their place,” the attributes considered feminine are devalued, even—and perhaps especially—by women, who risk devaluation by association. (p. 76)

So, ironically, although the ethic of care in women’s identity development may have attracted women to the veterinary profession in the first place and opened the door for them to enter, women currently in the profession are devalued for those same characteristics and distance themselves from them.

Irvine and Vermilya (2010) talked about how individual women in their study attempted to distance their own experiences and characteristics in this context from those of women “in general” in the profession, especially with regard to the factors that attract women to veterinary medicine in the first place: “the veterinarians we interviewed wanted us to know that although women in general were attracted to the ‘touchy feely’ side of veterinary medicine, this was not what had drawn them to the profession” (p. 66,
italics in original). They used this as another example of the discursive strategies that the women in the study used to portray themselves as serious professionals and to distance themselves from the limiting stereotypes, which they attributed to other women in the profession. In fact, they found that where the women were successful, they attributed this success to masculine characteristics in themselves, and downplayed their feminine characteristics, especially with respect to caring or emotion work. This effort is seen as “gender work,” which requires women to “manage a dual identity” (p. 76).

Irvine and Vermilya (2010) did not examine how individual women were influenced by this masculine culture, nor how it is socially reproduced. As the authors pointed out, the next step is to “examine how individuals negotiate the terms of gender work in various contexts” (p. 76).

As discussed in chapter 1, the various areas of clinical veterinary medicine have different working conditions, values and norms of behavior, which correlate, to some extent with Rollin’s (2006) two main roles of veterinarians as pediatrician and mechanic. As can be seen from the descriptions of the type of work performed by veterinarians in Table 1.2, small animal or companion animal work requires more of the “pediatrician” role, and large animal or production medicine requires much of the characteristics of the “auto mechanic.” Furthermore, once we consider Gilligan (1982/2003, 1997) and Noddings (1984), and much of the work done on gender in the health professions (Frank, Fee, Parry, & More, 2009; Irvine & Vermilya, 2010; More, 1994; Pringle, 1998), it becomes clear that these differences are highly gendered and may go a long way to explain the gender segregation observed in the profession.
Conclusions

As has been demonstrated in the extensive literature on gender in the work of medicine and other professions, the relationship between the feminization of a health profession such as veterinary medicine and the type of work that women select through their career choices are complex. As Pringle (1998) explains it, the differential distribution of men and women across different professions and specialties within healthcare, have been explained in two main types of terms: individual, and institutional (p. 5):

The first emphasizes gender-related preferences: for example that women are better at people work or emotion work and choose those areas. The second suggests that women have made longterm “investment” decisions about their human capital by balancing their domestic and occupational roles (Day, 1982: 105; Riska and Wegar, 1993: 79-80). (Pringle, 1998, p. 5)

These are two of the domains that I used to analyze the gendering of women’s career choices in veterinary medicine.

Pringle was, however, more optimistic than most about these barriers to women’s performance in the healthcare professions. She argued that the current focus on these issues means that there is a readiness for a “degree of democratization... (that) creates pressure for stronger representation across all specialties” (p. 2). She chooses to focus on women’s success in entering these professions, and on the fact that they are “having a major impact on medicine” (p. 3). While I think that Pringle may be overstating the readiness of the medical profession to change, I do agree with her rallying cry of using a
deconstructive approach of “rethinking… many conventional assumptions about medical power and privilege, the operations of medical ‘fields’, the status of the professions, of ‘patriarchy’ and gender inequality” (p. 3). This is similar to Apter and Garnsey’s (1994) interplay of structure and agency, and, hence the importance of examining women’s subjective experience.

It is time to move on from focusing on possible causes of the gender shift in veterinary medicine, and playing the blame-game of how the changing demographic may devalue the profession. Instead, it is important to understand the interactions between gender and the career options for women entering the profession, in order to begin to influence those processes proactively, and match them to the needs of both the profession, and the public that the profession serves.
Chapter 3: Methodology

This chapter describes the study design and methodology for this dissertation research. First, the underlying structure and research questions are presented, along with the theoretical perspective that guided the research decisions. Data collection and analysis methods are covered, and concerns about the validity and reliability of the study, the ethical considerations, and limitations of the study are addressed. Finally, the study is placed into the context of a planned, broader research project, and future directions of the research are discussed.

Study Design

This study is the qualitative phase of a larger exploratory sequential mixed methods study (Creswell & Clark, 2011), designed to explore how senior veterinary students construct their career narratives. The full mixed methods study will have two phases: a qualitative phase, presented here, which described veterinary students’ career choices; and, a quantitative phase that will develop, test and deploy a survey based on the emergent themes from phase one to a national population of veterinary students. The qualitative phase covered by this dissertation attempted to explore how veterinary students described the influences on their career decisions, through the narratives that they constructed about their career pathways. The aim is to develop these influences into
variables that can be tested in the later, quantitative study across a wider population of senior veterinary students.

**Research Questions**

This phase was guided by the following research questions:

- **Research Question 1:** How do men and women in their senior year of a North American professional veterinary program describe their career decision-making process?
- **Research Question 2:** What are the influences on this career decision-making process?
- **Research Question 3:** In what ways does gender affect the career decision-making processes of veterinary students?

The qualitative phase covered by this dissertation predominantly addressed the first two of these three questions, but also began to explore whether gender is just one of many factors that influences how veterinary students constructed their career narratives, or whether it operated across all of the other influences on career decision-making. This was achieved through the use of semi-structured interviews to explore the ways in which senior veterinary students constructed their career narratives in relation to the accepted norms of career narratives in the profession. The plan was to test these theories and address the third question further through the development, validation and deployment of a survey instrument at a later date.

**Defining Terms**

Methodology, or the way in which a researcher defines his or her ways of going about doing research, is distinct from method, which is the specific form of measurement or data collection employed. Any researcher can employ any method, but their methodology determines how they will use that method, and how they will analyze and
interpret the data collected. As Kuhn (1970) wrote, “consciously or not, the decision to employ a particular piece of apparatus and to use it in a particular way carries an assumption that only certain sorts of circumstances will arise” (p. 59, as cited in Jones, Torres, & Arminio, 2006). Methodology is determined by the researcher’s worldview or model of the world (paradigm) and their philosophy about the nature of reality (ontology). It is also influenced by their assumptions about how knowledge relates to that reality and the relationship between them and the subject of their study (epistemology).

The methodological approach of this study was feminist standpoint, which was anchored in a constructivist epistemology. Qualitative research grew out of anthropological field studies of other cultures, and usually employs a constructivist view that reality may be interpreted differently depending on an individual’s point of view, and how they make, or “construct” meaning of the world (Denzin & Lincoln, 2005; Glesne, 2006). Qualitative methodologies include, but are not limited to ethnography (literally, the study of people, from the field of anthropology), phenomenology (the study of phenomena), and standpoint theory (Glesne, 2006). The latter examines the world through the perspective of specific groups of people or individuals who have usually been underrepresented or ignored in the past, and, as such, is often the foundation of interpretivist feminist methodologies (Harding, 2012).

More recently, postmodernist qualitative methodologies have moved beyond constructivism by dismantling the very idea of such carefully laid out categories of thinking, and describe knowledge as a socially constructed reality perceived by any group of individuals at any time in different ways. This led to a concept of qualitative methodology that argues that any research is geographically and historically situated, and
which deconstructs previously fixed categories and power structures of race, ethnicity, gender, class, sexuality and ability through the concept of intersectionality (Jones, et al., 2006). As such, many feminist methodologies have often embraced postmodernist worldviews, as they are effective at critiquing power structures, and deconstructing the power dynamics of gender and other social constructions. While this study was not explicitly postmodernist, it did draw on some of the deconstructionism of postmodernist approaches, due to its feminist lens.

Theoretical Perspective: Feminist Standpoint Theory

There is no one type of feminist methodology (Hodgkin, 2008). Instead, the element that unites feminist research across methodologies and paradigms is a recognition of the “basic structures and ideologies that oppress women” (Brooks & Hesse-Biber, 2007, p. 4). A feminist approach emphasizes that “gender matters in our everyday lives, and how we experience our everyday lives is affected by gender matters” (Pillow, 2002, p. 11).

By choosing a feminist approach, I argued that especially in the context of the feminization of the veterinary profession discussed in chapters 1 and 2, the career decisions of veterinary students, both men and women, are necessarily experienced through the lens of gender. As Lather (1991) wrote:

To do feminist research is to put the social construction of gender at the center of one’s inquiry… feminist researchers see gender as a basic organizing principle which profoundly shapes/mediates the concrete conditions of our lives… through the questions that feminism poses and the absence it locates, feminism argues the centrality of gender in the
shaping of our consciousness, skills and institutions as well as in the
distribution of power and privilege. (p. 71)

I aimed, therefore, to center the career choices of veterinary students around issues of
gender in this way. According to Schrock (2008), the hallmarks of a feminist
ethnography include:

1. The recognition of the effects of the researcher of her presence in the research context.

2. The inclusion of research subjects’ own interpretations of how they assign meaning to their lives.

3. A dialogic, self-reflexive approach.

4. An engagement with gender in general, and women’s issues in particular.

5. A recognition of women’s inequality in a patriarchal society, but also of their resourcefulness and independence.

6. An acknowledgment of the difference between what people say, and what they may actually do.

These characteristics are not necessarily significantly different from many other self-reflexive, qualitative approaches, except for points #4 and #5, which emphasize that the social construction of gender, and particularly its influence on women’s lives, is foremost in the analysis. I would argue, however, that in a recently feminized profession, the effects of gender on men are equally important, and were examined just as carefully. For this reason, my choice of a feminist perspective was primarily in order to examine this dynamic of gender and career choice for all of my participants, both men and women.
In particular, I situated this study in feminist standpoint theory. Feminists argue that traditional research, while claiming to be objective, was actually constructed to legitimize the “conceptual frameworks of research disciplines as well as of the social institutions that such research disciplines served” (Harding, 2012, p. 48). In contrast, standpoint theory is grounded in an interpretivist, constructivist paradigm, and aims to foreground research participants’ “concerns and practices in everyday life, rather than from the concerns of those institutions and disciplines” (Harding, 2012, p. 48), in order to reveal and challenge dominant social structures.

According to Harding (2012), there are two main justifications for emphasizing the perspective of the research participants over the researcher’s agenda in standpoint theory: a political justification that it is important to emancipate the research “subjects” or participants from the disempowerment of being “studied” by those with more power; and, a scientific justification that the disempowerment of those being studied tends to lead to a distorted view of their reality. As a researcher, therefore, I situated my study in standpoint theory as a conscious effort to discover my participants’ perspectives, rather than impose my own beliefs, biases and theoretical ideas onto their experiences. This approach is not unique to feminist standpoint theory, but is good practice for all qualitative research.

Of course, using standpoint theory is not an abdication of the researcher’s point of view, when the very decision to use a standpoint approach is, in itself, an imposition of the researcher’s belief system on the collection and interpretation of the data. For all qualitative research, it is good practice for the researcher to make decisions about how to approach the research design, methods and analysis in a mindful and thoughtful way.
throughout the study. However, the key is to be conscious of the influence of how the researcher constructs meaning in the research setting, and work to question such decisions throughout the process. For this study, this reflexivity was particularly important during the interview process itself, when it was important for me to not guide the participants’ narratives along any kind of theoretical pathway, but to ask open-ended questions and allow the students to guide the direction or flow of the interview, in order to avoid researcher bias. This was particularly important in the standpoint tradition, since it was not just the content of the participants’ answers that was important, but how they structured and presented those words, that indicated how they constructed their narratives and meaning. Some practical ways that I continued to be aware of and avoid researcher bias included journaling throughout the research process, and peer debriefing, in order to reflect on my analytical decisions about the data.

According to DeVault and McCoy (2006), “the researcher’s purpose in an institutional ethnography is not to generalize about the group of people interviewed, but to find and describe social processes that have generalizing effects” (p. 18). Using this as my model of “institutional ethnography,” I will discuss how my interview participants negotiated their perceptions of the accepted career narratives of the veterinary profession when they conflicted with their perceived gender roles in the wider context of western society at the end of the first decade of the new millennium.

A feminist lens was appropriate for this reason alone, since I was interested in the influence of gender, which has been neglected up until now in this context, despite the feminization of the profession. However, a feminist lens was also appropriate because this study aimed to situate these students in the patriarchal institutions and structures,
which appear to push women and men into gender roles that sometimes conflict with what may be a masculine conception of a linear, rational career path. For example, in my pilot study, the women often talked about what they “could” or “should” be doing with respect to their career options, referring to implicit norms or narratives within the profession, which privilege some career paths over others, but then contrasted these choices with what they feel they should be doing based on their perceived gender roles and work-life balance preferences. Another example is the fact that men may feel pressure to be the primary breadwinner for their families, due to social constructions of masculinity, and may be opting out of veterinary medicine for this reason because of the financial implications of the rising debt to income ratio. These issues deserved further exploration, including contrasting these men and women’s experiences, in order to build a theory of how gender may be a factor in the career decision-making process.

Where I stopped short with my feminist perspective, however, was in the implication of some of the methodology literature that feminist study designs should have an emancipatory effect on the participants:

Feminist research goals foster empowerment and emancipation for women and other marginalized groups, and feminist researchers often apply their findings in the service of promoting social change and social justice for women. (Brooks & Hesse-Biber, 2007, p. 4)

This is often seen as a key component of a critical feminist orientation, but since feminist methodologies can be so varied, it is not a requirement of all feminist methodologies, including standpoint theory, which is usually more observational and attentive to the participants’ narratives. In fact, Harding (2012) writes of the “futility” (p. 53) of
believing that simply telling the stories of individuals, no matter how well that data is
disseminated, will change powerful social structures. I do hope that my findings opened
my participants’ minds to thinking about the issues raised, and made them more mindful
about how they make career decisions in the future. I see this as being similar to the
consciousness raising groups of the second wave feminism that generated the standpoint
approach. I also hope that the findings may illuminate and inform veterinary educators’
approaches to curriculum planning. However, I do not anticipate this leading to political
activism in the sense that is implied in critical feminist discourse, or some of the literature
on the emancipatory component of the transformative paradigm in mixed methods.

**Evolution of the Philosophy of the Study Design**

The methodology for this study developed, in part, out of two previous pilot
studies: the first, conducted as an assignment for a graduate class in feminist
methodology; and the second, with Institutional Review Board (IRB) approval, for a later
class in qualitative methodology. In both pilot studies, I interviewed female veterinary
students in their final year of study enrolled at a college of veterinary medicine at a large
midwestern, public land-grant university (referred to hereafter as Midwestern State
University or MWSU), using a semi-structured, open-ended interview method. These
studies were designed to investigate the themes and processes that influence female
veterinary students’ career choices. The projects were used to become familiar with
feminist and ethnographic research methods and to develop hypotheses about the career
choices of veterinary students that could be tested in a quantitative study through a survey
instrument. I had a nagging suspicion that numbers did not always tell the whole story
and, particularly as a feminist, I worried that the voices of women and other marginalized
groups are often neglected by traditional positivist methods.

The results convinced me of the importance of a more in-depth, qualitative
approach to investigating these research questions and caused me to rethink my research
questions. Many of the themes and underlying concepts of my research problem
remained opaque, and needed a qualitative approach if they were to be better understood.
However, it was clear to me that quantitative approaches would be needed in order to
generalize across the student population, and apply the findings to veterinary education in
the future. Qualitative methods may be better for building theory, but quantitative
methods are more appropriate for testing theories and are required for generalizing across
populations (Creswell & Clark, 2011). I realized that an exploratory sequential mixed
methods study design (Creswell & Clark, 2011) would give me depth and richness of
data from the qualitative component, and produce the quantitative data and conclusions
that would be relevant and respected in the field of veterinary education. This research
focused on the qualitative phase of the larger study.

Previous studies on the career choices of veterinarians have surveyed large groups
or cohorts of veterinary students and graduates to track broad patterns about when they
make choices in their veterinary careers and the most likely choices statistically
(Chigerwe, et al., 2010; Heath, 2007b; Jelinski, et al., 2008). The most in-depth of these
was an ongoing study conducted by Heath (2007b), following a cohort of veterinary
students from admission to their veterinary program in Australia into their working lives
for the next 20 years. All these studies were culturally and historically situated, and
ignored the processes that determine these veterinarians’ choices, the sources of
information that they use, or the struggles and dilemmas that they negotiate. In addition, such broad, quantitative methods were not able to distinguish differences between individual students. Some gender differences were identified and noted in these studies, but there was little effort to systematically study how and why these occur, although in some cases the authors did speculate about the causes of the observed differences (Heath, 2007a; Heath & Lanyon, 1996; Heath & Niethe, 2001).

**Research Methods**

This study used semi-structured, open-ended interviews through a feminist interpretative-constructivist lens. My intention was to discover the experiences of my participants through their own narratives (Errante, 2000), where the interview served as a “narrative production site” (Czarniawska, 2004). Errante (2000) wrote:

> Narratives declare narrators’ alignments with certain “in” individuals, groups, ideas, and symbols onto which they externalize their most valued, positive and pride-inducing qualities. Narratives also declare narrators’ dissociation from “other” individuals, groups, ideas and symbols onto which they externalize the least favorable parts of themselves. (pp. 16-17)

Semi-structured interviews were an appropriate method of data collection for this purpose, since they allowed the participants to lead the conversation in any direction that felt relevant or important to them. This is different from a more structured survey, or questionnaire, that, instead, asks participants about their responses to specific, pre-established theories and concepts. Although it was helpful to build on current theories and literature about career choice in this study, this intention was balanced with allowing participants to co-construct the theories that emerged from the data. In practical terms,
this approach meant that questions were posed that were neutral and open-ended, especially at the beginning of each interview, so as to encourage the participants to talk freely and openly. It was possible, then, to ask more specific questions later in the interview, in order to clarify or encourage the participants to expand on a point, but this was done without leading the respondent in any particular direction.

**Sampling Methods**

**Site Selection.** Participants for the study were recruited from the College of Veterinary Medicine at a large, public, land-grant institution (to be referred to as Midwestern State University or MWSU). This site was selected due to ease of access to the students participating in the study, since I was employed at the College. The site selection was, therefore, an example of convenience sampling. However, this was appropriate, since the college was also typical of most of the 28 U.S. colleges of veterinary medicine in terms of size, institution type, curriculum and student demographics.

Midwestern State University’s College of Veterinary Medicine (MWSU CVM) is one of the largest colleges in the United States. The senior class for this study consisted of 137 students, compared to the average class size for U.S veterinary programs of 105 (AAVMC, 2013). The demographics of MWSU CVM’s student and faculty populations are also similar to the average population statistics of all the U.S. veterinary programs, with a high representation of White, middle class, young women amongst students: 79% of students graduating in the academic year of 2011-2012 were women (compared to approximately only 6% in the early 1970’s), only about 5% of all students enrolled in the veterinary program are Underrepresented Minorities in Veterinary Medicine (URVM’s).
according to the definitions of the American Association of Veterinary Medical Colleges (AAVMC)\(^1\) (DiVersity Matters Resources, n.d.; Hacker, 2003; OSUCVM, 2010a; Shepherd, 2009). This is typical of the overall statistics by gender, but is low compared to the national average of 12.20% of URVM students. It should be noted, however, that Tuskegee University, a historically Black college in Alabama, contributes significantly to this number, since about 60% of Tuskegee students are URVM students, and without Tuskegee, the national average of URVM students across all other veterinary colleges drops to 10.83% (DiVersity Matters Resources, n.d.).

**Participant Selection.** I interviewed senior veterinary students in the class of 2013 at MWSU CVM for my project, which means that they were in their final year of a 4-year professional program. I chose senior students for two reasons: because career decisions are particularly pertinent to them as they near the end of their professional education and make choices about jobs after graduation; and, because they are able to reflect back on their decisions and influences both before and during their veterinary training. Since gender was a focus of this study, it was important to interview men and women, in order to determine if the processes identified were gender specific or common to all veterinary students. I was most interested in students’ decision-making processes, since my ultimate aim was to determine if the professional veterinary curriculum could be redesigned to prepare students better for the career paths available to them in veterinary medicine.

\(^1\) “URVM are populations of individuals whose advancement in the veterinary medical profession has historically been disproportionately impacted by six specific aspects of diversity (gender, race, and ethnicity, and geographic, socioeconomic, and educational disadvantage) due to legal, cultural, or social climate impediments.” (AAVMC Definition of Underrepresented in Veterinary Medicine (URVM) Position Statement).
Participants were recruited by two recruitment emails, sent out to the entire senior class of MWSU CVM (Appendix A). The first email elicited 20 respondents. Due to the complexities of scheduling, and a desire to increase the sample size, I felt it prudent to send out a second email. The second email elicited a further 3 potential participants. It was only possible to schedule interviews with 20 out of the 23 respondents within the timeframe of the study. The final participants were selected based on availability, with some attention paid to the principles of purposeful sampling (Maxwell, 2005). Maxwell lists four possible goals of purposeful selection as follows: 1) to seek representativeness or typicality of the participants in the context of the research setting; 2) to capture the heterogeneity or variety across the range of the population being studied; 3) to deliberately choose cases that demonstrate critical theories that are being developed; and, 4) to establish particular comparisons for the purpose of illuminating the reasons for differences.

For the purposes of this study, key characteristics affecting representativeness and heterogeneity (Maxwell’s #1 and #2 above) were observed and recorded. These were: gender; career type, including whether an individual was interested in ongoing training for specialty versus general practice, or working in industry or government settings; and, species interest, especially with respect to small, companion animal practice, equine practice, large, production animal practice, mixed practice, or other species. These were categories that were considered relevant to the career choices that were discussed in chapter 1. The number of participants in this study, across these categories, are summarized in Table 3.1:
Table 3.1. Number of participants per thematic category

<table>
<thead>
<tr>
<th></th>
<th>General Practice</th>
<th>Specialist</th>
<th>Total #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>Small Animal</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Food Animal</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Equine</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mixed</td>
<td>2</td>
<td>4</td>
<td>N/A&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Other</td>
<td>N/A&lt;sup&gt;b&lt;/sup&gt;</td>
<td>N/A&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total #</strong></td>
<td>5</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

<sup>a</sup> Not applicable since it is not possible to specialize in mixed practice, which is, by definition, non-specialist.

<sup>b</sup> Not applicable since other categories or species of practice typically require further, specialist training.

Heterogeneity (#2) could be judged, to some extent, by the concept of theoretical saturation (Charmaz, 2006; Corbin & Strauss, 1990), which is when the data being collected stopped revealing any new emergent themes or concepts. In this case, this meant that the data collected included each of the main theoretical categories, so that it could be judged that the heterogeneity of the population under study had been covered. As is shown in Table 3.1, these were overlapping categories, so that a student may represent several different dimensions. It was assumed that ideally at least three students represented each key characteristic in order for saturation to occur. However, this assumes a uniform distribution of students across all the categories, which was not the
case, as is reflected in the career choices of all senior veterinary students across the country (Shepherd & Pikel, 2012).

Furthermore, it was not necessary, or practical, to interview students in every single category (or, cell in Table 3.1) as long as there was coverage of all categories overall, and theoretical saturation was reached. For example, two students may have chosen small animal practice, but one could be interested in general practice, whereas the other chose specialist practice. Both would represent the dimension of small animal practice. Similarly, students may have opted for equine practice in either general practice or specialist practice, and still represent equine practice choices, for both options. Across the dimension of type of practice, however, those students selecting specialist practice for either species group may have had similar concerns, and both represent the dimension of specialist practice, and students selecting general practice may have much in common and both represent general practice. For this reason, as long as 3 students were interviewed for each of the main totals (minimum #), as shown in the table, then the actual number of students in each of the cells could vary, and still be representative.

It was important, however, to guard against selecting only cases that represent the theories being developed by the researcher. This was achieved by following three practices: 1) resisting the urge to start looking for certain types of participants at the expense of others, or, in other words, not actively seeking the goal of heterogeneity; 2) avoiding leading the participants in the interview process towards certain types of responses or answers; and, 3) actively reflecting on the researcher’s own biases and assumptions through journaling and peer or expert debriefing.
In the end, 23 students responded to the recruitment emails, and 20 students were willing and able to schedule interviews in the timeframe of the research. As is shown in table 3.1, these students covered the range of different career categories, although not always in representative numbers. This will be discussed further in chapter 4.

**Recruitment and Consent.** The recruitment email (Appendix A) sent out to the senior class of MWSU CVM explained the purpose and structure of the interviews and clearly laid out the consent process. This included assuring any potential participants that they could remove consent at any time during or after the interviews. In addition, as stated in the recruitment email, these issues were discussed at the beginning of each interview, and were recorded as part of the interview process. Then participants were asked to sign a consent form, stating that they had been informed of the consent process, and provided with any answers to questions they may have had about the study. The script for these instructions at the beginning of each interview can be found in Appendix B. The consent form can be found in Appendix C.

The consent process helped to establish my trustworthiness with the interview participants. I attempted to continue this process and establish rapport with them through an initial introduction of the study and explanation of how the interviews would work. Then I started the interview with several, broad, non-threatening, open-ended questions that were designed to allow the participants to open up and lead the conversation wherever they wanted it to go.

