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Perceptions of Soring in the Tennessee Walking Horse Industry

A thesis

presented to

the faculty of the Department of Criminal Justice and Criminology

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Master of Arts in Criminal Justice and Criminology

by

Hannah Medford

May 2019

Dustin Osborne, Ph.D., Chair

Bradley Edwards, Ed.D.

Jennifer Pealer, Ph.D.

Chris Rush, Ph.D.

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ABSTRACT

Perceptions of Soring in the Tennessee Walking Horse Industry

by

Hannah Medford

The purpose of this study is to explore the perceptions of soring in the Tennessee Walking Horse industry. Although a limited amount of research has focused on the practice, this is the first known study to utilize a criminological lens to better understand the perceptions and motivations of its use. The study relies upon data collected from Tennessee Walking Horse trainers, event attendees, and Designated Qualified Persons (DQPs), which are analyzed via a mixed-methods approach. Agnew's (1998) theory on the causes of animal abuse serves as the theoretical framework for this analysis. Results provide a moderate amount of support for the theory's extension to the problem. Theoretical and policy implications are discussed, as is a framework by which future researchers can continue to advance knowledge regarding soring in the industry.

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CHAPTER 1

INTRODUCTION

It is estimated that there are currently over seven million horses within the United States (American Horse Council Foundation, 2018). These horses are used for a variety of purposes, including recreation, commercial endeavors (e.g., agricultural operations) and entertainment. Available data indicate that roughly three million are used for recreational purposes such as trail riding, slightly over two million are involved in organized competition (including shows and racing events), 537,000 are in use on agricultural operations, and the remaining 959,000 are used for other purposes (e.g., police work) (American Horse Council Foundation, 2018). In addition, the horse population is comprised of a variety of breeds, including the American Quarter Horse, Thoroughbred, and Tennessee Walking Horse (American Horse Council Foundation, 2018). Overall, new registry memberships for these most common breeds have been on the decline in recent years, due in part to the fact that younger adults (aged 18-34) are increasingly less likely to be horse owners (Kleine, 2014).

In spite of this phenomenon, the industry remains relatively strong overall due to the popularity of horse ownership among other age brackets, with middle-aged females constituting the majority of owners (Kleine, 2014). Specifically, 90.8% of equine industry participants are female, and 61.2% are between the ages of 45 and 62 (Stowe, 2012). These individuals (approximately two million in total) have a variety of motivations for ownership, including riding, breeding, and the utility of some breeds for agricultural purposes (Kleine, 2014). In addition, their activities create the demand for several hundred thousand jobs related to the horse industry, including trainers, event workers, and those that work for stables that house horses.

Recent research has revealed that the horse industry in the United States has a greater economic impact than the tobacco, motion picture and railroad industries combined (Equo, 2017). It employs roughly 700,000 people, and as of 2016, had a \$101.5 billion total impact on the U.S. gross domestic product (GDP) (American Horse Council Foundation, 2018; Equo, 2017). There are many different sectors within the industry, including racing, competition, and recreation. The economic impact of these sectors is relatively uniform, with horse racing accounting for a \$10.6 billion effect on GDP, horse showing a \$10.8 billion effect, and recreational purposes (e.g., riding for pleasure) an \$11.8 billion effect (American Horse Council Foundation, 2018; Equo, 2017).

Because the industry remains large and economically influential, it is important to investigate the actions of those affiliated with it. Unfortunately, owners, trainers, inspectors and those involved in other aspects of the industry have oftentimes been accused of committing acts deemed as abusive toward the animals (Dane, 2011; McLean & McGreevy, 2010; Mizell & Robboy, 1980; Whitcomb, 2012). This is particularly true of the Tennessee Walking Horse industry, as it has been found to promote soring (using chemicals or mechanical means to achieve the desired gait) (Mizell & Robboy, 1980; Whitcomb, 2012). Because of this practice, the industry has been subject to legislation, governmental action, and public rebuke. The current study is designed to further explore the practice of soring via surveying show participants and interviewing Tennessee Walking Horse trainers and inspectors. This chapter provides an introduction to Tennessee Walking Horses and the practice of soring. In addition, it serves to lay the foundation for the study's attempt to better understand the problem.