Students were offered a $20 Subway gift card as an incentive to participate in the research. This was advertised in the recruitment email, and students were reminded of this at the time of the interviews. In the end, the Subway gift cards were only available in
$25 increments, and so these $25 gift cards were distributed to participants after all interviews were complete. One participant declined the gift card, and asked, instead, for the funds to be used towards future research.

Data Collection

**Ethical Considerations.** Institutional Review Board approval was sought prior to recruiting participants for this study. The research qualified as an exempt study, since the participants were all adults who were free to consent, the subject matter to be discussed was not particularly sensitive, or likely to place the participants, or their reputation, at any kind of risk, and the participants’ confidentiality was maintained.

The main ethical consideration was to maintain the participants’ confidentiality. The participants’ identities was not known to anyone other than myself; the audio files from their interviews were kept secure; and data was de-identified, and pseudonyms were assigned to each participant before the data was discussed in this dissertation. As well as being ethical, explaining this process to participants helped to build trust, so that they were more likely to be candid and forthcoming about their experiences.

**Interview Structure.** The interviews were semi-structured. This meant that I had a list of prompting questions, but allowed the participants to introduce topics and themes in any order, however they considered it relevant or appropriate. I introduced each broad topic with each interviewee, so that I could compare responses between individuals. Interviews lasted between 45 minutes to an hour and a half, depending on how much the participants had to say, and how much time they had available. The interviews were designed to start with broad, open-ended questions so as to elicit the participants’ own narratives as much as possible, and these questions were followed up with more specific
or pointed questions in order to probe deeper into the respondent’s own choice of topics. Although this study was explicitly feminist, and, therefore, aimed to examine the influence of gender, this phase of the research was exploratory. Therefore, it seemed important to see if participants raised the issue of gender without being prompted, and so questions about gender were purposefully omitted in the formal interview structure. If participants raised the issue of gender, however, or spoke about a topic in a gendered way, then this was explored further with them.

The list of questions and topics was as follows:

Background:

1. Tell me about how and when you first decided to become a vet.

Education:

2. What did you do to pursue a career as a veterinarian?

3. Did you seek out experience with veterinarians? What difference did that make to your ideas about the profession?

Veterinary Education:

4. Did you have a sense of what kind of veterinary work you wanted to do before you came to vet school? If so, what was that?

5. Tell me about your veterinary education.

6. How have your thoughts about veterinary careers or specialties evolved?

7. Tell me about any key experiences that affected your thinking about your career.

Future plans:

8. Where do you see yourself next year? In five years? Ten years?

Terminology:
9. What do you understand by the following terms, and the kind of lifestyle you associate with each:
   a. Companion animal practice?
   b. Production animal practice?
   c. Small animal practice?
   d. Large animal practice?
   e. Farm animal practice?
   f. Food animal practice?
   g. Mixed practice?

10. Knowing now that my goal is to understand the way you made or are still making decisions about your career, what additional information do you feel is important?

All interviews were digitally audio recorded, and this was explained to the participants as part of the consent process. The audio files were stored on my personal, password-protected computer, and were saved in a de-identified manner. A separate document linking the de-identified audio files to specific participants was stored digitally on the same password-protected computer and was not shared with anyone else. Hard copies of the participants’ signed consent forms were stored in a locked file cabinet in my office, with the code sheet identifying which pseudonym matches each participant kept off-site, and away from the consent forms.

I made some, limited, field notes about the context and setting of each interview as well as any specific recollections about the participants’ demeanor and reaction to specific questions and topics of conversation after the interviews. I attempted to write up all field notes as soon after the end of each interview as possible. In addition, I also made
entries in a separate research journal periodically, to discuss my evolving responses and ideas to the data. These field notes and research journal entries became part of my data with the interview transcripts.

**Data Analysis**

Analysis of data, according to Jones et al. (2006) is the “undoing,” or “unloosing” (p. 86) of text or data in order to bring insight about the phenomenon under investigation. In qualitative research this is usually an inductive and iterative process, based on emergent themes, and requires “a radical spirit of openness” (Crotty, 1998, p. 50 as cited in Jones, et al., 2006, p. 86). In other words, it is not a single process, which is applied to the data, which then produces an answer or result, like a statistical analysis of quantitative data. Instead, the researcher needs to read, reread, and read again, with an eye for themes, categories and connecting ideas. Initially this means breaking the data down into organizational and substantive categories, and then, eventually, starting to build more general or abstract theoretical categories derived either from prior theory, or inductively developed concepts (Maxwell, 2005).

Organizational categories, according to Maxwell (2005), are broad, pre-established categories of analysis of the phenomenon under study, that are not usually under dispute. Gender of the participant, type of practice and species of practice interest, are examples of organizational categories in this study. Substantive categories, in contrast, are descriptive categories, usually taken from the participants’ own words (“emic”), which make some claims about the data, while still staying close to the data itself. Examples of this from my pilot study include issues of work-life balance and the perceived pressure to specialize talked about by the participants. Theoretical categories,
are more general or abstract, and are usually derived either from prior theory, or
inductively derived from the researcher’s concepts and interpretation of the data, and are,
therefore, “etic.” Unlike organizational categories, substantive and theoretical categories
make implicit claims about the data, and, therefore, are open to dispute.

As each interview was completed, the audio files were sent to a transcription
service (Landmark Associates, Inc.), to be transcribed. Once all the interviews were
completed and transcribed, I started to index some transcripts, which was an
organizational tool to help me create an audit of the interviews, and was the first step in
searching for broad, pre-established organizational categories in the data (Maxwell,
2005).

I used qualitative data analysis (QDA) software, called “Dedoose” (Lieber,
Weisner, & Taylor, 2012) for the coding process, in order to aid in organizing and
retrieving my codes, and to create an audit trail. The use of QDA software is somewhat
controversial in constructivist research (Jones, et al., 2006) due to the fact that these
software packages may “impose a false sense of rational and linear relationships on data”
(p. 97). However, I used the software as a tool for organizing and retrieving codes, and
making connections between transcripts, and did not use it as a replacement for reading
and annotating the transcripts line by line manually.

On the first rereading of completed transcripts, after all interviews had been
completed, I “coded” the transcripts by dividing each interview transcript into short
excerpts and assigning broad descriptions and categories to each excerpt, as they made
sense to me for that transcript. This was the start of the process of creating emerging
substantive categories taken from the interviewees’ own words (Maxwell, 2005).
Ultimately I identified 102 substantive categories. As I progressed through each transcript, I started to recognize and reuse certain themes and categories, and started to create hierarchies of codes, under headings and subheadings. At this stage, I had four main headings: influences; plans for the future; career category interest; and, academic opportunities. Of these, the “influences” category was by far the biggest, with fourteen subheadings. All of the remaining main headings had only two to three subheadings, although many of those had multiple codes. Then I reread the transcripts again, and highlighted and grouped significant or repetitive “codes” of topics and ideas that were consistent or interesting across participants. Eventually I ended up with three main substantive categories of a total of 12 codes (Maxwell, 2005): key influences, with five codes; veterinary career plans, with five codes; and, future plans and aspirations with two codes. Once I started to see the same themes emerging from transcripts of different interviews, and no new themes emerged, then this indicated that I had reached theoretical saturation (Charmaz, 2006; Corbin & Strauss, 1990).

I also wrote memos (Charmaz, 2006), as I coded, to clarify or explain my thinking as I created and organized theoretical categories and codes, and in order to be reflexive about the process of analysis. These memos allowed me to start to describe what and how themes emerged across different participants’ transcripts, and what was similar and different across different categories of participants. These memos became the basis for helping me to develop theoretical categories (Maxwell, 2005) and formed the basis of my discussion of the data in chapter 5.
Validity, or “Goodness” and Trustworthiness

Validity is the measure of how closely a research project’s findings or conclusions resemble the reality of the phenomenon that is being measured or assessed. Qualitative research paradigms do not have the same values as positivist research, with its standards of methodological criteria, internal and external validity, reliability, objectivity and reliance on method (Y. S. Lincoln, 1995), based on the belief that research performed in this way will discover universal truths that were generalizable to the whole population. Instead, most qualitative research paradigms are not based on a model of a separate truth or reality and so they cannot have the same criteria, and vary even with each other, depending on their epistemological and theoretical foundations. So even the aim, or purpose of standards differ between quantitative and qualitative methods: the positivist paradigm searches for rigor, and closeness of fit to reality; whereas the postpositivist paradigms search for trustworthiness (Y. S. Lincoln, 1995), or “goodness” (Jones, et al., 2006, p. 119) to indicate quality criteria. These paradigms hold these to be a closer representation of a socially constructed truth than more traditional measures of validity and reliability.

Criteria are emerging from each of the different postpositivist paradigms that are more specific to their own values. In fact, one measure of “goodness” of qualitative research is the consistency that is demonstrated between epistemology, methodology, and the criteria of quality used (Jones, et al., 2006). For example, Lather (1986) based her validity model for qualitative research on the premise that research should be explicit and consistent about the paradigmatic assumptions and ideology in which it was conducted, in contrast to positivist research, which is equally based on epistemological assumptions,
but is not self-reflexive about acknowledging those interests. There are, however, some common guidelines about quality for all research, with additional criteria that may be more specific to the research paradigm.

Lincoln (1995) offered an interpretivist point of view of validity as trustworthiness, by arguing that the common thread of the emerging common criteria is that they are relational, as they “recognize and validate relationships between the inquirer and those who participate in the inquiry” (p. 278). Those who participate include future audiences and readers of the research, as well as the researcher and subjects of the research.

In this context, “the job of validation is not to support an interpretation, but to find out what might be wrong with it” (Cronbach, 1980, as cited in Lather, 1986, p. 67). This means that the research must be presented in such a way as to clearly articulate how and why conclusions were reached, so that future readers can follow the argument, engage with it, and potentially dispute it (Jones, et al., 2006).

For an interpretivist study such as this one, therefore, where the aim is to co-construct meaning with the participants, a measure of goodness or trustworthiness is how well the emerging theories “fit” the perceptions of the participants, and are also consistent with the theoretical underpinnings of the research design. This can be established in several different ways. First, reflexivity is important throughout the research, in order to ensure that the interests of the researcher and participants, and the epistemological underpinnings of the study, are made explicit, and are consistent with the methods of data collection and analysis. Evidence needs to be presented that this reflexivity was maintained throughout the study through the use of research journals, peer debriefing,
and a clear audit trail of the decisions and methods used. Peer debriefing and an audit trail also help to demonstrate the critical thinking process that the researcher underwent, and convince a reader that the researcher was consistent and systematic about the research. Finally, member checks, where possible, are helpful for checking the findings with at least some of the participants, to establish if the conclusions are consistent with their perceptions.

I had intended to maintain a research journal throughout the research process, in order to reflect on and critically engage in the process. However, since I found it convenient to write about the process of coding in memos written in the QDA software, and linked these memos to multiple transcripts, I did not maintain this practice throughout the data analysis process, since it felt repetitive. I did, however, make sure to reflect on the analytic process, attempt to watch for evidence of bias, and compare my findings to the literature about the theoretical frameworks relevant to my topic. I also attempted to be continuously intentional and critical about chronicling the research decisions I made (Jones, et al., 2006). Finally, I discussed the coding process through peer debriefing with a fellow researcher.

Triangulation is often cited as another element of goodness of a qualitative research study’s findings. This can be either triangulation of theories, or of methods and data sources (Lather, 2003). In this study, where the theories were being inductively derived from the participants, it is hard to see how other data sources could have been found, but an attempt to triangulate the findings with other theories was attempted as part of the data analysis and presentation in chapter 5, and some triangulation of methods should be attempted in the use of focus groups for member checks in future research.
It would have been ideal to perform member checks to establish congruence between my theoretical concepts, and my participants’ experiences. Member checks provide a process of intentional questioning of the theoretical categories derived from the data, by authenticating the findings with participants after the first round of analysis (Jones, et al., 2006). This process provides participants the opportunity to react to the researcher’s analysis, and clarify or dispute it, based on their own experiences and interpretations. However, the students who participated in the study had graduated and left prior to the completion of this study. I intend, therefore, to complete member checks through one or two focus groups with a similar group of senior veterinary students as the next stage in future research. Indeed, the intention is to ultimately triangulate the findings of this research study through the development, validation and deployment of survey instrument, as part of a larger mixed methods research study.

Finally, efforts have been made to create criteria for qualitative methods that indicate quality by justifying their findings as useful to society (Jones, et al., 2006). In other words, one measure of goodness of the research is how well the findings can be applied to professional practice, or, how well the findings transfer to other settings and to a larger context. This is not quite the same as the generalizability of findings sought by positivist methods, but is known as transferability. Transferability of the research findings can be determined by readers based on the researcher’s use of “thick description” (Jones, et al., 2006, p. 60) of the research setting. This means that qualitative researchers must provide “rich, detailed, and concrete descriptions” (Patton, 2002, p. 438, as cited in Jones, et al., 2006, p. 60) which help the reader to fully understand the research context and determine the significance of the findings to other settings. Thick
description can be achieved through the presentation of field notes, and multiple sources of data, as well as the richness of narrative in the presentation of the data. The transferability of the findings of this study are addressed further in chapter 5, especially with respect to both implications for future research and future practice.

**Researcher Positionality**

A fundamental element of qualitative research is that the researcher, and the decisions she/he makes are situated in his/her own sociopolitical history and context. The researcher needs to be explicit about her/his status in relation to the subject matter and participants, and to reflect on how that status influences his/her research decisions throughout the study (Jones, et al., 2006). In particular, it is important to understand and address ways in which the researcher is either an “insider” or “outsider” to the participants and processes under study, and how she/he “works the hyphen” (p. 108) of his/her insider-outsider status. This means acknowledging the power dynamics that are always present in the research process, especially between the researcher and the participants.

Being an “insider” in the research process brings both strengths and threats to the project. An insider is more likely to know or understand the terminology, participants, and categories that are relevant to the phenomenon under study. However, an insider may also bring biases, and skewed perspectives, based on their own, personal experiences to the research process. Furthermore, no matter how much the researcher is an insider in all other respects, simply the act of choosing to research a phenomenon, makes her/him somewhat of an outsider to the process, placing him/her in a different category, with different perspectives on the phenomenon to those of the participants. It also sets up an
unavoidable power dynamic, because the researcher has the power to choose how to represent the participants (Jones, et al., 2006). This can be overcome, to some extent, by adopting a more interactional research orientation, which allows the participants to co-construct knowledge and theory with the researcher, which is the aim of this study. However, the power dynamic is never absent. For example, simply the act of seeking informed consent sets up this power dynamic, by asking the participants’ consent to being represented by the researcher. The consent process is obviously critical for ethical and structural reasons, however, and so this formalization of the power dynamic is unavoidable. It is particularly important for a feminist research study to address the power dynamics of the researcher with the participants because issues of power and control are central to a feminist stance.

For this study, it was significant that I am an “insider” to both the phenomenon (veterinarian’s career choices), and the individuals participating (veterinary students) in three important ways: I am a White, middle class, woman; I am trained as a veterinarian, who worked in equine practice for ten years; and, I am now an academic administrator at the college of veterinary medicine that the students attend. I will address each of these individually.

First, and foremost, as a White, middle class, woman, I am typical of the majority of veterinary students currently both at MWSU, and throughout all North American veterinary programs. Being a woman, in particular, gave me a certain insight into, but also a bias about, experiencing gender as a significant lens on the career decision-making process. This means that I have performed gender in my own life and career as a woman, and could understand some of what the women in my study said about it from firsthand
experience. There was also the risk, however, that the insight I gained from insider status in this context may have lead to assumptions or even bias. For example, it is possible that I might have assumed that I knew what a female participant may have been trying to say in an interview without clarification, and even attempted to finish her sentences for her. To guard against this, it was important to rephrase statements that participants made, and repeat the meaning back to them, to check for accuracy and/or clarification of their intent.

Feminist standpoint theory introduced the concept of “strong objectivity” (Harding, 2012). This is based on the idea that women have a “double consciousness” in our society, which is their ability to see the world from both the dominant male worldview in which they have to function, and from their own minority perspective as well (Harding, 2012). Feminist scholars argue that this gives women a more “accurate, comprehensive, and objective interpretation of social reality than men” (Brooks, 2007, p. 66). This may have given me some advantages in analyzing gender, over a man in a similar position. However, I still had to work to avoid glossing over, or making assumptions about the women’s experiences, and really listen to what they said to be sure to pick up differences from my own experience. In contrast, I may not have seen or understood how the men in my study talked and experienced gender in their lives. So, I had to work harder to avoid bias for the male participants, and search for what they were saying as an outsider in that context.

Furthermore, although I had many similarities with my participants, in terms of my social identities as a White, middle class woman, I was different in other, significant ways. I was old enough to be in a different generation from most of my participants, and, to compound this, I grew up and was trained as a veterinarian, in a different country and
culture. This meant that I needed to pay particular attention to cultural and generational perspectives and experiences in my participants’ narratives, and to be sure to question my own cultural and generational biases and expectations.

During the interview process itself, it was important for me to not guide the participants’ narratives along any kind of theoretical pathway, but to ask open-ended questions and allow the students to guide the direction or flow of the interview, in order to avoid researcher bias. Some practical ways that I remained aware of and avoided researcher bias included journaling throughout the data collection process, peer debriefing, and repeating back to participants what I thought they were saying to obtain their feedback on my interpretations.

In my pilot studies, I did notice in the transcription process that I may have led the discussion more than I had intended, which may have elicited answers to my questions which were more about what the student thought that I wanted to hear, rather than their own opinions on the matter. For example, in one interview, the participant admitted that, “I usually need a little guidance.” I found it difficult to encourage her to talk easily or reflect critically on her decisions, and so I ended up making suggestions about what the influences on her career choices have been. I fear that in this case her possible perception of my authority over her may have influenced her to agree with me more than she really did, although there are points in the interview when she did seem to be able to voice her point of view. In the end she said, “Um, I think I pretty much got out what I thought I could contribute.” This was, however, a concern that I needed to be aware of in the interview process, and attempted to address through reflection in a personal research journal throughout the data collection and analysis. In addition, I worked with a peer
researcher to debrief and discuss the research process as it progressed, and with my academic advisor. In addition, I needed to pay particular attention to this issue in the data analysis phase of the research, and how I handled concerns about representation of the participants in the study.

Secondly, I am trained as a veterinarian, and so I am clearly an insider to the cultural and professional community of veterinarians. I worked, for about ten years, as an equine practitioner, in general practice, including being an intern, an associate, and a practice owner at different times. This gave me experience and insight into the particular challenges of working in large animal practice, but less insight into working in small animal practice or predominantly food animal practice. I did, however, complete short-term locums as a small animal practitioner in a mixed, general practice, and worked in small animal, mixed and food animal general and academic practices as a student as part of my training. My experience drove and guided me in my research, and, it was my own experiences as a woman in veterinary medicine that led me to this research in the first place, and makes me continue to be passionate about it. It also brought with it, however, a lot of biases and assumptions that my experiences as a veterinary student and equine practitioner were the same as those of the students that I was interviewing. I was aware of some of these, but anticipated that there were more; I aimed to root out and question any subconscious assumptions as I conducted my research. For this reason, it was important for me to have research mentors both within, but especially outside the veterinary profession, to help me to question my assumptions and biases. In addition, while it was an advantage that I am familiar with the terminology and structural foundations of the veterinary profession, it was important for me to be able to explain or translate these
terms and structures to a wider audience, and, further, to deconstruct the underlying social constructions which created them. Again, having non-veterinary peers and mentors to debrief with about these assumptions was important.

Finally, I now work in academic veterinary medicine. Specifically, I work at the college of veterinary medicine in the study in an administrative capacity. This gave me several significant advantages, especially in terms of access, since I had access to the students at the college both in person and via email. However, it was also extremely important for me to be aware of my role at the college and how it may have been perceived by potential participants. This had some ethical ramifications, in particular. I had some authority over the potential participants in the study, since my job at the college puts me into regular contact with the students, often with respect to ensuring their compliance with curricular and other institutional requirements. I had no power to grade them, or to otherwise have any control over their future careers, but I do administer the system that managed their schedules, grades and evaluations for their clinical rotations, and I am often in touch with them about curricular requirements for graduation. This may have led participants, even unconsciously, to provide the response/s they thought I might have wished to hear, in an effort to be particularly helpful.

In order to attempt to offset any confusion about my authority over the students, I made it as clear as possible in the recruitment process that this research study was for my own graduate work, and was unrelated to my role as an administrator at the college. I used a similar approach in my previous pilot study by making reference to my role as a researcher at the beginning of each interview, when I asked the participants to sign the study consent form. I also reinforced at the beginning of each interview that the research
was exploratory, and that I wanted them to talk about whatever they felt was relevant to
the discussion. I decided to use my first name as a signature in all my email
correspondence with participants, “Clare,” rather than my more usual, “Dr. Allen,” or
“Dr. A.,” in the hope that this would communicate that I was on a more equal footing
with them, as a fellow student, in the context of this research study. It was hard to know
if this alleviated any tensions or concerns about my authority, but I was not aware of any
problems, and, during the interviews, the students who took part did not appear to be
concerned.

**Future Research**

I plan to investigate the transferability of the findings of this research in a second,
quantitative phase of the mixed methods study after the completion of this doctoral
dissertation research. The plan is to develop the themes constructed in this study into
variables, and to test how those variables relate to veterinary career choice in a survey
instrument. This survey will be tested and validated, and then deployed to a much wider
sample of veterinary students. In particular, the survey will be designed to investigate
how gender may moderate or mediate the other variables developed from the qualitative
research findings. More detail on the planned overall study design is presented in chapter
5.

**Conclusion**

As discussed, this study followed a feminist standpoint approach to the qualitative
phase of a larger mixed methods study design. Because of the emergent nature of the
design, it was important for me to be actively and critically reflective throughout the
study. The analytic process needed to be flexible in order to adapt to the emerging

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process of the findings and the methodological considerations, as they developed. As I have described in this chapter, these adaptations and changes in method and methodology formed an important part of the findings of the study. My reflections, and responses to those reflections will, therefore, be discussed alongside the data collected from other participants in the study, and will inform the final discussions and conclusions of the study.
Chapter 4: Results

In this chapter I will present the findings of this study. First, I will discuss the students who participated in the study and their identities in relation to the veterinary profession. Then, I will present three major themes that emerged from the interviews: the influences described in the participants’ career narratives; their plan for their careers in the profession; and, their other future plans and aspirations.

Description of Participants

Twenty-three senior students in MWSU’s College of Veterinary Medicine’s professional program responded to the two recruitment emails: 20 students responded to the first email, and a further three students responded to the second email. Out of these respondents, 20 were able to schedule interviews within the time period of the study. These 20 students represented a good coverage of the different types of student in the senior class at the college. Demographic information about these students was collected as part of the interview process, and is displayed in Table 4.1 using pseudonyms for the participants’ names:
Table 4.1. Demographic descriptors of participants

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Ethnicity</th>
<th>Age Range</th>
<th>Background</th>
<th>State of origin</th>
<th>Family Status</th>
<th>Previous Degree</th>
<th>Previous careers</th>
<th>Pre-clinical Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ann</td>
<td>Caucasian</td>
<td>25-30</td>
<td>ST/Rural</td>
<td>In-state</td>
<td>Single</td>
<td>UG</td>
<td>No</td>
<td>MWSU</td>
</tr>
<tr>
<td>Annie</td>
<td>Caucasian</td>
<td>25-30</td>
<td>Sub/Urban</td>
<td>In-state</td>
<td>Single</td>
<td>UG</td>
<td>No</td>
<td>MWSU</td>
</tr>
<tr>
<td>Ashley</td>
<td>Caucasian</td>
<td>25-30</td>
<td>Sub/Urban</td>
<td>In-state</td>
<td>Partner</td>
<td>UG</td>
<td>No</td>
<td>MWSU</td>
</tr>
<tr>
<td>Charlotte</td>
<td>Caucasian</td>
<td>25-30</td>
<td>Sub/Urban</td>
<td>In-state</td>
<td>Single</td>
<td>UG (inc)</td>
<td>No</td>
<td>MWSU</td>
</tr>
<tr>
<td>Donna</td>
<td>Caucasian</td>
<td>25-30</td>
<td>ST/Rural</td>
<td>In-state</td>
<td>Single</td>
<td>UG</td>
<td>No</td>
<td>MWSU</td>
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ST/Rural means “Small Town or Rural” background and Sub/Urban means “Suburban or Urban” background.

UG means undergraduate degree completed. UG (inc) means undergraduate degree incomplete.
Eleven of the interviewees were women, and nine were men. All participants were Caucasian. Most respondents (17) were from within the state where MWSU is located, with two out-of-state students, and one student who had grown up in Canada, prior to moving in-state as a teenager. Although the specific age of participants was not asked, based on their descriptions of their pre-veterinary educational and career pathways it can be estimated that 17 of the participants were in their mid- to late-twenties, and under the age of 30, which is typical of the majority of veterinary graduates. Mary and Robert were a little older, having had previous careers for a few years each, prior to applying to veterinary college. John was significantly older, having worked in the field of production agriculture for many years prior to vet school, and he had a family with four older children. Robert also had a child, and his wife was expecting another baby. Another ten participants, three men and seven women, had partners or spouses, including Brady and Marissa, who were engaged to each other. The remaining eight participants, four men and four women, were single.

In terms of background, nine participants had grown up in urban or suburban environments, whereas the other eleven had grown up in small towns or a more rural environment. The small towns, however, varied somewhat, in that some grew up in small towns that were adjacent to, or on the outskirts of bigger cities in the midwest, whereas others were in a much more rural setting. It could be argued that these categories could be further divided into four environments: rural, small town, suburban and urban. The participants, however, seemed to conflate small town and rural life, and also did not distinguish between urban and suburban. Furthermore, as will be discussed later, the background of the participants had the most influence on the kinds of animals and
veterinary work that they were exposed to growing up, and, in those terms, there was little difference between small town and rural environments, or between urban and suburban settings. Finally, as will also be discussed later, there was some fluidity to these backgrounds. For example, Tony’s family moved from a suburban environment to a small, rural farm when he was a child, and then sold the farm again when his parents divorced. Also, although Chip grew up in a suburban/urban setting, he talked at length about spending his summers on his grandparents’ farm.

The majority of participants (14) had completed undergraduate degrees before attending MWSU CVM. Maureen, Charlotte and Robert had achieved their pre-requisites and been accepted to MWSU without completing their undergraduate degrees. In addition, Carl and Chip had completed Masters’ degrees prior to their veterinary training, and John had completed a doctorate in ruminant nutrition. John had used this qualification for a previous career in production agriculture prior to applying to vet school later in life. Similarly, Mary, Maureen, Robert and Tony had had previous careers: Robert had been in the military, and Mary had worked as an unlicensed veterinary technician after completing her undergraduate degree, and Maureen had trained and worked as a licensed veterinary technician for a year prior to vet school. Tony had maintained a thriving horseshoeing business prior to vet school, starting in high school and continuing throughout his undergraduate degree.

Seventeen respondents had completed their entire veterinary education at MWSU, whereas Carl, Mary and Paul had attended off-shore, private veterinary colleges in the Caribbean for their pre-clinical training and transferred to MWSU for their senior, clinical year. MWSU typically accepts 12-15 transfer students into each clinical year, as
part of an arrangement with two private, off-shore veterinary colleges that do not have their own teaching hospital, and so rely on a distributed educational model to provide their students with clinical experience.

**Influences on Veterinary Career Choices**

In addition to the descriptors, above, which influenced some, or all of the career decisions of the participants of the study, there were a number of other factors that influenced 1) the participants’ initial decision to pursue veterinary medicine as a career, and/or 2) the participants’ career choices within the profession. Age of first interest in the veterinary profession and background were the most commonly cited factors that were significant to the participants’ career narratives. Other influences mentioned by most participants included early contact with some animal species, leading to an internal recognition of some kind of affinity for all animals, contact with vets, and an interest and affinity for science and/or medicine. Background shaped both early contact with animals, and early interactions with veterinarians. Family also played an important role the shaping of participants’ career pathways – both family of origin, and current and future plans for their own family. Finally, students talked about pivotal moments that lead them to consider veterinary medicine, and later career choices within the profession.

**Age of First Interest**

All the interviews were opened with a question about how the participant first decided to become a veterinarian. This seemed to be a comfortable question for the participants, since, as Liz commented, “I’m…searching for jobs right now. This is one question that’s come up. It’ll be very relevant.” The age at which the participants first
became interested in becoming a vet seemed to be the most common starting point in their narratives.

Although the participants’ current age range was relatively narrow, the age at which they had first considered a career in veterinary medicine was much more diverse, ranging from 5 to over 40, with a mean and median of 15. Half of the participants (ten) in the study claimed to have decided to pursue veterinary medicine before reaching high school (under 15 years of age), with six of them wanting to do so before middle school (under 12 years of age). Of these ten participants, eight were women. In general, then, there appeared to be a trend for the women in the study to have decided on a career in veterinary medicine at a younger age than the men, although Ashley, Mary and Liz were older. The average age of first interest was 11.5 for women, and 19 for men.

The ages at which the remaining ten participants decided to become vets were more spread out, with Brady, Carl, Paul and Tony reaching this conclusion in high school (under 18 years of age). Ashley, Chip, Liz and Robert decided on their career paths during their undergraduate education, although for Robert was older then since he did not start his undergraduate degree until he was in the military. Mary had completed college and started working for a veterinarian as an unlicensed veterinary technician before she decided to train to be a vet, and John was over 40, before he considered veterinary medicine as a career.

Despite the variation in the ages of when the students first decided to become vets, most of them referenced the “typical” or “usual” pathway to becoming a vet as starting at a very young age, and compared their own experience to that story. As Marissa said, “I still feel like a lot of people decide to be vets way before they come to college.”
Similarly, Joanna had decided to be a vet at a very young age, saying, “Oh, my gosh. I think this is probably really typical, but it really did happen when I was five years old.”

Mary, on the other hand, responded to the question about when she decided to be a vet by saying, “well, it's kind of a little bit different. I never grew up thinking that I wanted to be a vet, so mine kind of came after I finished undergrad.” So, even though her own experience had been to decide to be a vet later in life, after her undergraduate degree, she compared this to the implied norm of choosing this career at a much younger age.

In addition to having different average ages of first interest in the profession, the men and women talked about those ages in different ways. In particular, the meaning of a “very young age” meant to them was different. If the men in this group talked about deciding to become veterinarians at a “very young” age, they seemed to be referring to their early to mid-teens. George, for example, when asked about when he first decided to be a vet, said, “well, it was a long time ago. To me, it feels like a long time ago. I think it was just like through my childhood.” However, when he was pushed for a more specific age, he said, “I think it was—I mean I… always in high school—or maybe it was more middle school age.” Later, he backtracked even further, saying, “but I think in high school, I really made a decision to go to veterinary medicine.” Similarly, Brady said, “it probably started 16, 17, is when I really started to pursue it a little bit more,” even though he had earlier said, “I think it first started when I was really little.”

In contrast, the women interpreted a “very young age” as pre-teen or even pre-school. For example, Ann said:
I decided at a pretty young age. My mom has kind of a book that we filled out for school each year, like who are friends, were teachers, were classes, things like that, awards. At the bottom it always said, ‘What do you want to be when you grow up?’ or whatever. I think, kindergarten, I wanted to be a cowgirl. Then, after that, it was always a veterinarian.

Indeed, the aspiration to be a vet was often referred to by the women as being present “as long as I can remember” or “always.” For example, Donna said, “I've always known I wanted to be a vet. When I was a little kid, the journal entries that we had to do in first grade, it was always an animal doctor.” Similarly, Ann said, “I mean, for as long as I can remember, it's what I wanted to do.”

The men did talk about having “always” had an affinity for animals, in the same way some of the women talked about the timeline for their desire to be a vet. Carl said, “apparently my first word was kitty according to my parents [laughter].” Even Robert, who decided to become a vet much later in life, talked about how he had “always” been drawn to animals:

Veterinary medicine’s never something that I even thought about when I was younger, but I always enjoyed going out and going to my friends who had horse farms and going for a little ride or something like that. Going out, like I said, feeding the cows. It was funny, ‘cuz my friend had some Jerseys, and we used to go out there all the time and just find stuff around just to go feed them. You walk up to the fence, and they come trotting up to you, like, ‘Hey, what do you got?’ Something that I always enjoyed.
The men, however, talked about their decision to become vets happening at a slightly later stage, than the women, and never before middle school.

Contact with Animals

The affinity for animals that Carl and Robert talked about was a common feature among all of the participants’ narratives. Mary said, “You know I've always liked animals. I think anyone that is a vet—you always have that with you.”

Many of the students related this affinity to their early contact with animals. “When I was really young, my parents raised pigs. I always played in the barn with the pigs, and stuff like that,” said Marissa. For others, the contact was with family pets. Annie said, “I was always a huge animal lover, even as a little kid. I would see a dog or a cat and my eyes would light up according to my parents and I would get excited.”

Charles’ contact was with horses:

Oh, I decided to become a vet, probably, I don't know, 13, 14, somewhere around there, a teenager. I was actually riding horses and introduced to horses and started show jumping and working with the vet there. I was, ‘Okay, this seems pretty cool.’ So that's what started me down the career path of veterinary medicine.

Charles’ statement that he first decided to become a vet through his contact with animals is significant because it mirrors many of the other students’ narratives. If they had that early contact with animals, they tended to connect that to their affinity for all animals, and talked about how that lead to a desire to be a veterinarian.

Not all of the participants had the opportunity to interact with animals so much. Joanna explained, for example, that her family did not have animals in the house, because
neither of her parents were “animal people.” She did, however, have contact with animals through a babysitter:

When I was really young, we had a babysitter—both my parents worked fulltime—and the babysitter that came actually wanted to go to vet school for a while—she had two Corgis that she would sneak and bring with her. She would wait until my dad left the house and then bring her Corgis in from the car.

Despite this limited contact, Joanna was aware of her strong affinity for animals, saying “my parents tell me even from back before I can remember, I was always—just had this, like, strong affinity for animals and didn't really know why or what that is. It just seemed like something innate.”

Joanna, however, had to wait until she was older until she could go out and seek further experience, with a wider range of species, saying, “then at some point, you start to take that a little more seriously. In high school, I did some shadowing and I then started working my senior year of high school at the [local] zoo.”

Students who did not have that early contact with animals through their own families, tended to decide to become vets later. Often, though, this desire came through their contact with animals and the job opportunities that came with that contact. Mary described how volunteering at a cat shelter lead to a job in a veterinary clinic, saying, “Yeah, I was just kind of volunteering at the cat shelter, I mean, cleaning litter boxes, petting cats. Then there was a job opening at a place that a friend told me about, so I applied there.” Robert described a similar experience:
Through a lot of my volunteer work, I ended up volunteering with the Humane Society at a couple city festivals... Through there, I met a couple local veterinarians who said, ‘If you’re looking for volunteer work that’s rewarding, you can come to our clinic. We have great volunteer opportunities.’ While I was there, I realized that veterinary medicine was kinda the right fit.

However, both Mary and Robert are clear that they felt they had a pre-existing affinity for animals that drew them to these kinds of volunteering and work opportunities in the first place. So for them, their affinity to animals lead them to seek out animal contact, rather than the other way around. Their assertion that they were drawn to animals throughout their lives may be more of a retrospective adjustment to their stories, especially since their desire to pursue veterinary medicine as a career did not really emerge until they worked with animals later in life. It is possible, however, that they were drawn to work with animals in the first place because of their innate affinity for animals.

Liz and Ashley are a bit of an exception to this pattern, since both had family pets, growing up, but did not consider becoming vets until college. Ashley started college thinking that she would go into human medicine, like her father, but became disillusioned after shadowing a psychiatrist. She said, “my boyfriend and I at the time would—like when we were bored, we would go to shelters just to hang out with the dogs.” This inspired her to look for a job as a vet assistant: “Then I got a job as a vet assistant and I loved it.” She added, later, “The first day of my job—I loved it from the first day.” Similarly Liz started college majoring as an athletic trainer, but reassessed that after her first encounter with an athlete who broke their arm: “It was definitely seeing a person-
arm, like, the exact opposite way that it’s supposed to be. I just got really nauseous, and I was like, ugh! I had no problem switching over to the animal world side of things.” Ashley does not mention an affinity for animals explicitly, although it would explain why she and her boyfriend chose to spend their recreational time with dogs at the shelter, but Liz said that, “I always liked animals growing up.”

This animal orientation is discussed by the participants as if it is a necessary requirement for an interest in veterinary medicine as a career. Like the idea that most vets choose their career at a young age, the idea of an innate connection with animals also seemed to be an implied norm for the typical veterinary career narrative. When asked how he chose veterinary medicine as a career, Carl said, “so I guess—well I mean the standard, I’ve always loved animals,” implying that loving animals is a given, or a necessary requirement for a career in veterinary medicine. All of the participants, apart from Ashley, talk of being aware of this connection to animals, often starting at an early age and throughout their lives. They often talked about this being “hard wired” or “innate” in some way. Those whose families owned animals growing up, often spoke of this as being a natural extension of their contact with those animals, or even a result of that contact, despite the fact that other members of their families (e.g. siblings) may have had much less of an animal orientation.

However, those participants who did not grow up around animals (e.g. Mary, Robert, and Joanna), still talked of being oriented towards animals, or displaying a more general biophilia (Serpell, McCune, Kruger, & Merrill, 2012), as well. Even Ashley, who may not have been aware of her inclination towards animals, certainly gravitated towards them prior to deciding to be a vet.
Background

The type and range of animal species that the participants came into contact with early in life tended to be related to the background in which the participants were raised. If they lived in a suburban or urban area, those species were usually limited to small, companion animals that were family pets. For example, Charlotte said, “so I’m totally one of those stories that when I was little, like seven, we had dogs growing up and pets in the house.” Later, she clarified, “I’m from the suburbs, so we don’t have cows and we don’t have chickens and pigs.” For Karen, the species she encountered were even smaller: “for me it was—as a young girl I’d always loved taking care of animals. I actually had never had a dog or cat prior to vet school, or undergrad, but I had hamsters and small rodents, so I fell in love with animals.” For many of these students, their contact with other species was fairly limited, due to their environment, until they were old enough to actively seek out experience with more varied species.

Participants who came from a more rural or small town background, however, had more contact with larger, farm animal species. Ann said, “I grew up on a hog farm,” and Donna said, “I grew up on a farm so showed cattle all through 4H since I was nine.” Even if the students did not have direct contact with agricultural species, then living in a rural community lead to at least an understanding or appreciation of agriculture and the role that animals play in those settings. Carl said “I didn’t grow up on a farm, but I grew up in a rural area that had a lot—I have a lot of relatives that are farmers, so I can understand that mindset.”

Furthermore, several of the participants who grew up in a rural or small town setting talked of the influence of taking part in 4H projects, and getting valuable
experience with larger farm animals that way, as well as more regular contact with veterinarians. Donna raised beef cattle for 4H projects: “we just got a bunch of Holstein cattle that we would—my brothers and I showed them for 4H in the fall.” Later, she explained that 4H lead to contact with more species, and, eventually, to more contact with veterinarians:

There were a few 4H projects that were animal oriented so I took all of those. I worked on a hog farm and did all of their castrating, tail docking, vaccinating, a little bit of ear notching, the basic hog care stuff. Then rode with one of our local vets as soon as I was old enough to drive and get myself there. Spent time almost every summer with the guy that would come out to our farm and do our vet work.

This description seemed to be common. Projects in 4H required the students to learn more about the healthcare of the animals in their projects, and that lead to more contact with their local veterinarians. In many cases, those relationships lead to students’ first veterinary shadowing experiences.

Similarly, George, who grew up with horses, also mentioned Pony Club projects that required him to find out more about horse health care and disease, and work more closely with his family’s veterinarian:

I was always involved in Pony Club, and in Pony Club, you go through these rating systems where half the rating is a riding test and half of it is like in knowledge and oral exam based on what your knowledge is. They always test you on horse diseases and different basic like how to bandage, things like that. I was always really interested in that aspect of it… I think
Pony Club really had a huge influence in me deciding to become a vet because of the exposure to, like, forcing children to know more about the diseases.

In this way, students with a more rural background seemed to have more opportunities to have direct contact with veterinarians, as well as appreciate the more varied roles that veterinarians could play. As George said, in contrast to his cats’ and dogs’ vet, the equine vet “actually came to the farm, and they just seemed like really cool to meet.”

Some exceptions to these general rules were when participants lived in a more urban setting, but had regular trips to visit other family in a more rural setting. Chip, for example, lived in the suburbs, and described himself as a “city slicker,” but visited his grandparents on their farm on a regular basis, growing up. He also talked about his father taking him and his siblings out into the countryside to observe and hunt wildlife, saying, “my dad always took us creeking where we would just go and catch frogs or salamanders or crayfish. If we would be along the side of the road on a family road trip and we would see a turtle or a snake crossing the road, he would always want to stop and catch it.”

Similarly, although Karen lived in a small town on the outskirts of a big city, she talked about gaining valuable experience with a range of animals on her aunt and uncle’s farm:

My aunt and uncle had a farm. It was just a hodge-podge of animals. They had small ruminants, goats and sheep… They had some horses, too. My sister and I would go and spend the weekends with them and take care of the animals and get a chance to work with them doing the feeding and cleaning, and whatever they needed to be done, basically. It was good hands-on experience.
Maureen and Tony lived in the suburbs at first, but then moved out to the country with their families. This brought them in to contact with larger animals. Maureen said:

It was varied because we had—while I was little we had just cats and dogs, and then when I was around 14 or 15 we started getting—we moved and so then we had livestock. Then we had some calves, sheep, goats, chickens, turkeys.

In general, though, the participants that grew up in more urban settings only came in contact with small animals, and had less opportunities to see the work that veterinarians did on a day-to-day basis, until they sought that experience out for themselves after they had already decided to become vets.

Lack of contact with large animals often seemed to lead to the perception that it would be harder to break into a career working with them. Annie, for example, said:

Not that I don’t think it would be fun to do that, but just my life and background, I don’t know if I would ever feel comfortable going up to a dairy and just like talking to the dairymen and going ahead and doing herd checks or whatever that you’re supposed to do for food animal. I don’t know if I’d ever feel comfortable doing that just from my background experiences and kind of not having that at all.

Similarly, Paul said, “I would never do large animal. I wasn't brought up around it. I know nothing about—I've learned a lot about equine stuff, but farm animal stuff, it doesn't make sense to me.” The implication is clear that if you had not been around large animals much before vet school, there was a lack of confidence not just with the animals themselves, but also in understanding the culture of agriculture.
Contact with horses seemed to be different from contact with other species, in that it was less related to background. Two participants, George and Tony, grew up in a family with horses in more rural settings. However, Charlotte, who grew up in the suburbs, and Charles, who came from a small town, also rode horses extensively. And Karen, who spent most of her weekends, growing up, on her aunt and uncle’s farm, eventually started to groom for her uncle’s Standardbred racehorses. All five of these participants mentioned these experiences as being significant influences on them deciding to pursue veterinary medicine, but only George was still committed to working with horses in veterinary practice at this stage.

Other students, mainly from more rural or small town backgrounds, mentioned some contact with horses, but still did not seem particularly confident around them. There seemed to be almost a threshold effect in terms of experience with horses, where students needed a minimum amount of early contact with them to be comfortable working with them. Students who did not have this minimum level of experience expressed a lack of confidence or concerns for their safety around horses. Carl, for example, said, “horses are very flighty and unpredictable. I had a few patients when I was in equine med that were like that. I know one almost took out Dr. X. [an equine clinician at MWSU CVM] in the process. It just didn’t make me want to do equine medicine very much.”

Marissa, although having only limited contact with horses growing up, discovered that she actually liked working with them once she was in her clinical year, and seemed to regret not having spent more time with them previously, saying, “Yeah, I think the more I learn about them, the more I like them. Before, I was like, well, I’ll practice on horses because I’ll have to. Now I think it’s because I want to.” The implication,
however, is that it was too late for her to make a career out of working with horses at this late stage. More than any other species, it seemed that if students had not had plenty of experience with horses until later in life, they were unlikely to be confident working around them.

**Interactions with Vets**

As mentioned above, the participants’ early contact with animals often led to at least some contact with veterinarians, and some understanding of the work that veterinarians do. This, in turn, established relationships with veterinarians, or created opportunities for students to shadow them as they worked. For many students, especially those in more rural settings, their first interactions with the profession were watching vets work on their own animals. Brady had the earliest contact with vets, since both his parents were in the profession: “Both my parents are veterinarians, which really helped. I would always, especially on days when we didn’t have school, we would always go into the clinic with my mom, and I would help out in there.” Donna came in contact with their local vet through her 4H projects: “So having the vet come out to our farm was when I decided I’d really like to work with cattle.” Charlotte remembers taking their family pets to the vet from a young age: “I would always go with my family to the vet and I’d be like, ‘oh, that’s what I want to do.’”

George felt that he may have had more contact with vets since his family owned horses, since it meant that the vet came to their home:

To me, the horses weren’t necessarily more important than the dogs and the cats, but they just took so much more care, and they were just sort of
different, the amount of care. Their vet actually came to the farm, and they just seemed like really cool to meet.

This influenced him to become more involved with Pony Club, and work more with his vet. Similarly, Carl felt that he had more contact with vets once he started taking part in 4H:

Mainly dogs and cats but then when I joined 4-H, I started showing pygmy goats and so that added a little bit more—that actually increased the interaction with veterinarians ‘cause, being a more of a farm animal, … you actually have the farm vet coming out to do calls, other than taking the dog in or whatever, so. That kind of added to, I think, my awe of vets. Kind of the intrigue, I guess.

The fact that veterinarians come out to the farm to see large animals, therefore, appeared to give students more opportunities to interact with them.

In contrast, when participants’ families only owned small animals, they often had little or no contact with vets. For example, when asked if he had interactions with veterinarians growing up, Robert replied, “We had dogs and we took them to their [vet’s] practice. Outside of that, not really.” Similarly, when asked if she went to the vet’s with her dogs, Ashley replied, “honestly, we didn’t take her [her family dog]—I mean we took our dogs to the vet for puppy shots at first and then maybe every three to four years to get them caught up.” Significantly, both Robert and Ashley did not decide on a career in veterinary medicine until much later than those students who had more early contact with vets.
For those students that did have contact with their family veterinarians, these were often the first vets that they job-shadowed in order to learn more about the profession. Donna, for example, described, “Then [I] rode with one of our local vets as soon as I was old enough to drive and get myself there. Spent time almost every summer with the guy that would come out to our farm and do our vet work.” Carl also described that his first job-shadowing was “mainly at the practice that did treatment for our animals.”

For the most part, these job-shadowing experiences were positive, and affirmed students aspirations in the profession. Charlotte, though, mentioned that her first experience of working with a vet had a negative influence on her initially:

I started in middle school shadowing with an equine vet. Seventh grade/eighth grade… and obviously had a horrible time… Like, was convinced—was coming home crying because he made me feel stupid or didn’t get me excited about learning and essentially I was like, ‘oh gosh, I can’t do this.’ There was a brief period of time where I wanted nothing to do with veterinary medicine because I was upset by that whole experience. Eventually, though, she came in contact with another veterinarian, who came to their home to treat her family’s sick dog:

Then, my parents had a yellow lab who had an osteosarcoma… so we had a mixed animal practitioner come to the house to kind of take care of him and make sure he was okay and give him veterinary care. She did horses and a little bit of dog stuff and she kind of—we were sitting in my parent’s family room, and I still remember—and I was telling her about my experience and how it made me not want to be a vet and she’s like there
are other things you can do and you are welcome to come along with me… I started shadowing along with her and then which turned into me working there and loved it… That kind of got me hooked.

This reaffirmation of Charlotte’s desire to be a vet is much more typical of students’ initial contact with vets. In fact, almost all of the students mention a job-shadowing experience that convinced them that they wanted to be vets.

For students who did not have contact with vets early in life, job-shadowing experiences with veterinarians often started with academic programs. For example, Charles described an academic program that put him in touch with veterinary medicine:

The first thing I think I actually did was [through] my high school. I think it's one of those like aptitude tests… one of those things that say, ‘Oh, this is what you should be’ or ‘this is what you're good at,’ or whatever. So—veterinary medicine… So I got a letter in the mail from that, basically, long story short, and said, ‘Hey, you're interested in veterinary medicine, would you be interested in this?’ It was like a ten-week program of once-a-week going into the practice and talking about different topics of veterinary medicine… and that was my first kind of taste of vet med. Then that turned into shadowing opportunities, and kept doing that, and that turned into a job at a GP, and then vet school.

Similarly, Paul said:

I think I was 16, and I had to do ten hours of community service for National Honors Society program out of high school. I did it [at] a Humane Society. I spent ten hours cleaning dog kennels, walking dogs,
playing with cats; things like that… They had a vet practice built next door… That's kind of where I got my start in the field.

For these students, this was often the start of their desire to become vets, rather than a reaffirmation. However, for both groups of students, spending time watching veterinarians work, seemed to be an extremely positive influence on them choosing a career in veterinary medicine.

Interestingly, Liz, who first became interested in athletic training when she got a job working in a physical therapy clinic during high school, mentioned that she had initially wanted to work in a veterinary office, but was unable to find an opening. So maybe her interest in veterinary medicine would have developed sooner, had she had that opportunity in high school.

Finally, in addition to providing students with valuable insight into the profession, veterinarians who allowed them to job-shadow often became mentors. Many of the participants in the study still stayed in touch with these early mentors. For example, Marissa talked about the mentoring that she had received from one of the first vets that she shadowed, saying, “Probably the small animal one [vet] was more of a mentor to me, ‘cuz I worked a lot with him… and learned a lot more about the kind of vet I want to be, and not just about veterinary medicine.”

Science/Medicine Interest and Service Orientation

Although not as ubiquitous or as early in onset as an animal orientation, another common theme in participants’ career narratives was some kind of interest, affinity, and/or ability in science or medicine. This usually developed some time either in middle school or high school, when the student was exposed to more science, and more academic
choices. Brady said, “I’ve always enjoyed science and anatomy, and that sort of thing. So that’s kind of where it began. It just kind of went from there.” Robert said, “I had an aptitude for the sciences.” Ann’s interest in science was nurtured by her high school science teacher, who became a mentor to her, saying:

My science teacher that I had in high school played a really big role, got me really, really active in science. I don't think I would have gone to the undergrad school that I went to if it wasn't for him, and who knows where everything would have gone from there.

In this sense, the students’ interest in science became a conduit to veterinary medicine, if not a direct influence.