The Tennessee Walking Horse

The Tennessee Walking Horse is a unique breed of American light horse that originated in Tennessee in the 1800s via the selective breeding of Narragansett Pacers with Canadian Pacers (Mizell & Robboy, 1980). Breeder's initial goals were to create a horse that could easily navigate rough terrains (Menard, Hanks, English, & Jensen, 2010). The Thoroughbred, Standardbred, Morgan, and American Saddlebred would later be added into the line by breeders in order to increase stamina (Menard et al., 2010). What developed from this process was a horse with smooth and easy gaits, leading to the Tennessee Walking Horse becoming a popular breed within the state of Tennessee (Mizell & Robboy, 1980; Kenerson & Moore, 2004).¹ In addition to their smooth gaits, Tennessee Walking Horses became known for their naturally calm and obedient temperament (Menard et al., 2010). Since the 1950s, these horses have been the focus of horse shows in both Tennessee and other states, and the industry has generated millions of dollars in annual revenue (Mizell & Robboy, 1980; Kenerson & Moore, 2004).

Though more current data is not readily available, as of 2004 there were approximately 64,000 Tennessee Walking Horses in Tennessee, making the walking horse the most populous breed in the state (Kenerson & Moore, 2004). Of these, 24,900 were used for pleasure or sport, 15,500 for competition, 14,900 for breeding and 6,700 for other purposes, including agricultural work and rider training (Kenerson & Moore, 2004; Menard et al., 2010). The total value of the breed in Tennessee was estimated to be approximately \$267.4 million (Kenerson & Moore, 2004), which represented over 1/3 of the total value across all breeds at the time (Menard et al., 2010).

¹ In 2000, the Tennessee Walking Horse was declared the official state horse of Tennessee (Hargett, 2018).

A portion of the economic impact of the Tennessee Walking Horse industry is generated by participation in equine competitions (either through entry fees or required goods and services). In Tennessee, there are two primary breed-specific competitions (conducted annually): The International Grand Champion Walking Horse Show in Murfreesboro and the National Tennessee Walking Horse Celebration in Shelbyville. Menard et al. (2010) found that direct expenditures relating to these two events (and others held within the State) approached \$22 million in 2006, with total impacts to the state's economy being estimated at \$45.3 million. In addition, the researchers found that these competitions contributed to the existence of over 300 jobs.

In addition to overall economic impact for state and local economies, there are financial incentives for owners, trainers, and students to participate in equine competitions. Most events provide for a monetary payout attached to winning or performing well in a class or division (Mizell & Robboy, 1980). For example, in 2016, total purse money at the National Tennessee Walking Horse Celebration, the largest show in the State, far exceeded \$100,000 (The Celebration, 2016). Out of the 190 classes open to competitors, winning prize money for each class ranged from \$750 to \$15,000. In 2017, over \$15,000 was awarded to the jackpot winner at the International Grand Champion Walking Horse Show, another major Tennessee Walking Horse competition (International Pleasure and Colt Grand Championship Walking Horse Show, 2018). These large payouts can create pressure for Tennessee Walking Horse owners, trainers and riders to perform well. Unfortunately, this has been found to contribute to the practice of soring in an effort to increase likelihood of winning (Ballard, 2015; Darling, 2000; Mizell & Robboy, 1980).

Soring

The Tennessee Walking Horse possesses three natural gaits: the flat walk, the running walk, and the canter (Mizell & Robboy, 1980). The exaggeration of these natural gaits is known as the “big lick,” and it occurs when the horse reaches high with its front legs, while stepping deep underneath itself with its hind legs (DeHaven, 1999). Though this exaggeration is not required for showing horses, judges at organized competitions have been found to be more likely to award horses exhibiting the “big lick” (Ballard, 2015; Dane, 2011; DeHaven, 1999; Mizell & Robboy, 1980). The “big lick” is a movement that is difficult to achieve, as it may not come naturally to all horses and involves a long, arduous training process. Some trainers have been found to resort to soring methods in order to gain a competitive edge in a shorter amount of time (for horses that are difficult to train). Put differently, soring methods may operate as a shortcut when other methods of training are proved ineffective or time consuming (Dane, 2011).