So in many cases, an interest in animals may have first led them to seek out veterinary medicine, but it was the combination of animals and science that emphasized that a veterinary career was appropriate for them. As Carl put it, “I just kind of went through my list of things in my head; of jobs and careers I knew that would let me do animal sorts of things, but also science-y sorts of things… and veterinarian just seemed like the obvious choice.”

Another appeal of the profession to participants was the medicine, or problem solving aspects of veterinary practice. As John put it, “I like to be out in the field, around livestock, having questions and solving problems, if you will, or preventing problems.” This was related to students’ interest in science, and may have been just another way of expressing it, but it manifested itself more once they started working with vets. George said:
I always was fascinated by getting a horse that was sick, and to everyone, it looks sick. The vets would examine it, and it could just be one of a million things… To me, I think that mystery was really fascinating in knowing more. I always wanted to know more like how did they know that… I think just little things kept fascinating me, and you just keep going with it.

Another example of this type of narrative came from Annie:

I had a pet that was saved on emergency by the veterinarian that I ended up working for, for many years. That kind of helped, seeing the medical side of it. It went from liking animals to wanting to help them, to liking the medical aspect kind of all throughout the first—probably up ‘till I was 12. Then I just kind of knew that that’s what I wanted to do.

In this quote, Annie also mentions a service orientation, of wanting to help animals.

Other participants mentioned this service orientation as an important influence on their decision to become a veterinarian, although it was not nearly as prevalent as the animal and science/medicine orientations. For example, for Chip, Charles, Robert and Joanna, the ability to help others was a major appeal of veterinary medicine. Joanna said, “I have always had a pretty strong service drive and I don't just love animals. I like people a lot too. I definitely thought about that.” Robert said, “I did a lot of volunteer work, and I realized that I wanted to do something beneficial to society.” For him, this, in combination with his interest in animals, and science, led him to a career in veterinary medicine. He added, “I feel like veterinarians do make a difference, both individually, like individual lives, but on a broad scale, too. I think that we make a difference.”
Pivotal Moments

Annie’s experience with her pet emergency, and Charlotte’s dog with osteosarcoma, also demonstrates another common influence on participants’ decisions to become a veterinarian: that of a pivotal or meaningful moment involving a particular case or animal in their lives. These were moments when the students had a breakthrough, or a flash of realization that they really did want to be a vet. Marissa, for example, remembers seeing a pickled dog’s heart at her family veterinarian’s office, saying:

The vet had this jar with a dog’s heart in it that had heartworms. I was always fascinated by this jar. Then I was just like, I’m gonna be a vet—out of nowhere, just decided that’s what I was gonna do, and never picked any other career choices besides that. [Laughter]

For Annie, it was a school field trip to an animal shelter:

When I was in kindergarten… we took a field trip next door to an animal shelter and they had a box… and they put it in so many words that this is basically where we kill the animals that we don’t find homes for and so, I mean, as a five year-old who loves animals like I literally was, like, ‘oh my gosh I have to help them.’ That was kind of the start of knowing going from [liking] animals to wanting to help.

For others, it was a particular clinical case, often their own animal, that really convinced them that they were pursuing the right career path. Ann talked about the loss of her own dog as such an incident, saying, “In fact, our dog ended up dying from heartworms, which, in my head, I was like, ‘Never again will I let an animal go through that.’” Later, another case convinced her of her avocation further, despite, the sad outcome:
I guess another case that sticks out in my mind is a golden retriever that we had when I was kind of working full time at the clinic back home, that had abdomen full of fluid. The vet could not, for the life of her, figure out what was wrong with dog… Sweetest, sweetest dog… She ended up having a tumor on her heart… I was there when we euthanized her… I just felt like she [the vet] really—I mean, obviously, it's a difficult situation, but she did her best to make it as easy as she could for them [the dog’s family].

Ann uses this case to articulate what she admired about the veterinarian’s ability to help an animal and a family, even under the saddest circumstances. Often these kinds of pivotal incidents described by the participants, may have been expected to upset a child, or put them off a career in veterinary medicine, but instead, the students described how they become an inspiration to pursue the profession further.

Other kinds of pivotal moments may be associated not so much with professional experiences, but with changes in the participants lives, and particularly their families. These are discussed in the next section.

**Family of Origin**

Families were cited often by participants in the study as being an influence on their career choices. This includes their families of origin, as well as their current families, and their plans for family in the future. Often, participants’ past experiences with their families of origin had a profound effect on their plans for their future families.

**Academic and career encouragement.** Most participants mentioned their families of origin as an influence on their early decision to become a vet, mostly in
positive ways. For example, Ann said, “my parents were really good about helping me create those opportunities and stuff, too.” Family members often introduced students to animals. George claimed, “My mom, we call her the collector. She had ponies before she even had kids and basically had kids to give the ponies to.” For others, their families’ careers exposed them to healthcare careers. Ashley suggested that her family’s career choices may have influenced some of her academic decisions:

I mean I took all the extra anatomy and physiology classes that you didn’t have to take. My mom’s a nurse and my dad’s a pharmacist. That probably pushed me towards that. Then my little sister is a nurse too, so she’s always kind of it [sic]. It’s just kind of a family thing maybe?

It certainly seemed that having other healthcare professionals in the family normalized a career as a veterinarian, although it was not a necessary requirement for family to be supportive. Mary’s family were supportive of her career decision, despite the fact that she was a first generation college student and they did not understand her passion for animals:

They're very accepting. They do think I'm crazy and they like to make a lot of jokes about it. I mean, they're very supportive. Although they can't understand it, they've been very supportive. I don't think I've ever had to explain myself to them… They're just happy that I've found something I want to do. I'm the first one of my family to go to college, to finish four years of undergrad, more or less go on and become a doctor. They're just happy that someone in the family's finally pursued that.
The implication is that being a doctor, therefore, is usually considered a highly valued qualification, even if it is a doctor of veterinary medicine.

Brady’s family had the most obvious influence on his career choice, since both his parents are veterinarians. This exposed him to the profession at a very young age, and also gave him plenty of opportunities to develop his ideas about the profession through the opportunity to see his parents at work:

I didn’t want to be a large animal [vet] like my dad, ‘cuz whenever he would come home, he would stink! [Laughter] Then about 10 or 11 hit, and I wanted to be a semi-truck driver… Then after that, I started going out on farm calls with my dad, and I really enjoyed that. So I think that’s where it started at.

Interestingly, despite this, Brady said that he did not decide to become a vet until later, when he was starting to make academic decisions that would affect his career path in high school, saying, “it slowly came on. It wasn’t like, oh, this is what I wanna do, and so immediately I went into that. It was kinda like a slow onset.”

Almost all of the participants described their families, and their parents in particular, as being supportive of their career choices, whether or not they were familiar with the profession. This included a general encouragement to consider college. Mary, for example, says, “I didn't even really want to go to college to start off with, but my parents were really pressuring me, which I think was a good idea.” Similarly, Annie describes the expectation in her family that she would go to college:

I always knew I was expected to go to college. That was just kind of in my family: you need to go to college. It doesn’t matter what you want to do
just you wanna’ have that. I’d been saving even when I was a little kid. My parents would give me money for allowance and I’d spend some of it and save some of it and so I kind of was always financially preparing to go to college.

The implication is that for the participants in this study, it was clear that their background and upbringing prepared them for college from a young age, which, in turn, is of course a major pre-requisite for being able to consider any kind of professional career. Within this context, veterinary medicine was probably considered an acceptable career choice, amongst many, by most participants’ parents.

In addition, veterinary medicine was acknowledged by many participants’ parents as being a “good fit” for their children once they had displayed a strong bond with animals. Carl, for example, described that his family reinforced his decision to consider veterinary medicine as a career, despite the fact that he considers them “blue-collar,” and not really “science people.” In reaction to his desire to become a vet, he said, “everyone else around me, when I tell them that, they’re like, oh yeah, that’s definitely the right choice for you, so… it was kind of an affirmation of—from people around me.”

Ann, in contrast, had family that, while not unsupportive, did not understand her desire to be a veterinarian. She said, “They're not animal people. My whole family is not animal motivated. They thought I was insane for going to vet school, for paying this amount of money to go to school to do what I'm doing. All they think I do is stick my arm up cow butts.” However, veterinary medicine, on the whole, does not appear to be a controversial career choice for the families of children who are already expected to attend
college, especially if they showed some interest in animals, and an aptitude for science growing up.

**Family as Role Models for Future Family Life.** In contrast, families of origin may act as a more varied influence on other aspects of the students’ future plans. For example, participants in the study often referred to their own families of origin when discussing models for work-life balance. Annie talked about her desire to avoid being on call too much in her future career, having grown up with a father who was on call as a human anesthesiologist. She said that “growing up, [and] seeing that, too, I think probably played a role in that just not liking the aspect of being on call.”

The influence of families of origin on participants’ ideas about work-life balance was particularly strong in the context of having their own children one day. Several of the participants cited their parents’ as role models, and the advice they had given them about how and when to manage those aspects of their lives. Ann, for example, described that she liked the model that her mother demonstrated to her in terms of balancing working and being at home, saying, “I like what my mom did when we were kids, is [sic] she would work just a couple days a week, and we would stay with my grandparents while she was gone for the day.” Ashley discussed being influenced by her mother’s advice about delaying when to have children, in order to prioritize her career, based on her mother’s own past mistakes, and despite the fact that many of her peers were starting a family sooner:

I think a big thing is my mom. I mean she told me—she was married early, had a kid, and was divorced very early—and she said, just wait until it’s ready. I think that affected me a lot because all of my friends are
pretty much married and having kids now and that’s fine, but really like
deep down, I do not have that desire right now. I think putting it off isn’t
such a bad thing. I mean I never want to go through a divorce… and
that’s because my mom gave me that advice.

So for Ashley, she planned to follow her mother’s advice, if not her example.

In contrast, Chip was more equivocal about following his own father’s example, if
he ever had children of his own. He said:

He [his father] worked very hard and was very generous with us. I’d like
for my kids to have all those things, but I’d like for them to see me a little
bit more often. I’d also like to make sure I leave enough time to make
sure that I’m a good spouse and a good father and I don’t train-wreck
everything by working too hard, because I do kind of have those same
workaholic tendencies my dad can have.

This contributed to Chip’s ideas about wanting to structure his work-life balance in the
future, and, therefore, the career choices he wanted to make. Like other participants,
though, he felt that he had had a good childhood, and that his parents had imbued him
with good values, which had been important for his success so far, saying, “you know
they still taught me the importance of chores and working for my money and stuff.”
Furthermore, he intended to accept a job that was geographically close to his family,
since “staying close to home has always been important for me.”

Staying close to home and family was a common factor in participants’ job
searches. This seemed to be particularly important for students who had come from a
small town or rural background, and, therefore, seemed to have a big influence on them
choosing mixed or large animal rural practices for their future careers. For example, Chip said, “I’m really close to my brother and my sister. We’re very close—my best friends. Staying close to home has always been important for me,” and was just about to accept a job offer based on the location of the practice. Families of origin, therefore, continued to have an influence on participants’ career choices, and formed a huge part of their visions for their own families.

Students’ current relationships and families had a strong influence on their job searches, especially in terms of location. Paul said, “I applied to internships based on location and also reputation.” The locations that he listed were all states close to where his girlfriend was living.

This indicates that for most participants, distinguishing between families of origin and future families is a false dichotomy. In most cases, these are both part of the same continuum of influences on their career choices in an ongoing manner.

Finally, it should be noted that for the veterinary students in this study, “family” is not necessarily limited to humans. Several participants spoke of their animals as being as important to them as their human families, and while they avoided using such terms as “pet-children,” which are largely disparaged in the veterinary profession, they did talk about accommodating their relationships with their animals in their future careers. This was particularly true of single participants. Charlotte, for example, although not that bothered about her newly single status, and with little ambition to have children, was adamant that she wanted to take her horse with her, wherever her career took her, and to continue to show and ride her. She said,
I have one horse now. I got her at the start of vet school and have ridden and shown throughout that school, it was great reliever of stress… It keeps me sane so I have to make time for it… She’s part of the deal. In all honesty, I know kind of myself and I need that as a stress reliever. Yes, I know time will be limited, but kind of in all the places I looked, I’ll be completely honest, I have to be able to bring her too. All of the places that I’ve applied she can come.

**Veterinary Career Plans**

The study participants intended to work in careers across the range of veterinary practice specialties and types. As well as being asked about the areas of practice participants were interested in, every participant was also asked about their own definitions and descriptions of common species categories used in the veterinary professions, such as “Small Animal,” “Large Animal,” “Food or Farm Animal,” “Companion Animal,” “Production Animal,” and so on. They were asked to discuss the types of species that were included in these categories, and the types of practice the terms implied. This discussion, in turn, was used as an opportunity to probe the participants’ thoughts about whether these categories also implied different skill-sets for the veterinarian, especially with respect to client expectations and communication, different types of lifestyles, and work-life balance for the practitioners. The participants’ answers also provided insight into their perceptions of the profession, both generally, and specific to their own career interests.

Further questions led to some discussion of why the participants had been drawn to their career interests within veterinary medicine. In other words, the ways that
participants talked about terminology was very revealing in terms of their career
decision-making processes. Participants’ career pathways and interests are summarized in
Table 4.2:
Table 4.2. Participant career interests

<table>
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<tr>
<th>Pseudonym</th>
<th>Age of 1st interest</th>
<th>Species Interest</th>
<th>Type of practice</th>
<th>Specialist Interest</th>
<th>Job hunting</th>
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Continued…
Table 4.2 (Continued)

Men

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<tr>
<th>Name</th>
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<td>Internship - job offered</td>
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</tbody>
</table>

*N/A is “Not Applicable”*
Mixed Practice: Rural Location and Variety

The most participants (8), four of each gender, expressed an interest in “Mixed” practice. They all intended to work in general practice, apart from Brady, who wanted to return to his pre-veterinary undergraduate institution to teach. He had a particular interest in specializing in reproductive medicine (theriogenology), having focused on this for a master’s degree that he was working on in a combined MS/DVM program. However, he did not intend to pursue specialist training.

Among the eight participants in this group, three (Ann, Karen and Carl) had not started job seeking yet. In contrast, Marissa and Brady were actively job-seeking, and Robert and Chip had already been offered jobs. Mary had accepted a job that she was due to begin in a few weeks, since she was out of sync with the other students academically, and was about to graduate earlier than the rest of them. It was only in the Mixed Practice group where there were participants who had not yet begun looking for employment.

The concept of “Mixed” practice seemed to be a dynamic catch-all category or phrase which morphed to fit the individual student’s own career interest, especially if their interests were still somewhat unclear or in flux. The common factor for students with a Mixed Animal practice orientation, was that they were quite clear about the appeal of a small town or rural life to them. They talked a lot about their aspirations to live, work and raise a family in the small town culture with which they were familiar from their own childhood: directly for Marissa, Robert, Carl, Ann and Karen; and via his grandparents for Chip.

Marissa said, “I just wanna live in a small town, and be part of a community in the middle of nowhere.” Robert said, “That’s part of what mixed animal or large animal
practice is appealing to me, is ’cuz most of them are out in the country somewhere. You deal with small town life.” In this sense, mixed animal practice might be more accurately termed “Rural Practice.”

Students often expressed this characteristic of mixed animal practice in terms of wanting to build a family life, even if they were currently single. These aspirations often reflected their own experiences growing up. Furthermore, this lifestyle choice seemed to be the primary factor in them choosing mixed animal practice, although they often offered arguments about liking the variety and challenge of treating “all comers” in terms of species. Mixed practice seemed to be almost a default as a career aspiration. It did not always ring true, however, when the students then talked almost exclusively about their enjoyment and passion for working with a much more limited range of species.

Chip, for example, while extolling the virtues and advantages of mixed practice in terms of the location of opportunities, and the wide range of species, spent most of his interview talking almost exclusively about dairy cow work. He said, “Then I really fell in love with cows once I got into vet school… Once I learned how intimately involved the veterinarian was on dairy farms and is there every month, if not every week, is when I really fell in love with cattle, especially dairy cows.” He was, however, concerned about the physical toll that large animal practice may take on him, saying,

Also the personal safety aspect of it… I’ve never met a dairy vet in my life whose shoulder and back felt better at 50 than it did at 28. I mean I’m willingly going into a physical career that I know I’ll slowly deteriorate over the next 25 years. Every dairy practitioner does. That’s why you
don’t be a dairy practitioner for 35, 40 years, just ’cuz your body can’t do it.

He implied, therefore, that he was choosing mixed practice so that he would have a back up plan if or when he could no longer work in dairy practice. Ann claimed that she preferred large animal work, as well.

Marissa, Robert, and Carl, while also talking a great deal about not wanting to limit themselves to only one species, became much more animated when talking about small animal work. Marissa said, “Yeah. I probably wanna do mostly small [animal practice].” She also admitted that she had said that she was interested in large animal practice during her admissions interview, since she knew that the college was explicitly recruiting students interested in large animal work. Robert said, “If I had to choose one or the other, I would do small animal, because I don’t know that, physically, I can do large animal for a career.” He also admitted that in his job search he was looking at small animal practice jobs as well as mixed practice ones.

Mary seemed to be the only student claiming to be interested in mixed practice, who also spoke about her interest in all species equally, and already had a job lined up in a rural mixed practice in her hometown. She said:

There are places I could've worked here in the area, but the chance to actually train and have my mentor be someone that does mixed animals and really does mixed animals—like, he'll see a cat in the morning and then go—and I know there's a lot of people that claim to be mixed animal vets, but he truly is. He'll see hamsters and birds. He'll see anything. He says if it has a heart, he'll see it.
The appeal of mixed practice, therefore, for Mary, is the variety of species that she will see.

This sense that mixed practice is a default position seemed to hold particularly true for Karen, who was really unsure of exactly what she wanted to do after graduation. She was the least clear of all the students about the career path that she wanted to pursue, but spoke most consistently about her experiences and opportunities for a career in laboratory animal medicine in industry. She said, “There’s things about lab animals, like you don’t necessarily [like] euthanizing [sic] and things like that, but I feel like it’s an important path and an important career field to have.” Later, she talked about her plans to apply for jobs in lab animal facilities in industry. It appeared, therefore, that Karen described her career interests as “Mixed” because she was unclear about the work that she wanted to do, or as a catch-all term for her wide range of interests, rather than using the term to describe “mixed animal practice” like the others in this group.

In this sense, it seemed to be considered more acceptable within the culture of veterinary medicine to be interested in “mixed” practice than to be unsure/unclear or ambivalent about the species they preferred, even though what mixed practice actually entails is so open to interpretation. Furthermore, the fact that this group of students are from a rural or small town background, and explicitly state that they want to return to that lifestyle after graduation seems relevant. So students’ choices of mixed practice may be less of a choice towards a specific type of practice, and more of a choice towards living in a specific location and rural environment, often close to home and family.
Small Animal Practice: Familiar Species and the Appeal of Specialization

Six participants, five women and one man, intended to work in “Small Animal” practice when they graduated: Ashley, Charlotte, Joanna and Paul aspired to work in specialist practice, and so they had applied for small animal internship programs through the Veterinary Internship and Residency Matching Program (VIRMP); whereas Annie and Maureen were actively seeking jobs in general practice. Ashley and Charlotte intended to apply for residency programs after their internships, to specialize in surgery, and although Joanna was unsure, she thought that she might like to specialize in oncology. Paul planned to work in practice after his internship, but eventually own and run a private specialty practice of his own. He described his specialty as “business management,” although this is not a recognized veterinary specialty so much as an interest.

The students who aspire to work in small animal practice appear to do so for reasons much less related to location and lifestyle than the mixed practice students, and more to do with the animal species with which they are most familiar, as well as the quality and depth of the medicine practiced in this type of veterinary practice. Annie said, “I mean I only really knew small animals, but I had an interest in zoo/exotics, but I kind of knew that I wanted to do small animal.” For Joanna, who had considered many different types of careers in veterinary medicine, she had settled on specialist small animal practice because, “I like that sort of high stakes, high emotional communication and I like being someone's person at a really hard time.”

Four out of six of these participants interested in small animal practice were women, and all but Maureen were from suburban backgrounds. Maureen had originally
wanted to go into large animal practice, based on her contact with livestock growing up, but had discovered that she enjoyed small animal work more, although she still felt some ambivalence about this. She said:

When I went into vet school I was always like, ‘Oh, I would do all large animal like if that’s what I could do right out of school…’ Then going through school I think I’ve loved small animal. It’s grown. Not that my like love for large animal has decreased, but like in looking for jobs they’re small animal jobs, so that has changed.

She justified this because she was planning to move to a nearby city to be close to her fiancé, who had graduated from vet school the year before. “Well, part of it is I’m location specific, so I know to be location specific looking for a job that would be very hard to try and do large animal.”

**The pressure to specialize in small animal practice.** This group also included a much higher proportion of students who had applied for internships, and intended to apply for specialist resident training. Charlotte, Ashley, Joanna and Paul, had all applied for small animal rotating internships, and Charlotte, Ashley and Joanna had plans to pursue specialist training through residency programs after their internships. Charlotte and Ashley were both committed to becoming small animal surgery specialists. When asked about what the appeal of surgery was to her, Charlotte replied, “It’s a complete adrenaline rush. A complete high, a complete rush. I honestly can’t get enough. I do like the ability to essentially fix things and do things.” Ashley explained her interest in further specialist training by saying:
I think in like second year [of her veterinary training] I decided I wanted to specialize. I mean we started getting into our systems course and I was like, you know, I’ve been in school my whole life. I wasn’t really ready to be done with formal education, I guess. I just wanted to keep going.

Joanna decided to apply for internships relatively late in her veterinary training, and thought that she would probably apply for an oncology residency after her internship. She said:

I think, too, I worked with [a clinician/researcher] a lot on oncology and seeing the incredible impact that she has had, not only in the veterinary field but the human field as well, and I think realizing that you can have your cake and eat it too. You can be a clinician and also have that really broad impact. I think that was when it really started to be like, okay, this is what I want to maybe pursue. I think I decided over the summer that an internship would be the way to go.

Paul had applied for internships, but planned to work in an emergency clinic, or general practice for a few years, before becoming a practice owner of a specialist practice. He said, “My dream is a referral clinic. I’d like to own a referral clinic somewhere on the east coast, fully staffed.”

In contrast, Annie and Maureen did not want to specialize. Annie said, “I don’t really want to do the internship_EXTRA residency and as far as kind of picking an area of interest—I mean, there’s areas that I like that I’d like to learn more about. I like behavior, I like surgery… but there’s not one area that I kind of want to dub myself as this is what I want to do type thing.”
The pressure to specialize seemed to be much greater in small animal practice than in other types of practice, and students talked about this being implicitly emphasized by the specialist clinicians in the veterinary teaching hospital. Mary noticed this emphasis, saying, “A lot of the critical care and emergency specialists, I feel like they were definitely stressing it [specialization] a little bit more. Internal medicine definitely stressed it. Yeah, I would say almost across the board a lot of them have said that.” She also commented that if she received a good evaluation for a rotation, then a clinician would often comment, “You should consider doing an internship,” which was meant as a compliment. She found this odd, since it privileged specialist practice above and beyond general practice. However, because she knew that she was interested in mixed practice, based on her experience as a vet tech, she resisted this advice, especially as she felt it would not benefit her in mixed practice.

Similarly, Carl felt that the small animal clinicians emphasized specialist care to clients more than the large animal vets at the teaching hospital. When talking about the differences between large animal and small animal practice, in terms of the medical options offered in cases that were more severe or terminal, he said that, “of course, I think some of the small-animal people sometimes maybe push it a little too far, but there’s pros and cons to both.” He acknowledged that there were economic reasons for this, since large animals often had to be profitable, but he seemed to suggest that the emphasis on specialist care in the small animal clinic privileged specialist practice. He contrasted that with one of his mentors from the off-shore university he had attended for his pre-clinical training, who had not been board certified, but had trained himself as a surgeon through his choice of jobs that allowed him to advance his skills. Carl
commented that “he’s now just as good as any of the other surgery professors, so he did a more non-traditional route to get to where he wanted to go.”

It may be relevant that both Mary and Carl were off-shore students, and, therefore, as “outsiders” to the program to some extent, may have been able to see the implicit emphasis on specialization in the small animal clinical environment at MWSU. However, Robert also implied that there was pressure to specialize more in small animal practice. He felt that he had been penalized in his evaluations in small animal clinical rotations for prioritizing his family, and that this had helped to convince him that he should go into mixed practice instead of focusing on small animal practice.

For students wanting to go into small animal practice, though, the pressure to specialize may have been harder to resist. Maureen, the only student interested in small animal practice who had grown up in a more rural environment, had resisted the pressure to specialize, citing her concerns that she would not be able to justify such a good work-life balance in specialist practice. She said,

I feel like if I were to go through an internship and residency, then I would feel obligated to work full-time and it’s like I wouldn’t have a family. I don’t want to have to work full-time forever, and I just feel like if I were to devote that many more years of training then I might almost feel obligated to work full-time.

In this sense it is her own, internal barriers and concerns about work-life balance that prevented her from choosing specialist training, and it is interesting that she felt the need to explain or justify this decision more in a small animal context than others did in the
other areas of practice. It also seems possible that her rural/small town background had a
greater influence on her decision to prioritize her future family over her career decisions.

**Equine Practice is Different**

Most of the participants in the study talked about equine practice differently from
the other species categories in several key ways. Although already the least represented
species specialty in the profession as a whole, equine practice seemed to be particularly
underrepresented as an aspiration for the participants in this study, with only one student
still committed to equine practice. Looking across student comments about equine
practice, though, reveals a sense of the rationale for all but one of them wanting to avoid
it, other than to see the occasional horse in mixed practice.

For some, the problem is the perception that an equine internship is required in
order to pursue equine work, even for general practice. Chip said, “I also knew I didn’t
want to do an internship and stuff and further my education. It looked like most of the
equine kids were going to have to do that if they wanted to do that.” However, Chip also
talked about a more abstract economic difference between equine work and other large
animal work that made food animal practice more appealing to him:

> The fact that dairy farms are a business that I can work for and help them
> make money. And there’s nothing wrong with making money off people’s
> pleasure animals and stuff like that, but, I don’t know, for some reason I
> maybe saw more business security or more—I’m not sure what I saw in
> terms of wanting to work with cattle preferentially over horses.

For him, therefore, there was more satisfaction in contributing to the businesses of clients
in other large animal work, compared to horses. Horses, then, are classified by most
participants as large animals, but the industry is structured economically much more like small animal practice, due to the individualized medicine, and companion animal characteristics of most horse ownership.

George takes this further, by relating the individualized, companion animal characteristics of equine practice to a different kind of on-call expectation by clients. He talked about thinking that although all types of large animal practice have emergencies, that for equine vets the practice is structured around vets being available at all times for the same clients consistently, even in multi-doctor practices. He compared this to food/farm animal practices where on-call is shared out amongst all the vets, no matter which clients have the emergency. He said:

I think that there are emergencies [in food animal practice], but… they’re more organized in the sense that this doctor is on emergency this day or they have a separate doctor that takes care of emergencies or they have an emergency department. I kind of feel like in horses, you’re kinda’ on call all the time for your clients… like, if your client has a colic, then you’re on call… They know that the other doctor is on call, but they’re still gonna call their vet.

This is an interesting insight. In addition, there was a common perception amongst most of the students that there is generally more of a requirement to do out-of-hours emergency work in large animal practice. For example, Marissa said, with respect to large animal practice, “yeah, there’s potentially more emergencies, ‘cuz I think horses colicking, or lacerations, or dystocias, or bloats… I guess I, in my experience, I’ve had more large animal emergencies after hours than small animal.” So when this perception is
combined with George’s idea of the individualized client care required in equine practice, this may explain why equine practice is seen as particularly burdensome, compared to other types of practice.

As described earlier, lack of experience with horses also seems to be a much more significant influence in putting students off equine practice than it is for other species. However, even amongst those students who did grow up around horses, there were reasons why they chose not to work with them as veterinarians in the future. Of the five students who had had extensive experience with horses growing up, only George was still interested in working with them in veterinary practice. Indeed, he could not imagine any other kind of veterinary work appealing to him. He said, “for me, it’s 100 percent the horse side of things.”

Brady had had a more limited exposure to horses growing up, through his parents, who were both veterinarians. However, he did have some interest in working with horses, since his masters’ project was in equine reproduction (theriogenology). He had appeared to enjoy that work, but really preferred to return to his undergraduate alma mater to teach pre-veterinary students rather than apply his equine reproduction expertise to practice. His back up plan was to go in to mixed animal general practice rather than pursue an equine specialty career.

Charlotte had thought she would specialize in equine surgery all through vet school, but had recently changed her mind and decided to pursue a small animal surgery career instead, saying, “my first rotation in clinics or whatnot was small animal orthopedics and… [I] was really, really intrigued by the orthopedic aspects of small animals and all of the surgery that we get to do on small guys that’s just limited in our
equine patients.” So for Charlotte, the appeal of small animal practice compared to equine practice was the opportunity to do more varied and advanced procedures, although she also mentioned some concern about the depressed job market in equine specialty practices as an additional factor in her decision to switch to small animal.

Tony, in contrast, had rejected working with horses much earlier, at the beginning of his veterinary training, after feeling “burnt out” with horses in his first year due to health problems, and with having to be constantly available to his clients while working as a farrier during high school and college:

At that time, I was sort of like, I'm not really sure if I want to do this anymore. I think it was mostly because I was getting burnout with working with horses. I just had done too much… That quarter and all that I was just like, I'm done. I'm sick of horses. I have an allergy to horses and my back is bad and so it was like, I shouldn't do this anymore.

He ended up switching to poultry medicine, rejecting the “individualized medicine” of equine practice for a more systems-based approach. Similarly, Charles, who had ridden horses in middle school and high school, had lost interest in working with them as a vet. After working at a specialty small animal clinic in high school, he, like Tony, had opted for a less traditional career path in aquaculture. Retention in equine practice, therefore, at least amongst the participants in this study, seems to be much lower than the other career interests of veterinary medicine.

**Food and Farm Animal Production Medicine: Systems-Based Practice**

Donna, Liz and John were actively seeking positions in food/farm animal general practices, all with an interest in dairy production medicine. Charles and Tony both had
less traditional species interests: Charles was interested in the fish industry; and, Tony was interested in poultry medicine. Although these are not traditionally considered food/farm animal species, which are usually associated with large animal practice, they both argued that since fish and poultry are used for human consumption, that working in those industries was part of food animal practice or production medicine. They had both applied for postgraduate academic training programs in their species specialties.

The categories of practice that I have discussed so far in this section have been defined around the species of animals that they cover, although arguably mixed animal practice may be better defined as “rural practice.” In contrast with the individualized medicine of small animal, mixed and equine practice, production medicine practice is defined around a different kind of veterinary work completely. It is based around solving the large-scale health problems of populations, from a systems-based point of view. This may include dairy practitioners working full-time on cattle in the big dairy farms in Wisconsin. However, it may also include the less traditional areas of poultry medicine and aquaculture as described by Tony and Charles, respectively.

It is for this reason that I have called this category “Production Medicine” rather than “Food” or “Farm Animal” practice. As has been discussed previously, the “Food,” “Farm,” and “Large Animal” practice terms can be interpreted in many different ways, and confuse the issue of the appeal to students of this kind of practice. Animal species that can predictably be categorized as “Food,” “Farm” or “Large” animals may be treated as individual animals in many rural practices that are often considered “Mixed Animal” practice. The characteristic that distinguishes the “Production Animal” type of practice
for the students in this study, is the appeal of a systems-based practice or population medicine.

This preference for a systems-based practice is articulated well by Tony, who originally had aspirations to practice individualized medicine on horses. He talks about his disillusionment with equine practice, and his conversion to poultry medicine in the very first academic term of vet school, saying:

Individual medicine, I was kind of like—I was lost. Actually, I considered quitting vet school. I just really didn't enjoy it. It was not what I thought it would be. Not sure what I thought it would be, really, to be honest, but it wasn't whatever that was. I found poultry just in time, I think.

He admitted that he was not sure that it was the poultry species themselves that attracted him, so much as the scale and approach of the systems-based medicine in the poultry industry:

I like the scale of it. It's just fascinating. The breadth of things that are involved, like, you're involved in human health. You're involved in business. You're involved with huge populations. It's all rational. There's no emotion involved, no owners or anything. It's—does it make sense to do this or not, financially? Either we're gonna’ treat them or we're gonna’ cull them, or send them to process. Very black and white. I liked that.

Initially, then, for Tony, it was the desire to avoid the “emotion” of companion animal practice, that caused him to be disillusioned with individualized medicine, and the discovery that he liked the cool, rational, logical and business-oriented approach of production medicine. Tony claims that it was only after these factors first drew him to
poultry practice that he discovered that there were other lifestyle benefits that he found appealing: the much higher pay; the better defined, nine-to-five work hours; and, the opportunity to travel, especially in South America.

Tony’s description of this contrast between individual and population medicine is the most explicit and dramatic of this group of participants’ stories, probably because he experienced a kind of conversion from one type of practice to the other, and so he expresses some of the evangelical zeal of the convert. He said:

The people in poultry medicine are just the nicest people I've ever met as far as—the happiest veterinarians I've ever seen are in poultry. It was just incredible. Even now, the conferences I go to, they're so much happier than—I've been to small animal conferences and things—just like the quality of life, to me, seems better in poultry medicine.

Other participants who grew up in the agricultural industry were less articulate about expressing the appeal of production medicine, but hinted at some of the same factors. John had not only grown up on a dairy farm in the Midwest, but had also had a previous career in production agriculture. As such, he had very little time for the “nice and warm and fuzzy” of companion animal practice, although he did, grudgingly, admit that he was “not afraid of a cat or a dog” if that were to be part of his future veterinary practice.

John defined production animal practice as one in an environment “where I’ve got a lot of animals and I have an economic incentive behind going through and raising them.” He was clear that he did not feel that this was a distinction based on species, since, as he said, “you could go through and have rabbits in a production setting too.” He
distinguishes, therefore, the categories of production and companion animal practice, from the categories of small and large animal practice categories. He said, “I’m from ‘literalville,’ so a large animal—okay, a cow, a horse, a rhinoceros—is a large animal. [Laughter].” He was implying, therefore, that the large/small animal distinction is descriptive of the size of the animal only, and does not, to him, imply the type of work the veterinarian does with those animals.

Unlike equine practice, it did not appear to be necessary for participants to have grown up in a rural, agricultural setting to be interested in production medicine. Donna had grown up in a small town, raising beef cattle for 4H, but it was not until she spent a summer away from home in Wisconsin, working with a dairy production specialist veterinary practice that she developed a similar interest:

Then my junior year of college I wanted to get out of [her home state]. I didn't care where I went, just not in [her home state]. I wanted to see something different. I ended up in Wisconsin at an all-dairy practice, and I spent nine weeks there one summer before my senior year of college.

I've been hooked on the dairy stuff ever since.

Liz, who grew up on the outskirts of a city, did not develop an interest in veterinary medicine until her sophomore year of undergraduate education. Yet she developed an interest in large-scale dairy production medicine, even though she had not come in contact with the industry until after she started shadowing vets in college. She said, “I was riding in the truck one day, and you’re, like, out in the country. It’s just—to me it just feels right… I was like, I know that’s not like a concrete, good answer, but it’s just like a feeling that I get, that I feel like I should be doing this.” She did, however, feel at a
disadvantage, since she was not so familiar with the industry. So she started to seek out as much experience as necessary, saying:

I continued to ride along, whenever I was home, with the large animal vet, and got involved with the pre-vet club at Penn State, and showed dairy heifers with the Dairy Expo and stuff. I just tried to get involved, as much as I could, to try to make up for what I felt like I was missing.

This gave her the opportunity to learn about the culture and language of dairy practice, alongside the medicine: “A lot of the lingo, too. Veterinarians—you learn the medicine part of it, but I kinda’ learned the shorthand farm-talk before I even learned the medical terms.”

Charles, who grew up in a small town, had initially been interested in small animal specialist practice. However, like Tony, Charles had become interested in the idea of a non-traditional career path during an epidemiology lecture in his first year: “[the lecturer] put up a slide that said aquaculture, and I never heard it before, didn't know what it meant. I was like, ‘this is kind of interesting.’” When Charles sought out more information, he discovered that there was a need for vets in the fish industry in his home state. He set up an externship, saying, “it was just very attractive for me because it was something different and something new and kind of exciting.” Like Tony, the appeal to Charles was the opportunity for problem-solving on a system-wide problem. After making some suggestions to the managers of plant that he visited, he said:

I think that was kind of my first “aha” moment of talking to them. To me, I didn't really see at the time, but we were talking and then they kind of came back afterwards and was like, “Thank you very much for all this,
and you really taught us a lot.” I was like, “I didn't really feel like—I don't know much about it,” but it's more than what they knew. That's when I was kind of like, “Wow, maybe having this veterinarian education, I can apply to this industry that the layperson doesn't really understand.” That was kind of the first, with all that, and then that kind of turned into, that was the first kind of job prospect for me, with that.

For Charles, it was clear that the emphasis on education and advocacy in his field were appealing to him too. He said, “I think that there's an education component within the profession. I think that trickles all the way down.”

All of these students, to varying degrees, were drawn to production medicine due to the appeal of working on problem-solving at the population level of veterinary medicine. They had, therefore, opted more for the big picture, rather than the more in-depth focus on individualized medicine.

**Other Future Plans and Aspirations**

As participants in the study discussed their future plans, their career aspirations were often closely linked to their hopes for, and concerns about other aspects of their lives. Participants in the study described many trade-offs in their career decision-making process, including even simple trade-offs between the more esoteric, exciting career options, or more practical choices, such as Annie described: “It would be really cool [to work] with zoo animals, but that was just kind of like a, ‘wow, that would be like the best thing ever for someone to do that,’ but I really love small animals too and so that’s what I know.”
In particular, participants’ plans for family, where they wanted to live, and their concerns about their debt-load and other economic factors were recurrent themes. In this section, I will discuss the way in which family, work-life balance, and finances wove throughout students’ career choices.

**Family and Work-Life Balance**

As discussed earlier, family of origin, and students’ current families, had already influenced the students’ career decisions. However, their plans and hope for family in the future also had a significant influence on planning their careers, and their career choices. In particular, the issue of work-life balance, and the impact of different career choices, was a consistent theme in the interview data.

Work-life balance was important to some students, even if they were currently single. For example, Annie worried about finding a job that would not have too much on-call responsibilities, saying:

> I’m one of those people where—I know this sounds horrible—but I like to be able to go home and enjoy some time away [from work], and I like the aspect of being able to sleep. Even if you’re on call and you don’t get called in I hate that aspect of always, just, that gnawing feeling of “I could be called in at any time.”

This had not only influenced her career decisions, but she also worried about the impact it would have on her relationship with her clients. When asked why she thought that it was “bad” for her to want to be able to draw a line between work and her personal life, she responded, “I guess in a way you have clients and patients that you work with on a
normal basis and you have a relationship and that kind of just closing the doors, turning
off the lights, ‘sorry I’m not going to help you’ type thing is maybe, I don’t know…”

There was a sense with some of these students that they should not be admitting
to wanting some work-life balance, or to even want to make career choices based on
pragmatic concerns such as salary, or working hours. Paul said:

To be honest, in life you have to provide for a family eventually, and one
of my goals—the same goal that my father has instilled in me—is to
provide for my family, my future wife, and any kids that I'm to have. In
order to do that, you have to have a job that can pay you a substantial
income. Being a veterinarian hopefully will give me an income where I
can provide for my family, also give me hours that are good so that I can
spend time with my family, maybe coach a sports team.

His plans for a family in the future worked as a justification for wanting some balance
between his work and personal life, and for expecting a reasonable income in exchange
for his years of schooling. Many other participants were more conflicted about these
trade-offs in their career choices. Marissa, for example, said,

I’ve never considered not having kids because I wanna be a vet. I’ve
never considered just having kids and stopping veterinary medicine. I
think I would get bored [laughter] maybe. Yeah, I totally wanna have kids
and be super involved with them. I also wanna be a veterinarian.

For this reason, even though she was not even married yet, one of her criteria for a
veterinary practice in her job search, was that it was “family oriented.” She was also
looking for jobs in the geographical area where her fiancé, Brady, wanted to work,
despite the fact that he was encouraging her to prioritize her own career choices, saying, “she [Marissa] says that it’s going to be—depends on where I go, but I’m telling her, I was like, ‘Yeah, but you need to have a place, too.’”

For those participants who already had family, work-life balance was something with which they already struggled. Robert talked extensively about it being hard to be so busy during his clinical training, with a baby at home. He said, “going through clinics, there’s been a few times where my daughter’s been sick, and I can’t do anything about it. I just have to let my wife take the day off work, because clinics is not really conducive to family.” He also discussed the impact this had had on his grades at times. He had, therefore, given up on his original plan of applying for internships, both because he felt the pressure to get out into the workforce and start earning to support his family, and also because he felt that he would not be competitive due to his grades: “my grades aren’t as good as they could’ve been. I don’t know that I could’ve done an internship, anyway. Who knows?”

Furthermore, Robert also had made it clear to future employers that his family was important, saying “I told them my family’s my priority, and I want a job that’s gonna’ be conducive to having a family life,” even though he worried that this might reduce his job offers. As he put it, “I’m at the point now, where there’s what I would like, and there’s what I have to have. What I have to have is a job to support my family.”

By contrast, Joanna and Ashley had decided that they had to prioritize their careers over being geographically close to their partners, although both had long-term plans to try to reunite with their partners after a year apart to complete their internships. Ashley, who was dating another vet student in her class who had also applied for
internships, said, “we have maybe like four or five schools that are the same, but they’re not in the same order. Chances are we won’t be together next year—and then just working really hard on our internship to try to get a residency for both of us in the same place.” Both of these students seemed willing to make a long-distance relationship work for a year, but worried about pursuing their career choices and maintaining their relationships after that. In that sense, all of the participants in the study seemed to be weighing their relationships, future family plans, and personal life with their career options.

**Financial Trade-Offs**

Many of the participants talked about their educational debt-load, and the fact that it weighed heavily on their minds. For example, Mary talked about her debt forcing her to consider salaries as an important factor as she chose between job offers, saying, “that's something that I didn't necessarily think about during school. I always thought I'd just be happy to get a paycheck. Then at the end of it, when you start looking at how much you owe and how much money you're going to have to ask for…”

For some participants, economic considerations were influencing their choice of species emphasis for their careers. For example, Ann said,

I have targeted mixed-animal practices for a couple of reasons. I mean, one, because that's what I want to do. I'm also really seriously looking into the veterinarian loan repayment program that's being offered. In order to qualify for that, depending on the area, they have to do at least 30 percent food animal, so that's kind of weighing into where I'm applying and the
kind of practices I'm applying to. That's something I really, really would like to get into and just get my loans paid off.

For others, their concerns about debt had convinced them that they couldn’t afford to consider post-graduate specialist training. When asked if he had ever considered doing an internship after graduation, Chip was unequivocal in his answer, saying, “Nope, never. Nope, never an option for me. As soon as I learned the finances of it in terms of what it does for you professionally, how much you get paid, what my debt load will be…”

Similarly, when asked about whether she was interested in specialist practice, Mary said:

Not really. Once I learned that to do a lot of that stuff you had to go on and do internships and residencies and more and more school, I definitely was not interested in doing—it would be nice, but financially I think I'm ready to just get a paycheck, pay off my loans, start working as a vet.

By contrast, for Ashley, who was pursuing an internship and residency to train as a surgeon, the financial trade off was worth it for the mentorship: “It’s true. I mean it’s a huge pay cut. I’ll make like $23,000 next year and my classmates will be making like—well, who knows, whatever—but it’s worth it… I mean in the end the mentorship is worth it to me.” There was definitely a sense, therefore, amongst the participants, that they had to decide between making money, and paying off their student loans sooner, versus earning less, and putting off repaying their debt, for a greater career reward in the long-term.

**Conclusions**

This chapter has presented the major themes identified in the participants’ career narratives. In particular, the factors that influenced them to become veterinarians, the
choices they have made regarding career paths within the profession, and their other hopes and aspirations for their lives have been presented. However, there are clearly overlaps and interactions between these different themes.

For example, the age at which students first became interested in veterinary medicine was both affected by, and also had an impact on the animals the participants encountered in their early lives. This, along with students’ backgrounds, had an influence on how and when they first had interactions with veterinarians. In particular, a profound interest or connection with animals seemed to be both a necessary pre-requisite, and an influence on career choices. However, when that interest emerged was significant.

For some, the orientation towards animals was the main driver of their desire to become veterinarians, often at a very young age, whereas for others, this connection emerged later, in response to a developing interest in science and medicine in general, often in combination with work that lead to interactions with animals, and, in some cases, a desire to serve. In this context, it was usually an initial interest and ability in science, that evolved into an interest in medicine as the science was applied to a professional context. For those students that were drawn to veterinary medicine through their early connection with animals, the science/medicine orientation was also a necessary pre-requisite to becoming a veterinarian, that emerged later as they sought out more contact with veterinarians, and made academic choices designed to prepare them for a veterinary education. For them, the initial interest in medicine, lead them to discover the science behind the medicine.

The desire, means and ability to attend college, usually facilitated by a supportive family structure, were also clearly necessary requirements for students to make it as far as
vet school. It is hard to assess the significance or importance that family support was, however, without comparing it to students who were not successful in being admitted to veterinary college, which is beyond the scope of this study.

Many of these influences continued to be significant as participants made career choices within the veterinary profession. In addition, their perceptions of the veterinary profession both shaped and were shaped by the students’ career choices, and the experiences that they had gained through those choices. It is clear, however, that the type of practice that students chose is influenced by much more than simply the animal species, although that is an important factor as well.

A further discussion and analysis of the emergence and interaction of these themes will be discussed in chapter 5. That chapter will also relate these findings to the literature discussed in chapter 2, and will suggest implications from the research, both for veterinary education, and for future research.
Chapter 5: Discussion

In this chapter I will discuss the findings presented in chapter 4, relate them to the literature discussed in chapter 2, address some of the limitations of the study, and present implications for both the practice of veterinary education, and for future research. In particular, I will relate the study’s findings to the research questions, which were as follows:

Research Question 1: How do men and women in their senior year of a North American professional veterinary program describe their career decision-making process?
Research Question 2: What are the influences on this career decision-making process?
Research Question 3: In what ways does gender affect the career decision-making processes of veterinary students?

Discussion of Findings

In this section I will address some of the interactions amongst the themes that emerged from the data, the issues around terminology of veterinary practice types, and the archetypes and role models implicitly referenced by many of the participants in the study about veterinary career pathways.

Interaction Among Themes

During the interviews for this study, it became apparent that certain themes came up spontaneously and consistently, that appeared to be significant to all the participants in
the context of their career narratives. These became the basis for the themes and codes that I presented in chapter 4 and included: the age at which the participants decided to become a veterinarian; their contact with animals growing up; the environment in which they were raised (small town or rural versus urban or suburban); their interactions with veterinarians; their ability and interest in the sciences; pivotal moments; their family of origin, and family status (partner, spouse, and children); previous degrees and careers; and, the status of their job-hunting and the type of work that they were seeking at the time of the interviews. Participants also often discussed their other future plans and aspirations, as well as the trade-offs that they were negotiating between these and their career plans, especially in relation to their plans for family and concerns about finances. During data analysis, it emerged that rather than being independent themes, or codes within themes, of the data, these factors often appeared to interact with each other.

**Age of First Interest, Science and Animal Orientation and Contact with Vets**

Most of the participants started their narrative by discussing the age, or academic stage, at which they first considered becoming a veterinarian. For consistency, if a participant used their academic stage as a reference point, this was converted into an average age of students as they entered that academic stage (e.g. “sophomore year of high school” became 15 years of age). The participants often compared this age to a hypothetically “typical” veterinary career pathway, of “always wanting to be a veterinarian,” either favorably or unfavorably. This sense of a “typical,” or even archetypical, veterinary career pathway was referenced either implicitly, or sometimes explicitly by participants, throughout their interviews. The nature of these archetypical career paths will be discussed later.
Another theme that seemed to be important in students’ veterinary career paths was the amount of contact that they had with animals at a young age, which was largely determined by their immediate environment. The students’ background determined not only how much contact they had with animals at a young age, but also the nature of that contact in terms of the species encountered and how much they were involved in the animals’ care. As students got older, they became more independent in terms of being able to drive, and seek out more experience with animals, and so background became less significant in terms of how much it determined the amount and nature of their contact with animals. That early contact with animals, however, seemed to have some significant interactions with their background, as well as the age at which they decided to become veterinarians. These factors, in turn, had at least some impact on the timing and nature of students’ first interactions with veterinarians.

Table 5.1. Interaction of age of first interest and early animal contact

<table>
<thead>
<tr>
<th>Early age of 1st interest (Before High School)</th>
<th>Later age of 1st interest (High School or Later)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensive/Significant Early Animal Contact</td>
<td>(Animal Influenced)</td>
</tr>
<tr>
<td></td>
<td>(Science/Med Influenced)</td>
</tr>
<tr>
<td>Marissa, Charlotte, Annie, Ann, Donna, Maureen, Karen, George, Charles</td>
<td>Brady, Carl, Chip, Tony, Paul, John</td>
</tr>
<tr>
<td>Minimal Early Animal Contact</td>
<td>(Determined)</td>
</tr>
<tr>
<td></td>
<td>(Late Arrivals)</td>
</tr>
<tr>
<td>Joanna</td>
<td>Robert, Mary, Liz, Ashley</td>
</tr>
</tbody>
</table>
It is helpful, therefore, to think about grouping the participants in this study according to some of the interactions of these factors. The students can be grouped according to the combination of when they first decided to become veterinarians, and how much early contact that they had with animals. These groups are summarized in Table 5.1. These groups are important units of analysis with respect to the other themes, and reveal three main types of career path. I have, therefore, named each group, and will explain how their career paths are influenced. Figures 5.1, 5.2 and 5.3 illustrate the dynamics of the three career pathways.