According to the United States Department of Agriculture’s (USDA) Animal and Plant Health Inspection Services (APHIS) (2016), soring is defined as “the application of any chemical (e.g., mustard oil or diesel fuel), mechanical agent (e.g., overweight chains), or practice (e.g., trimming a hoof to expose the sensitive tissue) inflicted upon any limb of a horse, that can cause or be expected to cause the horse to suffer physical pain or distress when moving” (para. 2). In addition to these techniques, trainers may use “action devices” on horses, referred to as “padding.” These devices include weighted pads or blocks made of various materials, which are glued to the bottom of the front hooves and secured with a metal band (Ballard, 2015). In addition to pads or blocks, weighted chains may be attached around the ankles of the horse. It is important to note that action devices are not currently prohibited by state or federal legislation (Dane, 2011). When used alone, they are not perceived by industry professionals to cause

excessive pain or discomfort. When used in conjunction with soring techniques, however, action devices can exacerbate pain and further exaggerate movements, resulting in the desired “big lick” (American Veterinary Medical Association, n.d.)

The Current Study

The purpose of the current study is to develop a better understanding of the practice of soring within the Tennessee Walking Horse industry. It utilizes Agnew’s (1998) theory of animal abuse as the basis for understanding the motivations behind soring as a training method. This is achieved via collection of interview data from both inspectors and trainers (actively or formerly involved in the industry). In addition, it seeks to understand perceptions of the practice of soring through both the aforementioned interviews and survey data collected from attendees of Tennessee Walking Horse events. Such an approach is important because much of the research to date has focused on the prevalence and economic impact of soring (Dane, 2011; DeHaven, 1999; Kenerson & Moore, 2004; Mizell & Robboy, 1980). The current study fills a gap in the literature by examining the perceptions of both trainers and event attendees, as these have not been well explored.

Chapter Summary

This Chapter began by providing an overview of the horse population within the United States. Despite an overall decline in ownership, the horse industry continues to have a significant effect on national, state, and local economies (American Horse Council Foundation, 2018; Connors et al., 2011; Connors & Furdek, 2014; Equo, 2017; Kenerson & Moore, 2004; Menard et al., 2010; Porca & Byington, 2010). It proceeded to introduce the Tennessee Walking Horse breed and its development, discuss the breed’s impact on Tennessee’s economy, and cover the role of large annual shows in influencing this impact. Additionally, an introduction to abusive

practices (e.g., soring) was provided (Kenerson & Moore, 2004; Menard et al., 2010; Mizell & Robboy, 1980). Finally, the Chapter laid the foundation for the current study by addressing its primary research questions, the application of Agnew's (1998) theory of animal abuse to the problem, and the methods for data collection. Chapter Two is designed to provide a more extensive review of the literature concerning soring, its prevalence, and the motivations for its use. In addition, it will cover Agnew's (1998) theoretical framework and the potential application of it to the problem. Chapter Three discusses the specific research questions to be addressed and the methodology utilized to answer them.

CHAPTER 2

LITERATURE REVIEW

As discussed, the purpose of the current study is to better understand motivations for, and perceptions of, soring in the Tennessee Walking Horse industry. This chapter addresses the practice of soring, the various techniques through which it is achieved, and the methods used by trainers/owners to deceive inspectors. In addition, steps to address the problem, including the Horse Protection Act and inspection process, are covered. Finally, it provides an overview of Agnew's (1998) theory on the causes of animal abuse, with a specific focus on how the theory's core tenets can be applied to the practice and its acceptance within the industry.

Soring

The practice of soring dates to the 1930s, though the popularity of its use began to increase in the early 1950s (Mizell & Robboy, 1980). This was attributable to the quality of the breed improving in the 1930s and 1940s, which led to heightened competition in the show ring (Hart Poe, 2006). The popularity of the "big lick" also became amplified during this time, leading trainers to look for new methods to gain a competitive edge. Due to increased public attention and backlash, the State of Tennessee enacted anti-soring legislation in 1950. However, the legislation was largely ignored by the industry, and even more damning, ultimately unenforced by governmental agencies (DeHaven, 1999). In light of state-level failures to address the problem, the Horse Protection Act (HPA) was passed by Congress in 1970, which will be further discussed later in the Chapter.