I have chosen to call the students who had extensive early contact with animals, and decided to become veterinarians before high school, the “Animal Influenced” group (see Figure 5.1), because they attributed their early desire to become veterinarians to their orientation towards animals. This group included Marissa, Charlotte, Annie, Ann, Donna, Maureen, Karen, George and Charles. It is notable that this group is the largest, but is dominated by women, and only 2 out of the 9 members are men. The second group also had extensive early contact with animals, but did not decide to become veterinarians until high school or later. I called this group the “Science/Medicine Influenced” group (see Figure 5.2) because they talked about their interest in science or medicine first, which, in combination with their orientation towards animals, led them to become interested in veterinary medicine. This group includes Brady, Carl, Chip, Tony, Paul and John, and it is interesting to note that they are all men. Joanna is the only student who had very limited early contact with animals, and yet still decided that she wanted to become a veterinarian at a very young age. I decided to call her category the “Determined” group (included in Figure 5.1). Joanna seems to be somewhat of an outlier compared to the
other groups of students. In fact, she had much in common with the “Animal Influenced” group, despite the fact that she had very little regular contact with animals until she was old enough to seek that contact out for herself. So her orientation towards animals was particularly strong, and did not seem to need much contact with them to persuade her of an interest in the veterinary profession. Her career path was so similar to the “Animal Influenced” group that I have included her with them.

I called the final group the “Late Arrivals,” (see Figure 5.3) since this group did not have much early contact with animals, and did not decide to become veterinarians until high school, or later. Members of the group either all had a previous career, or career aspiration prior to veterinary medicine, and included Robert, Mary, Liz and Ashley. They may have been aware of an affinity for animals and an interest in science, to some degree, earlier in their lives, but often only considered veterinary medicine as a career after they had worked with a veterinarian in some capacity first. By contrast, the students in the “Animal Influenced” and “Determined” groups had sought out contact with veterinarians because of their prior interest in becoming vets. So their desire to become a veterinarian often preceded much contact with veterinarians. For the “Science/Medicine Influenced” group, the primary contact with veterinarians could have preceded their desire to be vets, but often happened at around the same time as they chose veterinary medicine as a career path.
Figure 5.1. Typical veterinary career pathway of the “Animal Influenced” and “Determined” students.
Figure 5.2. Typical veterinary career pathway for the “Science/Medicine Influenced” students.

Figure 5.3. Typical veterinary career pathway for "Late Arrival" students.
These groups appear to be strongly gendered, especially for the two groups with extensive or early contact with animals. This tends to suggest that the two career paths for these types of students may be gendered as well, at least in terms of how the participants constructed their own career narratives retrospectively. The women were much more likely to attribute their interest in veterinary medicine to their affinity to animals, and to interpret this affinity for animals as a vocation for veterinary medicine early in life, leading to the Animal Influenced career path. By contrast, the men were much more likely to attribute their desire to become veterinarians to their interest in science and/or medicine, which generally occurred later in their lives, leading to the Science/Medicine Influenced career path. This was despite the fact that these men also all retrospectively acknowledged an affinity for animals early in life as well. However, for the men, it seems that the animal contact and affinity was not sufficient, until the science/medicine interest engaged as well, which somehow formalized or legitimized their desire to become a veterinarian. Conversely, the women in the Animal Influenced group talked about becoming interested in the sciences in high school as a result of their desire to become veterinarians. Interestingly, the two men that did follow the Animal Influenced path, both talked about significant contact with veterinarians, through their animals. So, for them, this influence of contact with veterinarians seemed to replace a later interest in science and medicine in terms of “tipping the balance” for them towards a veterinary career. It is also interesting to speculate about whether there are other girls who have an affinity for animals, and aspire to becoming veterinarians, but who do not receive the support and encouragement in the sciences, and are subsequently derailed from a veterinary career path; or, if there are boys who are talented scientists, but who are not encouraged to
combine this with their affinity for animals, and therefore do not consider a veterinary career. For the boys, the decreasing status and compensation of the veterinary profession is also likely to be a greater disincentive than it is for girls, since it is a more pragmatic decision for the boys.

The age of participants’ first interest in becoming a veterinarian, in particular, appeared to be somewhat gendered. It seems clear that the women were more likely to locate the point in time that they decided to become a veterinarian at an earlier age compared to the men. What is interesting about this is that the men and women often described similar experiences as being influential early in their lives (e.g. animal contact and caretaking, pivotal experiences and contact with vets). However, the men were much less likely to acknowledge that these experiences convinced them of an aspiration for a career in veterinary medicine until they had the additional academic ability and interest of their science courses and mentors to formalize their career path. Women, in contrast, claimed their desire to be a vet was an early, almost irresistible urge from a young age. This may fit with gendered expectations for women to have a strong vocation for a caring profession, compared to men who are expected to seek a career based around more pragmatic concerns such as their talents and abilities, and the potential benefits of a steady income.

The age of first decision influenced other aspects of the participants’ career narratives. For example, age impacted the participants’ early perceptions of the veterinary profession, the type of contact that they had with animals, their academic and non-academic career-related choices and preferences (e.g. selecting science courses, shadowing veterinarians), and also how those, in turn, influenced their later career-related
decisions. In particular, students’ affinity for animals, and some kind of an interest and ability in science or medicine, were both necessary pre-requisites for all the students to pursue a career in veterinary medicine. The age of their first interest in the profession, however, seemed to influence exactly how these two factors interacted with other career choices and each other. For example, the students who decided to become a veterinarian before or during middle school (the “Animal Influenced,” and the “Determined”), were influenced by their veterinary career aspiration to pursue more advanced science courses in high school. This led to a later discovery that they liked and excelled in those science courses, based, in part, on career advice from mentors, such as veterinarians and teachers. For example, Ann, who decided she wanted to become a veterinarian in Kindergarten, talked about how she was encouraged to pursue science courses later, in high school, saying, “my science teacher that I had in high school played a really big role, got me really, really active in science.” When asked about when she started to make academic decisions based on her career aspirations to become a vet, said, “I think probably in high school, like, deciding what chemistry, biology-kind of classes to take was the first time that I actually had to, like, make a decision as to do that.”

For this group, their early interest in becoming a vet coincided with them having more contact with veterinarians, either as cause or effect. The contact with veterinarians led them to discover that it was the medicine behind caring for animals that really interested them, rather than just science in general. For example, Annie, who had wanted to become a vet since she was five, said, about her experience with shadowing veterinarians, “that kind of helped, seeing the medical side of it. It went from liking animals to wanting to help them to liking the medical aspect… probably up till I was 12.
Then I just kind of knew that that’s what I wanted to do.” Similarly, George, discovered his passion for medicine from observing the veterinarians who took care of his mother’s horses, and through his involvement with Pony Club. He said, “I mean I was always fascinated by horses… it was more like the husbandry of horsemanship kind of evolved into me being more interested in veterinary medicine.” He also said, “I really like riding horses, and I still do, but veterinary medicine just—it was more fascinating, and it was more of a challenge… it’s very motivating to me because you get that sense of this animal’s life is in your hands type of a feel.” He went on to describe how these experiences motivated him to make choices in high school and college.

By contrast, the students who decided to become veterinarians later in life, often seemed to come to this career aspiration through a pre-existing interest in science, although they usually acknowledged an affinity for animals as well. For example, Robert said “I had an aptitude for the sciences. I thought maybe medical might be the right path.” It was only when the opportunity to volunteer at an animal shelter put him in contact with a veterinary practice, that he put this interest in medicine together with his pre-existing affinity for animals, and decided to pursue veterinary medicine as a career. Similarly, Ashley, who had no contact with veterinarians when she was younger, explored other medical careers as early as high school: “well, first I was interested in human medicine; probably up until like the second year of my undergrad.” However, it was not until her interest in animals led to a job in a veterinary practice that she decided to pursue veterinary medicine when she was in college.

The initial interactions with vets seem to be critical, therefore, for both groups of students, in introducing or confirming their desire to be veterinarians. These also seem to
be closely related to the age at which the students first decided to become vets, although it is not always clear if there is a cause and effect relationship. How the science/medicine and animal orientations interact, however, appears to be somewhat dependent on the age of first decision, especially in relation to the critical threshold of middle school. If students decided they wanted to become a vet prior to middle school, the animal orientation seemed to drive the process more, with the interest in science or medicine coming second. For them, the interaction with vets was important for sparking the interest in medicine, and providing them with a reason to pursue the sciences. Whereas for those that decided on veterinary medicine after middle school, the science orientation seemed to drive the process more, with the animal orientation providing more of a background context. For them, the interaction with vets was often the final piece of the puzzle that suggested a career path to them that incorporated all of their other interests.

**Background and Species Preferences.** Whereas age, animal orientation, science/medicine interest, and interactions with vets had important influences on students’ decision to become veterinarians, the participants’ background environment appeared to have a strong influence on the species of animals that they were exposed to growing up, and, therefore, their ideals of the kind of veterinary practice and family life that they aspired to build in the future. Students that grew up in a rural or small town environment, were more likely to have come into contact with a variety of species, and had at least some understanding of agricultural industry and the production veterinary practices associated with it. This was often in addition to some family pets, and companion animal practice. For example, Carl said, “I didn’t grow up on a farm but I grew up in a rural area… so, I can understand that mindset but I also understand the more
pet, small-animal mindset as well." If those students had taken part in 4H or Pony Club, then their experience with veterinary medicine was usually even more in-depth at a relatively early age. Apart from anything else, the veterinarians that care for larger species are likely to have visited their animals on location, making it more likely that the students saw them work.

By contrast, the students that lived in a more urban or suburban environment generally only had contact with companion animal species through their own pets. The exception to this was Charlotte, who had also ridden horses. This experience predisposed these students to feeling comfortable with a more limited range of species, and preferring the respect associated with individualized medical practice over population or production medicine. In fact, Liz was the only student who had been raised in a more suburban environment, who was also interested in large animal production veterinary medicine.

Age of first interest and background also interacted with each other in interesting ways: the earlier that a participant decided to become a veterinarian, the more that the environment in which they grew up affected their access to certain species of animals and local veterinarians, which in turn, influenced their perceptions and ideals about the types of practice that appealed to them in their own career paths. By contrast, students who decided to become veterinarians later in life may have had fewer opportunities to gain a variety of experiences, and tended to be narrower in their career focus within the profession. For example, Joanna, Robert, Mary and Ashley all had limited access to animals growing up. However, because Joanna decided to become a veterinarian at a very young age, she had the opportunity to seek out diverse animal and veterinary experience, as she went through her middle school, high school and undergraduate education, and
was still very open to different career options in veterinary medicine. By contrast, Robert, Mary and Ashley tended to more conservative about wanting to work in the types of veterinary practice that they had first encountered – small animal practice for Robert and Ashley, and mixed practice for Mary.

Similar trends were visible for the participants who had early contact with animals due to their background growing up. Those who decided to become veterinarians at a young age were more likely to have experience with a wider variety of animal species, than those that decided to become veterinarians later. It is hard to know if this was a causal effect, but it seems likely that deciding to become a veterinarian at a younger age gave those students more time to seek out a wider variety of animal experience. It is also possible that being exposed to a wider variety of animal species in the first place, helped them to decide on a career in veterinary medicine at a younger age, especially if that contact brought them into contact with veterinarians more often.

Finally, there appeared to be some interaction between family, and background in influencing students’ career aspirations in the veterinary profession. Students who came from a small town or rural background seemed to value that kind of lifestyle enough that it influenced their future plans for their own family. For example, Brady said, “Ideally, I’d like to live out in the country, have a farm that my kids can grow up on and learn how to work.” Students from a more urban or suburban background did not generally mention the environment or lifestyle in which they wanted to raise their own families, although they did mention geographical locations that they preferred. The one exception to this generalization was Chip, a self-proclaimed city slicker, who dreamed of working and raising a family in a more rural environment. However, he had been heavily influenced
by his family’s regular visits to his grandfather’s farm growing up, to the extent that he could be classified as having a significantly rural influence on him, through his family of origin.

**Issues of Terminology in Defining Veterinary Practice Types**

Each of the participants in this study were asked about their impressions of various veterinary practice types, as part of the discussion about their career aspirations within the profession. There was a variety of interpretations of these types of veterinary practices among the individuals in the study, despite the fact that the students generally seemed to assume that the categories were consistent amongst their peers, and other veterinary professionals.

In particular, there was variation in the way each individual student classified the animal species that veterinarians worked on within these veterinary practice terms, and which of the categories were considered synonymous or distinct. The distinction between “Food” versus “Farm” animals was particularly varied, especially in terms of descriptions related to “Large animals.” Some participants described all of these categories as synonymous, and either included some horses within this category, in a mixed animal practice setting, or excluded them completely.

Furthermore, although most participants launched into confident-sounding descriptions of the species included in each of the species category terms, in many cases that confidence wavered when faced with examples of exceptions, or outliers to the usual animals included in each category. So the students’ definitions were not always even internally consistent.
My interview questions about exceptions or outliers to the neat taxonomy of veterinary practice would often lead to some discomfort, or confusion for the participants about their previous assertions as they thought about those exceptions. Their whole tone would change in these cases, and their answers would become more questioning than assertive. Sometimes, they would seem genuinely stumped by the questions, and comment on how they had “never thought about that before.” Others, who had recognized the inconsistencies about how species are classified in veterinary medicine, would assert that even though they had thought about this, they considered the veterinary professional categories to still be fixed. In other words, they would talk about these terms as if there was a broadly understood taxonomy of veterinary practice types, even if some specific cases did not fit neatly into them. So, for example, while these participants acknowledged that other species could be considered “companions” in certain contexts, they might assert that in the context of the profession, “companion animal practice” meant the treatment of cats and dogs only.

In this way, participants distinguished between the common usage of these terms by laypeople, compared to how they were used by veterinary professionals. Carl said:

I actually have had that experience: to explain to family members that small animal does not include rabbits usually; that that’s an exotic animal because it’s a little bit different. They’re like, “really? But they’re a pet and they’re small.” Yes, they’re a pet and they’re small, but there’s differences in how their medicine is done. There aren’t as many people willing to touch a rabbit.
Carl is suggesting that the terminology about practice types is fixed, and based on the kind of medicine practiced by the veterinarians, rather than a straightforward description based on the types of animal species treated. However, this particular example is not as consistent as he implies, even within the profession, since other participants allow for different interpretations. John, for example, said, “If you say companion animal, that’s in my mind, a dog, a cat, a hamster, a rabbit. But say for instance on a rabbit, you could go through and have rabbits in a production setting too.” These two quotes demonstrate how even one animal species, rabbits, could be classified in three different categories, depending on your perspective.

However, despite this, participants described and justified their own interpretations of these categories in a way that implied consistency with a common understanding of these terms within the veterinary profession. For example, several students referred to the university Veterinary Medical Center (VMC), which has three parts: the Hospital for Farm Animals, the Equine Center, and the Hospital for Companion Animals. They would reference these divisions as being significant, since the terms signaled to them how they were being taught the “accepted” veterinary terminology for practice types. The VMC, the Hospital for Companion Animals sees only cats and dogs. So although the participants would agree personally that other species could be considered “companions” by their owners, based on their experience with the VMC they argued that within the veterinary profession, “companion animals” refers to dogs and cats only. This demonstrates how institutional structures such as the name of the VMC serve to socialize students into the profession. However, this socialization process is not consistent since other mentors, role models and institutional structures may imply
different definitions. For example, rabbits (or, for that matter hamsters, chinchillas, etc.) would not usually be seen at the VMC, even though they would be treated at other institutions, or “companion animal” private veterinary practices.

Some of the participants ultimately just insisted on their own personal definitions of different species categories, which fit their own values, even when challenged to account for animals that might not “fit.” For example, when asked about how a potbellied pig, considered to be a pet by its owner, would fit into the classification system, Carl responded, “to me, a pig isn’t a companion animal, it’s lunch.” Carl cited his background in a rural setting as the reason for this opinion. He felt fully justified, therefore, in creating his hard and fast categories of practice that worked for his own perceptions of how the profession was structured, and in dismissing the owner’s perception of the role that the animal played in their lives. This demonstrates how students, therefore, bring their own past experiences and influences into the mix of professional socialization. This example is consistent with the literature on socialization to a profession (Schein, 1968; Swick, 2000), that argues that the processes required for the novice to learn the required values and norms of an organization “depends in part upon the degree of prior socialization” (Schein, 1968, p. 3).

Other participants, while initially quite sure that they knew the meaning of the different categories of practice in veterinary medicine, lost confidence and started to doubt their earlier assertions when faced with contrary examples. They seemed surprised, and unprepared for the cognitive dissonance that this created. Charlotte, for example, was quite assertive and emphatic about her opinions throughout the interview, in general. She had a strong interest in orthopedic surgery, initially in horses, which she had grown up
riding and showing extensively, although this had switched to an interest in small animal orthopedics in her senior year. She was quite clear that she considered horses as companion animals, along with small animals, despite them also being “large” animals. She based this on her own experiences of owning horses, and she considered her own horse to be a pet that was “more spoiled than anything.” However, when she was told that others typically did not classify horses as companions, because they were grouped with large animals, she seemed genuinely surprised, and was momentarily at a loss for words. Her speech became less clear and more rambling, and she seemed to attempt to defer to the interviewer, in order to seek the “correct” answers, by asking questions rather than answering them. When pushed to consider the animals that did not fit with her original characterization of veterinary practice types, she ground to a halt, and said “God, it really makes you think, doesn’t it?”

As we discussed this further, and discussed how she perceived the skills and lifestyles of these different types of practice to be similar or different, it became apparent that she did have opinions about that. However, she seemed to be struggling to express them without appearing to be dismissive or offensive about mixed or production animal practice. She said:

I just felt like attitude and approach to patients were way different. I’m trying to think… My experience with large animal practitioners has been kind of just out here [at the VMC] or farm animals, whichever you want to call it. I feel like they approach things more cavalier and casual and laid back as opposed to equine then and that sort of thing.
She acknowledged that she has limited experience with food animal or mixed practice, but this did not change her bias that those areas of practice are not as thorough as companion animal practice. Thus, her categories of practice seem to be determined as much, or more, by her own personal experience as by any external, fixed classification of the profession. In this sense, she is “othering” the types of practice with which she was unfamiliar, and privileging equine and small animal practice where her primary interests lay. This example demonstrates that veterinary practice types are social constructions, not just within the boundaries of the culture of the profession, but open to interpretation by individuals, based on their own experiences of the profession.

Not surprisingly, many of the student descriptions of the different types of veterinary practice were more nuanced and thoughtful with respect to the areas of greatest interest to them. The “Mixed” category seemed to be the most open to interpretation in general, with a surprisingly high number of the participants claiming to aspire to work in “Mixed” practice compared to the demographics of the veterinary profession (Shepherd & Pikel, 2012), even though their descriptions of that type of practice varied widely.

The students interested in mixed animal practice had thought the most about the distribution of labor in a mixed practice, and the rural or small town lifestyle that was typical for those kinds of practice. These participants seemed to have thought about all of the different types of practice the most, probably because their ideal type of practice crossed the boundaries of the other categories of practice. They seemed to be more aware, than their peers, of the conflicts and inconsistencies of defining practices by species type, and also demonstrated a more subtle analysis of the implications of different types of
practice on the skills required of practitioners, and the resulting lifestyles. By contrast, students who had remained more narrowly focused in their career interests, especially if those interests had been fixed throughout their lives and veterinary training, seemed to have thought much less about the difficulties of classifying different species interests and practice types.

The variations in the way students classified animal species treated in different types of veterinary practices, also seemed to depend on their experiences with animals growing up. For example, four out of the five students with the most background in horses, included horses in the companion animal category, whereas the students with little interest or experience with horses did not, and, in some cases, did not even include horses in the “Large Animal” category. Instead the students with little equine experience often classified horses and horse work as being their own, separate category, even if the students themselves claimed to be interested in “Mixed” practice.

Ultimately, most interesting to me, as a researcher with some insider status in the veterinary profession, was how little the students had apparently critically considered or queried these categories prior to the interviews. Furthermore, the variation in student descriptions of the structure of the profession had important consequences in terms of how they described their own career interests. In particular, the species-interest and practice-types that the students aspired to, were defined in different ways by each participant. So, although the participants seemed to use a common language, or taxonomy, of the different veterinary career types, such as “Mixed practice” or “Large Animal practice,” what this actually meant to them varied considerably.
Veterinary Career Archetypes

As they described their own career path, the participants in this study seemed to refer to an implicit, typical, or even archetypical "how-I-decided-to-be-a-vet" story that was common to all. This archetype had several elements that included some, but not necessarily all of the following:

1. Becoming interested in veterinary medicine at a very young age – elementary-school-age or earlier. This seemed to be the most common characteristic of the idealized veterinary career path.

2. Early contact with animals – usually house pets as a minimum, but may have also included other, larger species if the person were from a rural background.

3. The early contact with animals lead to seeing veterinarians work in the context of those pets or other animals.


5. An understanding that becoming a veterinarian was an obvious career choice, due to the strong animal orientation, and the exposure to veterinarians, which was reinforced by family and other adults. This may be very socially and racially situated, since students from different classes and cultures than the students that apply to vet school may not have had this same level of contact and encouragement.

6. The emergence of a strong science/medicine orientation when they started to actively pursue a veterinary career through academic choices and shadowing, and which further reinforced their career choice.
Of course, it is rare for students’ actual career paths to evolve this consistently and systematically. However, most participants referenced this linear, early career path in some way as an ideal, and when their own career narrative differed from this archetype, they seemed to feel the need to explain or justify the divergence. In particular, students who made the decision to become a vet later in life described their career path as "unusual" or "different," compared to this archetype. The age of first decision seemed to be prioritized by students, with those who decided to become veterinarians the earliest privileged above those who decided later.

The James Herriot Archetype. One of the participants in the study, Chip, talked extensively and explicitly in his interview about being influenced by the James Herriot books to pursue veterinary medicine as a career. Only one other student, Marissa, mentioned James Herriot explicitly, saying, “I grew up and I read James Herriot, and thought it was the best book ever. [Laughter]. Then I was like, I’m gonna be a vet. Maybe I read James Herriot at the same time I decided to be a vet, potentially.” None of the other participants mentioned Herriot or his books. However, the archetype of the James Herriot mixed animal practitioner in an idyllic, almost pre-industrial, or, at least meta-industrial, rural environment, is implicit in other participants’ narratives. Chip talks about his own passionate interest in the books:

Yeah, and it sounds so cheesy, but I don’t get addicted to reading, and I was addicted to that series and I bought every one after I finished the first one and I read the whole… [series] and I was like, “this is it. I want to be a mixed-animal practitioner.”

Similarly, Marissa recalls:
It was so powerful, cuz we’d just cleaned something in the house and we found this James Herriot book. I was like, oh, look he’s a vet. I read the first page and I was sucked into it. I live in this little, idealistic world still, because it [laughter]—and he was a mixed animal vet, and stuff like that.

Both students indicate that Herriot is a particularly compelling role model for mixed animal practice. In many ways, he is the embodiment of the archetypical career path implicitly referenced by many of the participants.

Chip talks of Herriot’s influence being so common as to be a cliché amongst vet students, saying, of the book series,

It wasn’t until I got into vet school that I realized that pretty much everyone finds veterinary medicine through that [the first Herriot book]… I found out later that everyone reads that book and everyone gets attracted to the profession through that book. But that is what happened to me.

The fact that Chip believes this experience is so common, as to be a cliché for students to mention it, may explain why other participants in the study do not mention Herriot’s influence so explicitly. Instead, I would argue that Herriot’s representation of veterinary medicine, is an implicit influence on many veterinary students and practitioners.

Of course, it is also possible that having read and been influenced by the books is not so common, after all, and it is just a myth, or misconception that so many other students were influenced by Herriot. However, my own experience as a member of the profession tends to confirm Chip’s belief that the Herriot archetype is, indeed, prolific amongst veterinarians, either explicitly or implicitly, in the way that we see ourselves as a profession. This is a situation where, as a researcher, I have to take a step back, and
acknowledge my status as a veterinary insider: Chip's conviction that "ALL" other applicants to vet school are influenced by Herriot, to such an extent as to make it a cliché, mirrors my own experience.

When I applied to veterinary school in the 1980's in the United Kingdom, it was enough of a cliché to be influenced by the Herriot books or television series, that I was advised not to mention it as part of my application process. I also have many memories of talking about Herriot informally with many other veterinary school applicants, students, and practitioners at the time, and since. I remember discussing how it was not "cool" to talk about it formally, especially during the application process, since it was such a cliché, and doing so would make you less likely to "stand out from the crowd" of applicants. Of course, that was a different generational and cultural milieu from the group of students interviewed in this study. In my peer group, it may be expected that Herriot would be more popular, since the historical context of my veterinary training was chronologically closer to the release of the books, and especially the TV shows, and, as a British graduate, my experience was also situated in the same country as the stories are set. So, is my experience valid or relevant in these circumstances? Or am I in danger of making a circular argument, by trying to justify the pervasiveness of an unspoken, implicit archetype, just because it rang true to me, and is the same as my experience? Certainly, if I did not have insider status as a veterinarian, I may not have picked up on the argument that reading Herriot is so pervasive, but also taboo to talk about. And so, is it appropriate or accurate to draw on my own experience to pursue this as an analytic theme?
It is particularly ironic that it is my perception that the ubiquitous nature of the Herriot influence also, potentially, results in the books being a taboo subject, and may explain why other participants do not explicitly mention them. If I had asked everyone explicitly about Herriot, how many of the students would have said that they did read his books, and were influenced by them, but did not mention them because it is perceived as a cliché? Since I do not have this evidence, it is important to refer back to the evidence from the literature. This is discussed in greater detail in Appendix D, which argues for the strength of the Herriot archetype in current veterinary culture from evidence of how Herriot is referenced throughout the veterinary literature.