As discussed in Chapter One, soring is the practice of causing pain to the limbs of horses using chemical and/or mechanical methods in order to achieve the desired gait. It has been suggested that the reputation of the breed (and associated industry) has suffered because of the

stigma associated with the practice (DeHaven, 1999; Pacelle, 2017). Additionally, because of this stigma, the American Show Horse Association, a group responsible for sanctioning horse competitions, has refused to list the Tennessee Walking Horse as a recognized breed (Darling, 2000). While abusive practices are certainly present in other equine disciplines, soring is perhaps the most blatant demonstration of abuse within the equine industry as a whole (White & Palmer, 2014). As such, it is important to cover the various forms of the practice.

Chemical Soring

Chemical soring is one of the most common techniques and involves the application of caustic chemicals (e.g., diesel fuel, mustard oil, kerosene, etc.) to the lower limbs of horses (American Veterinary Medical Association, 2012). Plastic wrap may then be used to cover the chemicals to “cook” them into the skin for several days. Alternatively, these agents may be injected under the skin (DeHaven, 1999). In addition to causing immediate pain to the application area, chemical techniques may also cause damage to internal organs and the nervous system (Friends of Sound Horses, n.d.).

More recently, chemical soring techniques have been combined with the use of action devices (Humane Society Veterinary Medical Association, 2012). These devices are permitted under the Horse Protection Act, with the provision that only one action device be used per limb and not weigh more than six ounces. With that said, it has been found that horses experience increased pain when even a lightweight action device is used in conjunction with chemical soring methods, as the device rubs against the blistered skin (American Veterinary Medical Association, 2012). In light of this finding, some advocacy groups have proposed that all action devices be prohibited by further amendments to the Horse Protection Act (PAST Act of 2015).

The increasing popularity of chemical soring techniques (throughout the 1900s) triggered a 1988 amendment to the Horse Protection Act creating the scar rule. This rule established that horses with certain types of scarring and/or hair loss on their pasterns (the part of the leg directly above the hoof) were considered to have been sored (53 FR 14778-14782). The amendment was taken seriously by industry participants, as rule violators faced disqualification from organized competition and were subject to official sanctions (Dane, 2011). However, it led to unintended consequences as some trainers transitioned to the use of chemical stripping agents (e.g., salicylic acid) to eliminate scars (via burning) resulting from prior chemical application (American Veterinary Medical Association, 2012; Dane, 2011). Scar removal has been found to be highly painful for affected horses—so severe that it may result in unconsciousness and death in extreme cases (Dane, 2011).

Mechanical and Physical Soring

Another popular technique is mechanical soring, which does not rely on the use of chemical agents. Mechanical soring takes several different forms, including pressure shoeing and physical soring. Pressure shoeing entails trimming the horse's hoof(s) down to the sensitive internal tissue and tightly nailing on a shoe, or forcing a horse to stand on the exposed tissue for long periods of time (Dane, 2011). Hard foreign objects (e.g., nails or screws) may also be inserted between the hoof and the shoe or pad, causing pressure and pain (American Veterinary Medical Association, 2012). Because many Walking Horses bred for competition begin the training process at a very young age (around 14 months), their joints and tendons may be permanently damaged by such methods (Friends of Sound Horses, n.d.).

Physical soring occurs when forcible methods are used to cause laminitis, also known as “founder” (American Veterinary Medical Association, 2012). Laminitis is the painful swelling of

tissues inside the hooves (Hamilton-Fletcher, 2004). Some trainers have been found to intentionally cause laminitis by forcing horses to travel at high speeds on hard surfaces (American Veterinary Medical Association, 2012). The Horse Protection Act also prohibits certain shoeing techniques including the following: excessive weight added to the pad, metal bands placed too high on the hoof, and purposeful shoeing that causes an inappropriate heel to toe ratio (American Veterinary Medical Association, 2012). Utilizing these prohibited shoeing techniques can cause pain in the hooves, resulting in the horse being sore.

Techniques to Mask Soring

Introduction of the scar rule led trainers to develop various techniques to mask the effects of soring in order to deceive show inspectors (American Veterinary Medical Association, 2012). One of the more common techniques involves the application of numbing agents to the horses' legs before inspections, so that a physical reaction is not elicited by touching areas made sensitive by soring (Humane Society of the United States, n.d.). Other trainers have utilized distraction devices to achieve similar outcomes. These are pain causing instruments that distract the horse from the pain felt in hooves or legs. Devices can include (but are not limited to): alligator clips attached to the genitals, surgical staples placed under the mane, and spiked objects placed under the saddle (American Veterinary Medical Association, 2012; Humane Society of the United States, n.d.).

In addition to physical devices and numbing agents, some trainers may “steward,” or train, their horses to not show pain (Sohn, 2012). This involves a “mock” inspection process prior to entry in a show (American Veterinary Medical Association, 2012). During these mock inspections, if horses flinch or otherwise react to pain, trainers may beat the horse or use electric prods as a form of punishment (American Veterinary Medical Association, 2012). The horse

over time becomes more fearful of the pain caused by these punishments than the pain caused by soring methods. As such, they remain calm during the inspection process in spite of the inspector's actions (Humane Society of the United States, n.d.).

Legislative Interventions

As aforementioned, the Horse Protection Act of 1970 is the primary legal method of addressing soring in the industry. While technically covering all breeds, the Horse Protection Act is commonly applied to Tennessee Walking Horses (American Veterinary Medical Association, 2012). It takes a multi-pronged approach to combat soring, including making it unlawful for individuals to show or sell sore horses or utilize prohibited equipment and/or chemicals. It is important to note, however, that the latter applies only to those horses entered into organized shows (Horse Protection Act of 1970). In addition, the Act provides for penalties associated with violating these prohibitions and tasks industry professionals (e.g., organizers of shows and auctions) with properly monitoring compliance (USDA, 2016). Individuals who are convicted of knowingly violating provisions of the Act face a tiered set of penalties. First-time transgressors can face a civil fine of not more than \$3,000 per violation, imprisonment of not more than one year for the first violation, or both (USDA, 2016). Those with prior convictions are eligible for increased penalties, including a fine of not more than \$5,000 per violation, imprisonment of not more than two years, or a combination of the two (USDA, 2016). With that said, the majority of soring cases are addressed only through civil penalties (USDA, 2018b). To date, only one individual has faced criminal sanctions for violations of the Act (U.S. Attorney's Office, 2012).²

² As of 2018, this remains the only case to be processed criminally.

The Inspection Process

The Horse Protection Act (1970) directs show organizers and other industry professionals to actively monitor compliance on the part of owners and trainers. Compliance is most often achieved through the use of certified inspectors at Tennessee Walking Horse events. Two primary classes of inspectors were established by the Act: Veterinary Medical Officers (VMOs) and Designated Qualified Persons (DQPs) (USDA, 2016). VMOs are veterinary doctors employed by the USDA and provided with in-depth training on soring practices and identification. Though they have been found to be effective, VMOs are not widely employed by the industry. For example, in 2017, VMOs were responsible for conducting less than twenty percent of inspections at Tennessee Walking Horse shows and exhibitions (USDA Horse Protection Program, 2017).

DQPs, on the other hand, are widely used and responsible for the majority of inspections each year. The USDA implemented the DQP program in response to a 1976 amendment to the Horse Protection Act and defines these inspectors as “a person who may be appointed and delegated authority by the management of any horse show, exhibition, or auction, to detect or diagnose horses which are sore or to otherwise inspect horses and records to enforce the Horse Protection Act” (para. 1). Unlike VMOs, they are not employed by a governmental agency. In addition, they are not licensed on an individual basis. Rather, they are trained through licensed programs managed by Horse Industry Organizations (HIOs) (USDA, 2016). HIOs are groups that promote horses through showing, sale, and/or registration (77 FR 33607). As of 2017, there are 15 of these organizations operating in the United States (USDA, 2017b). In order to employ and manage DQPs, HIOs are responsible for certifying their training programs with the USDA (USDA, 2018a). It is then the USDA’s responsibility to ensure the DQP programs are in

compliance with regulations outlined in the Horse Protection Act (USDA, 2018a). Competitions and auctions regularly employ HIOs (and their inspectors) to reduce legal liability—if inspections are not conducted on-site, the facility is liable for any violations of the Horse Protection Act that occur (USDA, 2018a).