Understanding the role of Herriot as a veterinary archetype may explain a little more about the career paths of the students in this study. In particular, students may be able to relate to Herriot’s description of his natural affinity for animals, and also his keen interest in the science and medicine of veterinary practice, since many of the participants in this study describe those same influences on their own decision to pursue veterinary medicine as a career. These strong interests in animals and science/medicine may distinguish potential veterinarians from the average Herriot fan. They are also distinguished by the fact that veterinarians seem to pride themselves on their ability to not only tolerate the “stink and sight of feces,” (Sternlicht, 1995, p. 22) but, indeed, embrace it as part and parcel of the archetype.

Chip talked about gaining more experience with production animals due to his willingness to work on the swine farms at both his undergraduate and graduate institutions, even though those jobs were unpopular with less committed students. He said, “I’ve later since learned that if you’re looking for a job on a farm at the university,
the farm that’s hiring is the pig farm. Everyone really wants to work at the dairy farm and the beef farm. It’s easier work… The pig work is early [in the morning] and it’s hard and it’s smelly and it’s stinky.” However, this can also be taken as a metaphor for some of the other perceived difficulties of choosing a veterinary career path. Indeed, these kinds of difficulties are often spoken of as a rite of passage to prove that the participants are worthy of being veterinarians.

Chip, Carl, Robert and others, for example, talks about his stubbornness for persisting with his chosen profession, despite setbacks in applying to vet school. Chip said,

The more a vet school told me that I wasn’t good enough for them, the more I wanted to show vet school that I can do this and so I don’t know. I knew it would be hard and some of those prerequisites—I mean those prerequisites—they start weeding people out from the very first prerequisite. It was a challenge to me… but I think I just kept working towards it out of stubbornness.

Many of the other respondents talked of the persistence that it has taken for them to succeed thus far in their veterinary training, despite the academic difficulty, long hours, and high debt load associated with their education. In this context, Herriot appears to be almost a role model, or ideal that Chip aspired towards, and the hardships are, therefore, reframed as rites of passage. In describing his ideal job, he said, “I have to have a goal or a finish line that I’m currently working on. Throughout my whole life I’ve found I have
to have something that I’m actively working towards… I picked that my finish line I want to cross is veterinary school.”

**Why is discussing Herriot such a taboo?** If veterinarians can relate so well to Herriot’s books, why does Chip consider it such a taboo for students to discuss Herriot’s influence on their career decisions? In part, the taboo seems to be because the books are so ubiquitous, especially amongst animal lovers and veterinary professionals, so much so that, as Chip pointed out, it becomes a cliché to admit to being influenced by them. However, in addition to that, the popularity of the books, and how they represent the veterinary profession is a mixed blessing, as also discussed in Appendix D, in that they are significantly out-of-date with the contemporary profession and oversimplify the role that veterinarians play in modern society (Hendrix, McClelland, & Thompson, 2006; Ikuta et al., 2006).

Furthermore, there is also an implicit concern that if students are attracted to the veterinary profession by Herriot’s stories, there will be a necessary disillusionment that takes place, at some point in students’ training, or post-graduation, as they adjust to the realities of life in modern veterinary practice.

**Gender Differences**

Several students, both male and female, explicitly said that there were no differences between the genders in the career choices that they make within the veterinary profession (e.g. species choice, and practice type). However, this was not borne by what they said. The participants used different language for their descriptions of the men in the profession, versus their descriptions of women. They justified this by referencing various sex-based stereotypes in the profession. So, while they are able to cite
“exceptions to the rule,” for these stereotypes, their arguments were based on the assumption that there is some truth to the stereotypes. For example, Brady said that there are no differences in terms of the internal veterinary career selections for men and women, but then acknowledged:

1. There are men in his class choosing small animal practice, although all of his male friends are interested in large animal practice. He said, “I think there’s a lot of men that wanna do small animal in our class, and—I mean, all the guys that I’m friends with, they wanna do large animal.”

2. That his large-animal-interested male friends accept that they may have to do some small animal work as well. He said, “Some of ‘em know that they have to do small animal.”

3. That women in his class are typically either interested in small animal or mixed practice (a clear difference from the more bimodal distribution of his large-animal-leaning interested male friends). He said, “Then there’s women that like to do small animal, there’s women that like to do mixed, and, like, do everything.”

4. However, then he reasserts that there is no gender difference, saying, “I don’t really see one gender focusing on one area.”

So, there is an underlying assumption that there is a perceived gender difference, which he is attempting to disprove by citing exceptions to the general “rule.”

For some, the gender stereotypes, as determined by socialized gender roles, were more explicit. Tony summed this perception up as follows:

I think it [large animal practice] tends to be more male-dominated, partially because of the culture of the industry, like you don’t meet very
many women dairy vets. It's just kind of life, I guess. Just physically working with those animals is difficult and I think, especially with the way society—we expect that a man is gonna be working with cows. It's just sort of a societal expectation thing.

Furthermore, this perception seemed to be borne out by the career aspirations of the students in this study. Of the six students who wanted to go into exclusively small animal practice, five were women. By contrast, of the eight students who wanted to work in large animal practice (production medicine, food/farm animal emphasis mixed practice or equine practice), six were men. Of the remaining students who wanted to go into mixed practice, the gender split was four women to two men.

However, this gendered preference for certain types of practice may have less to do with the size and physicality of the different types of practice, and more to do with the type of medicine practiced in each category. It is important to refer to the students’ own descriptions of the different types of practice, which, while superficially organized around species type, are really more about how and where the medicine is practiced. As described in chapter 4, mixed practice was really described as being rural practice; food/farm animal practice was really describing a systems-based production agriculture type of practice; and small animal, and, to a lesser extent, equine practice, was really focused on in-depth, specialist, individualized medicine. If viewed in those terms, the socialized gender roles are less related to the size or physicality of the species that the students anticipate handling, and much more related to factors such as relational and nurturing care, compared to more instrumental, systems-based care, as well as how important location and family considerations are to each individual.
Socialized Gender Roles: Pediatrician and Mechanic. As Chip talked about the job that he had just been offered in rural practice, he was very enthusiastic and articulate about what he wanted to do for his new practice. He said:

I’ve mentioned milking machine analysis—I’m very into—and they don’t do any of that there… It’s more in the smaller dairies that you can make money and make a difference for the cows by doing milking machine analysis. I could see myself doing something like that.

He went on to talk about his skill with using an ultrasound machine for earlier pregnancy diagnosis in cows, saying, “I’m fluent down to 28 days with an ultrasound machine, so maybe that’s something else that I could bring to the practice.” In this way, he talked about the tools, skills and systems-based thinking that he could contribute to the practice. When he did talk about the relationships with clients, he took a very analytical approach to what the animal meant to the client in order to talk about the services he would provide. He said,

If I’m looking at a down dairy cow and we just nerved her pulling too big of a calf… so what I’m offering to the farmer then is to euthanize the animal, to end her pain and suffering and to do the next step for what he needs to do to take of this animal and the animals that he’s providing husbandry for. If that was a pet cow of a family that provided their own milk… then I’ll get the hip-lifters. Maybe someone has a float tank in the area that they rent and we’ll roll her every two hours and we’ll give her TLC and do everything we can for her and try to make sure I relieve her pain and suffering as much as I can.
He understood, therefore, the need to provide caring services to his clients, but he found
the emotional aspect of the work distressing, saying, “some of us, that have no problem
shooting a cow in the head, don’t have the stomach to euthanize someone’s dearly
beloved pet.”

Similarly, Tony described the appeal of the “systems” approach of poultry
practice, and the avoidance of all that “emotional stuff,” saying:

I like the scale of it. It's just fascinating. The breadth of things that are
involved, like you're involved in human health. You're involved in
business. You're involved with huge populations. It's all rational. There's
no emotion involved, no owners or anything. It's, does it make sense to do
this or not, financially? Either we're gonna treat them or we're gonna cull
them or send them to process. Very black and white. I liked that.

On the other hand, Tony found the emotional work of individualized medicine to be
draining, saying, “for me, the client interaction was really—with the companion animals,
the emotion side of veterinary medicine is very taxing.” These descriptions suggest that
these men relate much more to Rollin’s (2006) “auto-mechanic” role in veterinary
medicine, and were not so comfortable with the “pediatrician” role, with the associated
emotion and empathy. They were instrumental and systems-based in their descriptions of
the work they wanted to do, and tended to avoid talking about the relational aspects of the
work.

Compare this with the way some of the women in the study talked much more
about the relational aspects of the different types of veterinary practice. For example,
they talked a lot about the way that vets relate to their clients, their clients’ expectations,
and the emotional aspects of the work. Marissa said, “I guess I think girls are more saps, and so we’re so big on the small animal [practice] and loving our patients. We want them to be happy and healthy.” Also, unlike Chip’s description about his potential contributions to a practice as he thought about jobs, the women were much more likely to focus on what they wanted from a potential practice. In particular, they talked about being concerned about how the employees at the practice would communicate and work together as a team, and the mentorship they would receive from more established veterinarians. For example, when talking about a practice that she had encountered in her job-hunting that she liked, Maureen said, “I think the staff—it just ran really smoothly. They all got along. They had all been there for a really long time. The technicians had been there for like eight plus years.”

There were exceptions to these generalizations, and it would certainly be oversimplistic to essentialize the students’ experiences and preferences based on gender. Ashley and Charlotte, for example, loved the instrumentality of the procedural specialty of surgery. Charlotte said, “I do like the ability to essentially fix things and do things. I like the instant gratification.” This was, however, still in the context of individualized medicine, and was not systems-based. Liz and Donna liked the idea of population medicine, but they still talked about the relational aspects of this type of work. Liz said, “I feel like communication is the key that connects us to our clients.” Donna also liked the animals themselves, and being part of the agricultural community, saying, “I really like cows. That's part of it is just being around cows all the time. The other part is the lifestyle and the farmers. They're such hard working people. They care about their cows. And they're satisfying to work with.” She felt that the primary role of the veterinarian in
dairy practice was as an advocate for the animals, and to help communicate the process of food production to the consumer. She said that she felt the need to “make sure that we're doing the right things as far as the cow goes, the right things for her welfare, for her health, and part of it I think is public outreach. There's such a disconnect from the farm to the table anymore.” This is not dissimilar from the appeal of large animal practice for Chip, but the way they talked about it was very different. Therefore, even though Liz and Donna prefer the population, systems-based practice of this kind of medicine, they still talked about the appeal in a relational way.

In some ways, Robert was an exception to these gender-based trends as well. He clearly leaned more towards the individualized, relational work of small animal companion work in mixed practice, but he characterized this in terms of his desire to serve, rather as nurture or caring work. He said, “I realized that I wanted to do something beneficial to society.” He also was concerned about finding a practice to work in that was family-friendly, due to his growing family, saying, “I told them [a potential employer] my family’s my priority, and I want a job that’s gonna be conducive to having a family life.” He saw his role as the breadwinner in the family, and talked about wanting to find a job that would allow his wife to stay at home with their children.

Similarly, Paul the only male participant interested in small animal practice, talked about his desire to be able to take care of a family financially. He said:

To be honest, in life you have to provide for a family eventually, and one of my goals… is to provide for my family, my future wife, and any kids that I'm to have. In order to do that, you have to have a job that can pay
you a substantial income. Being a veterinarian hopefully will give me an income where I can provide for my family.

He was also interested in specialist practice. However, unlike the women, who talked about their interest in this field being due to their desire to take care of the animals at the highest level, he was more interested in how it could lead to greater earnings, and allow him to be the boss, through his interest in the business side of the practice. He said, “I'd like to own a referral clinic somewhere on the east coast, fully staffed… I would just like to do the hiring, the business stuff, the management stuff, have a partner or two, and see where that takes me.”

Not only were there differences in what the participants said, there were also differences by gender in how they said it. The men’s statements were generally much more declarative and emphatic. In comparison, the women tended to be more tentative, and less assertive about their opinions. Some of them were even self-referential about their lack of confidence in their abilities or their aspirations. Marissa, for example, said, “apparently, I have confidence issues. I’ve said the word “confidence” like five times during this [interview].” She also worried about whether she would have the confidence to work in more traditionally male-dominated specialties, saying:

Am I gonna be—oh, here’s the confidence thing again—am I gonna be good enough, ‘cuz I didn’t grow up on a farm, in the 4-H world, am I gonna be good enough to connect with my clients, so that they’re gonna trust me to be this young girl doin’ work on their cow?

Furthermore, many of the women prioritized good mentorship in future employers and practices, and worried that they did not feel “ready” to go into practice on their own.
Annie thought that this was one of the reasons so many of her classmates had applied for internships. She had decided not to, but was worried about feeling prepared, saying, “I’m not gonna lie, I mean I don’t know if would feel ready either, but I kinda just wanna start and put my feet in and just get started. I guess a good mentor is kinda what I’m hoping for.”

The men, by contrast, did not seem to exhibit such concerns about whether they would be able to do the work or not. In fact, as mentioned previously, some of them were already anticipating the skills they would be able to contribute to their new employers’ practices. More than that, though, they seemed more confident about what they were saying, compared to the women.

Ashley and Charlotte seemed the most confident of the women, and more similar in this respect to their male counterparts, at least until Charlotte encountered some cognitive dissonance with respect to the questions about species categories and taxonomy. It is interesting to note that they both wanted to be surgeons, and revelled in the more instrumental aspects of their chosen specialities, suggesting that the confidence and assertiveness was associated with their greater instrumentality.

**Gender differences in the power of archetypes.** One of the more subtle gender differences that I observed as participants described their career pathways was in how much they referenced the career archetypes. The archetypical career path seemed to be more relevant for the women compared to the men. For example, the women seemed to reference the archetypical early age of becoming interested in veterinary medicine much more consistently than the men. Then they seemed to feel compelled to compare
themselves to the archetype either favorably or unfavorably. The men were much more likely to simply tell their stories, without comparing themselves to the archetype.

Perhaps this was simply another manifestation of the gender differences in the way the participants told their stories, with women being more unsure or uncertain about their career narratives than the men. However, the uncertainty was not about whether they trusted their memories. They could be very sure about what they experienced, but seemed more tentative and apologetic when the experience they described diverged from the typical pathway. Neither did it seem to be due to women being less confident about their choices. They seemed pretty confident that they were making the right career choices for them. However, the archetypical career narrative seemed to affect them and their narratives more.

It is possible that the archetype of "always wanting to be a vet" is more strongly associated with a feminine career path, since it focuses more on choosing veterinary medicine as a vocation, rather than a pragmatic decision for a stable career that will pay the bills and enable the protagonists to be the breadwinner for their families. A feminist interpretation might go further, and suggest that the women feel a greater need to fit in with the (more privileged), dominant “typical” career path because of their lack of privilege in terms of gender norms in society and the profession.

It may help to refer to the literature in order to understand this phenomenon better.

Comparison of Findings with the Literature

In this section I will refer back to the literature cited in chapter 2, and compare the findings of this study to the theories posited by that work using sections similar to chapter 2: career choice literature; the professional project and feminization of professions; and,
the Ethic of Care. In addition, I will include a brief review of the concept of biophilia, and how that may relate to the students’ description of their affinity for animals.

**Career Choice Literature**

The findings of this study are consistent with many of the sociological theories of career choice. The participants’ descriptions of how they chose the profession of veterinary medicine fit with Savickas’ theories of individuals constructing their own narratives of career processes (Savickas, 2005; Savickas, et al., 2009). In particular, he describes this as a holistic process which includes the influences of a diversity of life experiences and circumstances such as participants’ background and family. The participants’ descriptions of their backgrounds, contact with animals and veterinarians, family of origin and plans for current and future families, are consistent with this premise.

Rojewski’s theory of career aspirations (Rojewski, 2005) offers parallels to participant descriptions of both how they decided to become veterinarians, and how they were aspiring to specific types of veterinary practice within the profession. In particular, his theory helps to explain participants’ descriptions of the role of support by family and other mentors in overcoming external barriers such as the academic difficulty of obtaining pre-requisites, and by encouraging and supporting them through college.

Self-efficacy is also a useful concept for explaining students’ persistence in the face of difficulty or setbacks. Self-efficacy theory alone is insufficient to explain all the many factors that students discussed in relation to their career choices, but in the context of social cognitive career theory (SCCT), it is helpful for understanding their ability to overcome barriers (Lent, et al., 1994, 2000). According to Betz and Hackett (Betz, 1993;
Hackett & Betz, 1981) there are gender differences in self-efficacy. These may partially explain some of the gender differences in the confidence with which participants described their plans, and the fact that women felt impelled to adhere to archetypical career narratives, or justify their divergence from them, much more than men. In this sense the archetypes were a kind of safety net when women felt insecure or unsure about their ability to overcome career barriers.

**The Professional Project and Feminization**

The way in which the terminology of practice types are socially constructed in the culture of the veterinary profession demonstrates the dynamic processes of the professional project (T. L. Adams, 2010b; Bolton & Muzio, 2008) and the process of socialization to a profession (Becker, 1962; Schein, 1968) in action. Students had been socialized to see the categories of different types of veterinary practice as fixed ideas, which were defined in and through the veterinary profession. However, the way in which they adapted those practice categories to their own experiences and aspirations demonstrated just how labile the profession really is.

Some of the concerns predicted by theories of feminization (Bolton & Muzio, 2008; Gardiner, 2000; Mackintosh, 1981) are being borne out in the concerns of the participants about the increasing debt load from a veterinary education, especially in the plateau in salaries, and decreasing job opportunities. There is little evidence amongst these senior students of the gender inequities predicted by theories of professional feminization at this stage in their careers. However, some of the other gender differences observed amongst the participants, such as the women’s greater adherence to career narrative norms, and increased likelihood of being guided in their career choices by their
partner’s career choices and geographical location, may lead to greater gender inequity further into their careers. Certainly there is some evidence that as veterinary careers progress over time, the gender inequities increase (Bristol, 2011).

There is also some evidence of the internal career stratification predicted by theories of professional feminization (Bolton & Muzio, 2008) and Reskin’s (1993) theories of sexual segregation, since the majority of the students choosing small animal practice were women, and men were much more likely to choose mixed or large animal practice. Furthermore, if you look at the types of practice less by species, and more by whether the care provided is instrumental and systems-based or individualized and relational, then there appeared to be a clearer gender segregation in terms of participants’ career aspirations within the profession.

However, there are also examples of how these gendered expectations are enacted by the participants across a spectrum, rather than being a simple binary. These demonstrate the continuum that I discussed in chapter 2 (p. 47) of students’ lived experience between the polarities of Gilligan’s (1982/2003, 1997) feminine and masculine models of moral development. For example: Ashley and Charlotte combined aspirations for more instrumental career goals (surgery) with a desire to apply this to a more relational, individualized type of medical practice; Liz and Donna preferred population-based medical practice, but also recognized the relational aspects of that work; and, Robert was drawn to the caring, relational work of small animal practice, but reframed it as an opportunity for service, while still prioritizing the importance of providing for his family. This study, therefore, demonstrated the complexity of how gender plays out in real veterinary students, and the results are a reminder that individual
variation will always be more interesting and complex than binary notions of gender, which risk essentializing people’s experience by one aspect of their identity.

Furthermore, it is important to avoid over-interpreting the findings of gender differences in this research, since this is a qualitative study, and so the numbers alone are not necessarily generalizable or representative of the whole population of senior veterinary students. The difference in the way in which men and women talked about these types of practice, however, is enough to justify exploring these gender differences further in future research. There also seem to be some gender schemas (Valian, 2000) at play in terms of the different roles that men and women are perceived to perform in the profession.

**Ethic of Care – The Relational Morality of Women**

The gender schemas (Valian, 2000) related to the assumptions about the different ways men and women practice veterinary medicine are also consistent with theories of the ethic of care (Gilligan, 1982; Noddings, 1984). In particular, these theories seem to explain the way in which the women talked more about the relational aspects of practicing veterinary medicine, whereas the men talked about being attracted to the instrumental aspects of veterinary medicine, and systems-based practice. Some of the men, in particular, talked about not being comfortable dealing with the emotional aspects of individualized, or companion animal practice.

However, at least internally to the profession, the feminist economic theories that suggest that traditionally feminine skills of caring and nurturing would be devalued (Elson & Pearson, 1981; Gardiner, 2000) did not seem to be borne out by the data. Traditionally feminine skills of empathy and nurturing were apparently valued by the
profession, even if they were segregated to companion animal practice and individualized medicine, due to the increasing separation of small, companion animal practice from systems-based, large-scale, industrial population medicine.

In fact, in some ways, the specialization and more advanced procedures and medicine possible in small, companion animal practice were privileged by some participants over more business-minded, systems-based, population medicine. There is evidence that companion animal practice is paid better than production medicine (AVMA, 2011a; Shepherd & Pikel, 2012), and that this type of practice is the predominant image of veterinarians by lay people. This may be in part due to the halo effect of the James Herriot archetype, which, although set in rural practice, certainly privileges individualized, quality medicine, over the treatment of animals in large, industrialized populations (Hendrix, et al., 2006; Ikuta, et al., 2006; Loew, 1996). However, all of this may be offset by the decreased status and value of veterinary medicine externally, especially in relation to other healthcare professions, where there are opportunities for practitioners to earn more money, and pay off their debts much more quickly.

Certainly it is true that there appears to be a gendering of the different types of veterinary practice, as typified by Rollin’s (2006) pediatrician and auto mechanic roles of veterinarians. Irvine and Vermilya’s (2010) description of the hegemonic masculine culture of veterinary medicine is not explicit in the participants’ description of the veterinary profession. This culture, however, may explain the greater power of career narrative archetypes over the women compared to the men in the study, since, according to Irvine and Vermilya’s theory, women work much harder to enact the typical or
archetypical structures that are part of this culture than the men, in order to be successful in the profession.

**Biophilia**

It is unclear if the animal orientation that students talked about in this study is truly hard wired in some people compared to others. For example, it seems possible that, at least in some cases, the participants’ early contact with animals lead to the affinity for animals. However, there is also some evidence from the literature that all humans have evolved to have an innate biophilia, but that certain developmental stages lead us all to be particularly open to developing a fondness for animals if we are exposed to them at that stage (Serpell, 2011; Serpell, et al., 2012). Serpell (2012) even suggests that the developmental predisposition to biophilia is particularly true for girls, due to socialized gender norms, and he speculates that this may have led to the greater feminization of the veterinary profession than has occurred in other professions (Serpell, 2005). This relationship between developmental stage and feminine forms of biophilia may also help to explain why an early desire to become a veterinarian was a much more significant part of the career pathway to women than for the men.

It may also be not far of a stretch to speculate that veterinarians have a greater predisposition to feeling an affinity with animals, or that it is stronger in most vets. However, this study cannot determine those hypotheses. What is clear from these interviews is that the recognition of this affinity is an important part of veterinary career narratives for these students.
Limitations of the Study

Like any research, there were limitations to this study. It could be argued that a limitation of the study is the relatively small number of participants, and the fact that their interests do not represent the full range of career choices among veterinary students. For example, there were no students in the study who were interested in pursuing careers in research, pathology, public health, regulatory medicine or global food systems. Certainly the sample of participants in this study is not enough to generalize the findings of the study to the wider population of senior veterinary students. However, that is not the intention of a qualitative study of this kind. Instead, the intention of qualitative research is to explore or develop theories about a phenomenon or process, especially when there is no previous guiding framework, and the variables are unknown, and to provide transferability, as discussed in chapter 3. In that context, the number of participants, and the range of their career interests was appropriate, as was indicated by the theoretical saturation reached in the coding process.

There was no triangulation of data for the findings of this study, which was a concern in terms of “goodness” or validity of the study. It is widely held that triangulation, through the use of multiple sources of data about the same topic, helps to determine how well the phenomenon being studied is represented (Lather, 2003). In this case, since I was developing themes from the students’ career narratives, it was hard to see how alternative sources of data could have been found, and may not have been appropriate for such an interpretivist methodology. Moving forward, however, I would like to incorporate triangulation of methods through the use of focus groups for member checks, and in the development of a survey questionnaire from the emergent themes of
this research in the future. While not the same as alternative sources of data, these methods do, at least, achieve alternative ways of getting at the same data.

In addition, in retrospect, there are questions that I did not ask during the interviews, that would have been useful in organizing and analyzing the data. The ages of students and some other demographic information would have been useful in describing the participants. It might have been helpful, and more accurate, to know this information, rather than to infer it from the participants’ descriptions of themselves and their experiences. It would also have been more accurate to ask the participants for specific information about their age when they made key decisions, rather than extrapolating this information from their descriptions of their academic stage at the time. I also think that it would have been helpful to ask them more specific questions about some of the veterinary archetypes that were described by some participants, such as James Herriot, and the idea that the typical veterinarian “always wanted to be a vet.” However, some of these questions could be investigated further in future research.

Finally, my insider status in the profession, and in the college in which the study was conducted certainly affected the project and might be considered a limitation. As was addressed in the section on researcher positionality in chapter 3, that status gave me insight into the issues being investigated, and a rapport with the students in many ways. However, it also allowed me to make assumptions about terminology and other issues, and required special effort to critically deconstruct all of the terms and ideas expressed by the participants. In addition, the students knew me, which caused a problematic dynamic, since they often used shorthand for certain parts of their stories, and skipped over issues that we had discussed previously in a professional capacity.
This was particularly true for five of the students, Charles, Tony, Brady, Charlotte and Joanna. I had worked with these three students in an academic advising capacity previously, and it is possible that they were more likely to have volunteered to participate in the study due to that relationship. Brady even expressed the sentiment that contributing to my research was “the least he could do,” considering my help with his academic program.