Some have argued that the inspection process outlined in the Horse Protection Act is flawed, as DQPs are responsible for carrying out the majority of Tennessee Walking Horse inspections (as opposed to VMOs) (Harden, 2010). While some HIOs employ objective DQPs who lack conflicts of interest (in terms of their association with other aspects of the industry), others do not. Harden (2010) posited that a significant number of HIOs employ DQPs with close ties to the performance sector of the industry. Maintaining these ties creates the possibility that inspections will be biased in favor of owners and trainers (Dane, 2011). This hypothesis has been supported by the data, as it has been revealed that the number of violations are on average 15 times higher when VMOs are present at shows (Dane, 2011).³

The Role of Advocacy Groups

In addition to the work of inspectors, animal welfare groups have in recent years emerged as a means of reducing soring in the industry. For example, the Humane Society of the United States (2012) was instrumental in building the first (and only) criminal case processed under the Horse Protection Act. As aforementioned, DQPs are employed by HIOs, some of which are considered advocacy groups promoting sound (i.e., not sored) horses. Friends of Sound Horses (FOSH) serves as the most notable example. FOSH is a non-profit, non-voting member organization whose mission is “to promote all ‘sound,’ naturally gaited horses, with a specific

³ It should be noted that VMOs have access to expensive detection technology, such as thermography, which is not always the case with DQPs. This reality may partially explain the higher rate of violations uncovered by VMOs (Dane, 2011).

emphasis on Tennessee Walking Horses” (FOSH, n.d., para. 1). In addition to operating a USDA certified DQP program, FOSH provides public education on the practice of soring and offers resources for owners and trainers who seek to develop successful horses without relying upon prohibited techniques. In addition, the organization sanctions its own show circuit and operates a judging program specializing in gaited horses (FOSH, n.d., para. 2-3).

Recent Developments

It has been argued that the Horse Protection Act is ineffective in combatting the practice of soring. As such, the Prevent All Soring Tactics (PAST) Act was introduced in 2015 as an attempt to strengthen anti-soring regulations. The bill sought to amend the Horse Protection Act in several ways, including proposing the establishment of a new inspection system, introducing revisions to violation penalties, and improving enforcement practices (PAST Act of 2015). Specifically, the bill sought to require a USDA licensure process for those acting as inspectors and to increase both civil and criminal penalties for owners/trainers found to have used soring tactics. Perhaps more importantly, it proposed classifying the use of action devices as a form of soring, and a full prohibition on all soring techniques (as opposed to only applying to specific events).

The PAST Act of 2015 was introduced to Congress under the Obama administration, and featured bipartisan support in both the House of Representatives and the Senate.⁴ Further, it was endorsed by several industry organizations and participants.⁵ Despite strong legislative, public, and horse industry support, the Act was never passed, due largely to regulatory holds initiated by

⁴ See <https://www.congress.gov/bill/114th-congress/senate-bill/1121/cosponsors> for a complete list of cosponsors and their party affiliation.

⁵ Supporters also included various veterinary associations, law enforcement organizations and celebrity advocates. Refer to https://www.avma.org/Advocacy/National/Congress/Documents/Endorsements_for_the_PAST_Act.pdf for a list of endorsements.

the Trump Administration (Chan & Reilly, 2017). The Act was recently reintroduced with similar support, but its future remains unclear (Kovatch, 2018).

Furthermore, in 2017, the Animal and Plant Health Inspection Services (APHIS) removed reports related to Horse Protection Act violations, inspections, and licensure information from its website (Larkin, 2017). According to an official statement released by the USDA (2017a), this decision was the result of a comprehensive review of the information published on the APHIS website. Specific details of this review were not discussed in the statement, though it was suggested that individuals seeking information should submit Freedom of Information Act (FOIA) requests (USDA, 2017a). In an unofficial statement, an APHIS employee confirmed that the information was removed because of concerns about violating the Privacy Act (Larkin, 2017). Members of various animal welfare advocacy groups condemned this decision, as some believe that the government should be transparent regarding the inspection process (Brulliard, 2017; Larkin, 2017). For example, HSUS challenged the USDA's decision via a federal lawsuit, which is still ongoing as of 2018 (Block, 2018).