I do not believe that this was due to the students feeling coerced in any way, especially since they were graduating and therefore my role as their academic advisor was no longer salient. However, this prior relationship did mean that the study included a number of students with less traditional career aspirations, since this was the reason why I had advised them, in order to help schedule their alternative clinical experiences. Furthermore, it also meant that these students tended to gloss over parts of their career decision-making processes that we had discussed previously. For example, I had worked with Charlotte to help her to adjust her clinical rotation schedule during her senior year when she had decided to switch from an emphasis on equine practice, to small animal practice, so that she would be competitive for small animal internships. She had discussed this decision with me at length at the time, and, therefore, had to be reminded to reiterate some of those thought processes during the research interviews.

I attempted to offset some of these potential sources of researcher bias by being self-reflexive during the research process, and also pressing the students for more complete answers if I felt that they were skipping important parts of their stories. I maintained a research journal and notes, and debriefed my findings through review with peers, and my academic advisor. I did not, however, have the opportunity to perform
member checks with the research participants in order to verify my findings, since the students in the study graduated and left the institution prior to the completion of the work. Ideally, therefore, it would be important to attempt some member checks of the findings of this research in the future, even if it was with another group of senior students, prior to developing and testing the theories further.

**Recommendations for Practice**

Although further research needs to be conducted to investigate these findings about veterinary career choice, there are some early implications from this study for veterinary education. The recommendations that come out of this dissertation research can be divided into two main areas: implications for veterinary student recruitment and admissions; and, curricular changes to introduce students to a greater variety of career options earlier.

**Implications for Recruitment**

Traditionally, recruitment for veterinary students has been very passive. The assumption has been that it is not necessary to actively recruit students, since the number of students applying for veterinary school has far exceeded the places available. However, as the profession attempts to change and add to the roles that veterinarians play in society in the future, it will be increasingly important to recruit a more diverse range of talented individuals, many of whom are not currently considering veterinary medicine as a career. For example, in order for veterinary medicine to play a greater role in One Health, and public health practice and policy, we need to recruit students who have the aspiration of working in those areas, with a greater sense of service orientation to the “greater good” of human and animal health. The most important recommendation,
therefore, is that veterinary educators need to be more proactive about recruiting students to a career in veterinary medicine.

By helping to explain the influences on students’ career paths, and theorizing the types of pathways that lead to a career in veterinary medicine, the findings of this research study serve as the basis for recommendations for how to target that recruitment. Recruitment should be conducted differently for students at different educational stages. We know, for example, that students often decide on a career in veterinary medicine very early in life and need as much time as possible to seek out the academic and non-academic experiences that are likely to encourage and support them in their application to veterinary programs, and in their ongoing career paths in veterinary medicine. It is important, therefore, that veterinary educators target students as early as middle school, or even elementary school. It will be important to provide them with an academic pathway to help them make the right academic decisions. It will also be important to provide them with veterinary networks, so that they can start having those important interactions with veterinarians, and gain a wide range of experience with animals that they might not otherwise encounter.

Equally, though, this research study illuminates the career pathways that start later in some students’ lives. This is in contradiction to the widely held belief that veterinary careers must be chosen at a very young age. Therefore, it is also important for recruiters to target students later in their education, in high school, college, or in other careers. This may also mean explicitly addressing and debunking of the myth that you need to choose to be a vet early in life. Furthermore, the results of this research imply that these recruiting efforts should be targeted towards those students that are talented in the
sciences, with some interest or affinity for animals as well. In contrast to the recruitment of younger students, the focus may need to be more on exposing these students to more animal-related experience, although providing them with networks of veterinarians for mentorship and experience would be important as well.

There is also some evidence from this research that there are some important gender differences in the way women and men construct their career narratives in veterinary medicine. This may imply that recruitment could be targeted by gender, as well as age. However, conclusions about this issue are less clear. Therefore, it may be important to research these potential gender differences further prior to adjusting recruitment practices. In addition, it is hard to know whether veterinary educators should be conforming to real and perceived gender differences in veterinary career pathways, or whether we should be challenging them. It is possible, therefore, that some of these gender differences should be addressed as part of the education of future generations of veterinarians.

Implications for Curricular Exposure to Varied Career Options

The findings from this research suggest that there are changes that could be made to the curriculum of veterinary professional programs in order to support veterinary students’ career choices better. In particular, exposing them to more varied career options within the profession at an earlier stage in their veterinary education, may encourage them to seek new, or non-traditional career paths. The participants in this study that were pursuing non-traditional career paths talked about how early interactions with veterinarians or discussions about those careers, inspired them to seek out alternative career opportunities. In some cases, these alternatives prevented the students from
becoming disillusioned with the profession. By contrast, several participants in this study talked about feeling constricted in their career options, due to the relatively limited experiences they had had in the veterinary profession. Therefore, it seems logical that this exposure to alternative career paths is important in providing the most opportunities for veterinary students.

As veterinary medicine faces new challenges to its status and role in society, there is much discussion about future veterinarians providing new and different services. However, this will only be possible if we, as veterinary educators, support students in discovering those career pathways, while they still have time to explore them further, so that they can make informed decisions about their careers. It will also be important to help them to deconstruct some of the socialized expectations and archetypes that exist in the profession with respect to veterinary careers, so that students can challenge preconceived ideas, and create their own destinies in the profession.

**Implications for Further Research**

There are some important implications for future research that emerge from this dissertation research. For example, an interesting comparison to senior veterinary students’ career aspirations, would be to examine the perspectives of practicing veterinary professionals retrospectively. This may be informative for seeing if the veterinary students’ perceptions about types of practice are played out in veterinary careers, or if those perceptions change over time, and with experience. It would also be interesting, therefore, to compare career paths across different types of practices, to see if species and specialty interests lead to different career paths and choices, as was anticipated by the students in this study. Similarly, it would be interesting to compare
some of the findings in this study with career decision-making narratives in other professions. It would be particularly revealing to examine careers in other health professions, such as medicine, nursing, and other allied health professions. However, it would also be interesting to compare veterinary medical career pathways to those in other professions that have become feminized (e.g. law, business management), and those that have not (e.g. engineering) as a way of illuminating the gender influences in the context of feminization.

The Mixed Method Study Design of Future Research

This study was designed as the first phase in a larger mixed methods research project. This study was an initial, qualitative phase designed to explore the issues and influences in senior veterinary students career decision-making processes. The intent was to develop theories of veterinary student career choices, and use the emergent themes from this research to develop a survey instrument, which could be deployed to test those theories across the national population of veterinary students in the US. It is my belief that this combination of methodological approaches, in a mixed methods framework, combines the best of both qualitative and quantitative studies, in an overarching, meaningful and consistent mixed methods paradigm.

The overall research study, of which this dissertation is phase one, employs a mixed methodological approach known as a sequential exploratory study design, which consists of two distinct phases: qualitative followed by quantitative methods (Creswell & Clark, 2011). In this design, a researcher first collects qualitative data in order to explore or develop theories about a phenomenon or process. The data is then used to develop an instrument to measure or test the theory through quantitative methods. The two phases
are linked by an intermediate step in the study in which the emergent theories or variables are developed from the qualitative data in order to create the measurement instrument for the second phase. For this reason, this study design is sometimes called the instrument development design (Creswell, Fetters, & Ivankova, 2004). It is also known as the quantitative follow-up design (Morgan, 1998) since the second, quantitative phase is used to test or measure the theoretical concepts built from the first qualitative phase. My aim, therefore, is to develop a theoretical framework from the findings of this qualitative study, and test it in the later quantitative study.

For the qualitative phase of the study in this dissertation, I used open-ended, semi-structured interviews to explore the way in which senior veterinary students constructed their career narratives in relation to the accepted norms of career narratives in the profession. My intention is to follow this by deploying a survey instrument based on the emerging themes from the interviews, to be sent out to a wider sample of students for the second, quantitative component. In the long term, my aim is to eventually use this survey instrument to test the variables derived from the qualitative phase, and their interactions, as well as to attempt to generalize them to the wider population of senior veterinary students across the country. Before I can do that, however, I will need to test the validity and reliability of the instrument, using a smaller sample of the population under study. Eventually, I would like to use the instrument to follow a cohort of students as they graduate, and go through their first years in their veterinary careers.
Overview of Study Design

Based on Creswell and Clark’s (2011, p. 88) flowchart for implementing an exploratory sequential mixed methods’ design as a checklist, the following is an overview of my proposed study:

Step 1 – Design and Implement the Qualitative Strand. (Completed in this dissertation).

1. State qualitative research questions and determine the qualitative approach.
2. Obtain permissions – Institutional Review Board and internal college permission.
3. Identify the qualitative sample through a recruitment email, and using snowball sampling as required.
4. Collect data through open-ended, semi-structured interviews with participants.
5. Analyze the qualitative data for emergent themes using a feminist-interpretivist approach to answer the qualitative research questions, and identify the information needed to inform the development of the survey instrument for the second phase.

Step 2 – Use Strategies to Build on the Qualitative Results.

1. Refine quantitative research questions or hypotheses and the mixed methods question.
2. Design a survey instrument based on the qualitative results.
3. Use a focus group of “experts” drawn from veterinary students, to develop the survey items.
4. Use peer and expert review of the survey instrument to ensure construct and face validity.

Step 3 – Design and Implement the Quantitative Strand.
1. Finalize the survey instrument.

2. Obtain permissions – Institutional Review Board and internal college permission.

3. Deploy the survey to a representative sample of the population of senior veterinary students in the US, for the purpose of validation of the survey instrument.

4. Collect closed-ended data with the instrument designed from qualitative results.

5. Analyze the face and construct validity of the survey instrument using factor analysis.

6. Make preliminary observations about the research questions from the results of the pilot test using descriptive statistics and regression analysis.

Step 4 – Interpret the Connected Results.

1. Summarize and interpret the qualitative results.

2. Summarize and interpret the quantitative results.

3. Discuss to what extent and in what ways the quantitative results generalize or test the qualitative results.

This dissertation research constitutes step one of this study design. Future research would focus on achieving steps two to four.

Based on the qualitative results and emergent theories of this phase of the research, appropriate quantitative research questions would be developed. These would be used to guide the development of global rating scale questions, asking the survey respondents to rank their agreement or disagreement on a 5-point scale. These will be designed to test the relationships between variables developed from the qualitative
themes, such as age of first decision, early contact with animals, background, interest in science/medicine, animal affinity, and interactions with veterinarians.

Since the survey will not be based on established, validated survey instruments, it will be important to pilot-test the survey prior to using it to use it for a full, quantitative study to generalize the theoretical constructs to the whole population under study. Once the survey has been pilot-tested, the intention would be to deploy the survey to the national population of senior veterinary students, in order to generalize and further investigate the findings of this study.

The final step of the study will be to connect the findings from the quantitative phase of the study back to the theories developed from the qualitative phase. This will include discussions of how the quantitative data either confirms or contradicts the developed theories.

Once validated, the survey instrument could be used to track the influences on veterinary career choices in subsequent veterinary classes. It may be particularly interesting to observe differences in how students make career choices as certain admissions and curricular changes are made to veterinary education. It would also be interesting to follow a cohort of students from admission to veterinary college, throughout their training, and then follow them through their careers beyond graduation, with this instrument.

**Conclusions**

In this chapter I have explored the factors influencing choices of veterinary career pathways, based on the findings of this study. In particular I have examined interactions among emergent themes from the data, in order to suggest some patterns of career
narratives and pathways. The discussion addressed the first two research questions of this dissertation, namely:

Research Question 1: How do men and women in their senior year of a North American professional veterinary program describe their career decision-making process?

Research Question 2: What are the influences on this career decision-making process?

In addition, I have started to address the third research question, which is:

Research Question 3: In what ways does gender affect the career decision-making processes of veterinary students?

This latter question needs to be investigated further in future research.

I have also attempted to describe some recommendations for future veterinary educational practice, based on the initial results of this qualitative study. These include, but are not limited to: differential recruitment tactics for different age groups and gender of potential students; and, curricular changes to effectively expose veterinary students to a wider range of veterinary career options. Furthermore, I have developed an ongoing research program based on important recommendations for future research on the topics covered by this thesis. There is much work to be done in the field of veterinary career pathways. This work will be increasingly important as the profession continues to change and evolve.
References


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http://www.aavmc.org/students_admissions/VMCASStatistics2010.htm


Appendix A – Recruitment Email

Subject: Senior vet students needed for research interviews

Hi!

Although you probably know me in my role in veterinary administration, you may not know that I am also studying for my doctorate in Higher Education and Student Affairs in [MWSU’s] department of [author’s graduate department] under the supervision of [author’s advisor]. My dissertation research focuses on the way veterinary students make choices about their career and specialty after graduation.

I particularly want to talk with seniors. Would you be willing to help me with my research? I would like to collect data using semi-structured interviews with veterinary students like you.

I anticipate interviews lasting for about an hour. In that conversation, I will ask questions about what has influenced you in making career decisions. You may decline to respond to any question that you prefer not to discuss, and you will be free to end the interview at any time, even after we start.
With your permission, I would like to digitally record our conversation. The recording would be entirely for my records, and your answers would be kept confidential. Each participant will be assigned a code. Not even my Ph.D. advisor would know who you are. Any data that I report would be completely de-identified.

If you are willing to participate, I will go over all of these arrangements at the time of the interview, and ask you to sign a consent form stating that you have been made aware of this information. And if we meet for an interview, I will thank you with a $20 Subway gift card. Your choice to participate, or not, will have no impact on your course of studies. This research is completely separate from your academic program at the College of Veterinary Medicine.

For scheduling the interview, I will do my best to accommodate your availability, and meet wherever you are most comfortable. I can be contacted by email [author’s personal email address] or on my cell phone [author’s cell phone number]. We can find a private place to talk here on campus, or we can go off-site to another location if you prefer.

If you wish further information, you may contact my advisor, who is also the primary investigator for this project, [author’s advisor and email address.]
For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact [contact details for MWSU’s research office responsible for overseeing Institutional Review Board process.]

I am really excited to have the opportunity to hear what seniors have to say about key factors affecting career choice in veterinary medicine. Your responses will be important input as we consider appropriate curricular changes that will help us better educate future generations of veterinarians.

Many thanks for taking the time to consider my request.

Sincerely,

Clare Allen
Ph.D. Candidate

[Author’s advisor name, title, department and college]

[Graduate department & college]
Appendix B – Consent Script

Introduction and Consent:

“Thank you for coming today, and for being willing to help me with my research. Please take a look at this consent form. It lays out all the same information as in the recruitment email that you responded to, in the same language. The only part that is new is the statement of consent at the bottom. Please take a moment to read and sign the document. Here is a copy for you to take away with you. Do you have any questions or concerns? Please also remember that you may decline to continue with your participation in this study at any time, even once we have started the interview. So, shall we begin?”
Appendix C – Consent Form

CONSENT FOR PARTICIPATION RESEARCH

Protocol # __________________________

I consent to participating in research entitled: “Caring for all creatures great and small: A qualitative analysis of senior veterinary students’ career choices”.

Principal Investigator (PI): [author’s advisor name and title]

Co-Principal Investigator (Co-PI): L. Clare Allen, Ph.D. Candidate

Subject rights: As a participant in this study, you are consenting to be interviewed by the Co-PI. You may decline to respond to any question that you prefer not to discuss, and you will be free to end the interview at any time, even after we start.

Your choice to participate, or not, will have no impact on your course of studies. This research is completely separate from your academic program at the College of Veterinary Medicine.

Purpose of the study: This research study is the Co-PI’s PhD dissertation research for her doctorate program in Higher Education and Student Affairs in [MWSU’s] department.
of [author’s graduate department] under the supervision of [author’s advisor]. The study focuses on the way veterinary students make choices about their career and specialty after graduation. Your responses will be important input as we consider appropriate curricular changes that will help us better educate future generations of veterinarians.

**Study tasks or procedures:** As part of the research, you will be interviewed by the Co-PI. In that conversation, the Co-PI will ask questions about what has influenced you in making career decisions. A digital, audio recording will be made of the interview.

**Duration and location of subject’s participation:** Interviews are expected to last for about an hour. Interviews will be private and may be conducted on- or off-campus, at your preference.

**Confidentiality:** The digital recording of the interview will be entirely for the Co-PI’s records, and your answers will be kept confidential. As a participant, you will be assigned a code for identification purposes. Not even the PI will know who you are. When the interviews are transcribed, codes will be used to identify participants. Any data that is reported will be completely de-identified.

**Contacts and Questions:** If you wish further information, you may contact my advisor, who is also the primary investigator for this project, [author’s advisor name and email address.] For questions about your rights as a participant in this study or to discuss other
study-related concerns or complaints with someone who is not part of the research team, you may contact [contact details for MWSU’s research office responsible for overseeing Institutional Review Board.]

**Incentives:** You will be thanked for taking part in this research project with a $20 Subway gift card. You are entitled to this reward just for meeting with the Co-PI, even if you withdraw at a later time.

**Statement of consent:**

L. Clare Allen, Co-Principal Investigator (Co-PI), the authorized representative of the Principal Investigator (PI), [author’s advisor], has explained the information above to me.

I acknowledge that I have had the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my full satisfaction. Furthermore, I understand that I am free to withdraw consent at any time and to discontinue participation in the study without prejudice to me.

A copy of this consent form has been given to me.

Date: __________________________ Date: __________________________

Signed: __________________________ Signed: __________________________

Co-PI __________________________ Participant __________________________
Appendix D – Literature Review of The Influence of James Herriot on the Veterinary Profession

What is the Evidence that Herriot is a Veterinary Archetype?

James Herriot was the pen name of a successful, real-life veterinarian, James “Alf” Wight, who based his fictional counterpart’s stories on his own experience in rural, mixed practice in the Yorkshire Dales, U.K., before, during and after World War 2. There is much evidence that Herriot’s work has a profound influence on the way that the public perceives veterinary medicine, and, more importantly in this context, on the way veterinarians see themselves. Herriot’s work is cited more than any other as a representation of the public’s perception of veterinary medicine, both good and bad, in the academic veterinary literature (Barthold, 2005; Eyre et al., 2001; Hendrix, et al., 2006; Ikuta, et al., 2006; Villarroel et al., 2010). As Hendrix et al (2006), suggest, “today, many individuals usually identify all veterinarians with the archetypic veterinarian, James Herriot, the hero of the successful series of autobiographic accounts of veterinary medicine in mid-20th century rural England” (p. 506).

In particular, the way this perception influences applicants and veterinary students’ career aspirations is often discussed. Ikuta et al. (2006), for example, comment that “this image [of Herriot’s version of a veterinarian] has probably been of tremendous benefit for the admissions process [to professional veterinary programs], since it is likely
the single most important influence, both directly and especially indirectly, on those who have chosen veterinary medicine” (p. 156).

Examples of the perception that the Herriot archetype implicitly influences veterinary students and practitioners abound in the literature. For example, in a survey designed to determine the factors that attract veterinary graduates to rural veterinary practice, the survey designers included a question about how the survey respondents felt Herriot’s books influenced their interest in rural veterinary medicine (Villarroel, et al., 2010), without any discussion or justification. This implies that, at least among veterinary professionals, Herriot is seen as a common, if not ubiquitous influence on members of the profession, especially in rural practice.

James Herriot’s work was also considered an obvious choice for inclusion in a “Veterinary Medicine in Literature” course in an American veterinary college, and the assumption was made that most, if not all the students in the class would have encountered his work previously:

“One might assume that students would have read Herriot earlier in their lives and conclude that revisiting these stories would be of little value. Instead, regardless of what they had read previously, students came to these stories with a sense of discovery and a unique connection with the young, reflective veterinarian… The Herriot stories were frequently cited as the most memorable and affecting readings of the course.” (Stone & Weisert, 2004, p. 1252)

The implication is that James Herriot represents the best of the veterinary profession, and that his stories demonstrate the “very special, and often ambivalent, relationship that
exists between animals and people and the even more complex triangle composed of the animal, its human owner or companion, and the veterinarian” (Loew, 1996, p. 1230).

Finally, Herriot is also represented as a “famous veterinarian” in children’s books about the profession (Maze & Grace, 1997, p. 42). He is used as shorthand for the archetypal veterinarian by other professions, in a similar vein to the fictional Dr. Finlay used to represent the medical profession (Michell, 2005).

**Why is Herriot Such a Compelling Archetype?**

The appeal of the Herriot books and TV series has been discussed academically, not only in the veterinary profession, but also in the wider context of the book-reading and television-viewing public. Sternlicht (1995) argues that the books have been so successful, in part, because they combine “three ancient narratives: the good herder saving his or her animals, the triumph of a healer, and the courtship of a young woman by a young man. The myths of life—saving, healing, and embracing—end in living, just as the myths of death end in dying” (Sternlicht, 1995, p. 25).

Sternlicht (1995) also argues that the books describe a mythic, “simpler order” (p. 20) that he compares to the myth or archetype of Camelot. The description of this world gives the reader a “vicarious participation in the… companionship with our ancestral animal wards without the actual stink and sight of feces and without the absurdity of a description of just what it is like to live in a cow’s body” (p. 22).

This description may describe the appeal of the books as popular literature but does not adequately explain the appeal or influence of the books on young men and women considering a career as a veterinarian, and the kind of veterinary medicine they aspire to practice. Herriot (1983) himself explains that the personal elements of his life,
love and marriage were originally a narrative device, suggested by his publisher, for structuring the veterinary stories that he wanted to record. Although, as Sternlicht (1995) points out, these became an integral part of the stories for many readers, it seems reasonable that the veterinary episodes offer the most appeal to current and potential veterinarians, at least initially. For veterinarians, the appeal of Herriot’s books appear to be that he models the ideals of the profession, demonstrating “that when a veterinarian respects and reinforces the bond between the animal and its owner, a unique bond is created between the client and the veterinarian” (Stone & Weisert, 2004, p. 1252).

Much of the appeal of the books stems from the depth and affection that Herriot demonstrates for his profession, patients and clients, and the way that affection is reciprocated by his clients, and by the readers of his books. However, Herriot also effectively describes both his affinity for and orientation towards the animals he treats, and the fascination and interest he has for the science and medicine that he employs to practice his trade. This too, seems to effectively capture a common combination of characteristics that participants in this study describe as being central to their interest in a career in veterinary medicine: an initial, often very early, connection with and affection for animals; followed by and reinforced by an ability and affinity for science and/or medicine.

Therefore, despite the fact that Herriot was practicing in a very different context to most current veterinary practitioners in North America, he captures some of the characteristics that the veterinary profession has to offer to students, and the influences the participants in this study mention in the context of their professional aspirations. It is likely that the idyllic nature of Herriot’s books introduces many of his readers to the idea
of pursuing a veterinary career. However, only those with the unique combination not
only of an affinity for animals, but also an aptitude for science and medicine and a certain
streak of independence and stubbornness that allows them to overcome the academic
difficulty, and disregard the financial disincentives to the profession, ultimately succeed
in becoming veterinarians.

**Critiquing the Herriot Archetype**

Despite, or maybe because of the influence of the Herriot archetype in veterinary
medicine, there has been much criticism of the way it is used to represent the modern
version of Herriot’s profession. Herriot himself acknowledged that his stories were
largely about an earlier time, when veterinary medicine was considerably more primitive
(Herriot, 1983).

Of course, as Sternlicht (1995) points out, the world that Herriot describes is
idealized by his readers, despite the vivid descriptions of the veterinarian relying on little
more than his wits and resourcefulness to diagnose and treat his patients prior to the
introduction of antibiotics and other modern tools of the trade. Indeed, these descriptions
may actually sentimentalize the hard work of a veterinarian. Herriot (1983) went so far as
to express a sense of yearning for how much fun “those old black magic days [were],
with their exotic medicines reeking of witchcraft” (p. 7).

The concern expressed by veterinary commentators is that although the Herriot
archetype is appealing, and serves to attract students to the profession, it does not
represent the realities of the profession. Those “old black magic days” have been replaced
by a more scientific approach, with new specialties, medicines, and tools of the trade. The
Herriot archetype is also thought to be limiting, as it does not represent the breadth of roles that veterinarians can and should play in society:

Many health professionals (and the public at large) have a stereotypic view of the veterinary profession and are often uninformed regarding the public health positions held by veterinarians. However, the true scope of the art and science of veterinary medicine far exceeds the sagas related in these popular books. The idea of a Herriot-era veterinarian having to contend with malevolent acts of bio- or agroterrorism is an anachronism.

(Hendrix, et al., 2006)

Even in the context of more traditional clinical practice, Herriot’s approach to veterinary medicine is considered anachronistic and outdated, which may be a hazard to the future of the profession:

We have fully embraced the James Herriot image of heroic medicine. Heroic medicine may be popular among pet owners, but public support will fail us if our legislative constituents view the profession as one that serves poodles rather than agriculture, science, and human health.

(Barthold, 2005)

The argument made by these authors, therefore, is that, however appealing Herriot’s tales of veterinary practice in the early 20th Century may be, we need to replace them with more modern versions of veterinary practice, in order to advocate for the profession, and recruit and train future members adequately for the challenges ahead.