Prevalence of Soring

Data regarding the prevalence of soring is largely restricted to information provided by the USDA and relates to the number of violations reported at Tennessee Walking Horse events. Removal of information from the APHIS website (as discussed above) prevents an in-depth understanding of these violations, though previous reports provide some useful estimates. For example, in 2015 the USDA reported a total of 509 soring violations out of 2,003 inspected horses, for a noncompliance rate of 25.4 percent (USDA Horse Program, 2015). The noncompliance rate increased in 2016 (30.3% of the 3044 inspected horses) but dropped significantly in 2017 (8.4%; 1536 horses inspected) (USDA Horse Program, 2016; USDA Horse

Protection Program, 2017). Though these data suggest that the practice may be declining, it is important to note that not every horse entered into competitions is subject to inspection. For example, from 2015-2017 approximately one-quarter (25.4%, 26.8% and 22.9%, respectively) of entered horses were inspected each year (USDA Horse Program, 2015; 2016; 2017). Furthermore, disparities in the inspection process may influence the overall rate of violations. For 2017, only 28 percent of padded horses entered into competition were inspected, though they accounted for 93 percent of all noncompliance cases (USDA Horse Protection Program, 2017). The number of padded horses inspected declined to 23 percent as of June 2018, despite padded horses representing 96 percent of the total noncompliance cases for the year (as of that month) (USDA Horse Protection Program, 2018).

Having discussed the history of soring, the various techniques employed, and data regarding the prevalence of the practice, attention is now turned to understanding the motivations for violators. The research literature suggests that several factors promote the practice of soring (Ballard, 2015; Dane, 2011; Larkin, 2014; Lowrey et al., 2013; Mizell & Robboy, 1980). These exist at both the individual and organizational levels, and encompass characteristics and motivations of trainers, owners and judges.

Individual and Organizational Factors

As aforementioned, those involved in the Tennessee Walking Horse industry are pressured to perform well in competition due to short-term and long-term monetary incentives. Based upon interviews with a small sample of trainers and owners, Mizell and Robboy (1980) posited that the primary cause of soring is the pressure associated with performing well. They argued that this pressure ultimately leads to deviant practices, including soring. Interviewees suggested that the desired “big lick” (oftentimes rewarded by show judges) takes time and

exhaustive training to achieve. Some trainers utilized soring methods to hasten the training process due to pressure from owners (seeking a quick return on their investment) (Dane, 2011). Investments (e.g., cost of the horse, training and entry fees) are typically substantial, prompting this pressure.

Trainers in the Tennessee Walking Horse industry generally receive income from training and boarding fees, sales, and commissions (Mizell & Robboy, 1980). Trainers who do not produce wins are not provided much leeway, meaning that owners may end their contract if results are not achieved quickly (Mizell & Robboy, 1980). Thus, a complex dichotomy exists between trainers and owners: The owner makes the initial investment, and it is up to the trainer to ensure that the investment does not go to waste. In sum, trainers may feel pressured to resort to methods of soring to increase their odds of winning competitions to satisfy the desires of owners.

It has been suggested that show judges also play a role in perpetuating the practice of soring. Both Dane (2011) and Mizell and Robboy (1980) posited that by desiring the “big lick” and awarding sored horses, judges reinforce the actions of violators. In addition, since most judges are also current or former trainers, they have relationships with many (if not most) of the individuals entering horses. Mizell and Robboy (1980) found that trainers and judges regularly converse prior to a competition. During these conversations, trainers may ask judges to “keep an eye on one of her or his horses in a particular class” (Mizell & Robboy, p. 223). In order to maintain professional social bonds, judges may oblige those trainers, regardless of whether the trainer’s horse is sored (Mizell & Robboy, 1980).

Tennessee Walking Horse Event Attendees and Participants

As aforementioned, the use of action devices alone is not prohibited under any current legislation. Mike Inman, CEO of the National Celebration, has stated that these devices “allow the beauty, grace, and performance of [the Tennessee Walking Horse] to be demonstrated in the show ring” (Raia, 2013, para. 7). Some groups, however, have called for their prohibition. For example, in 2012 the United States Equestrian Federation (USEF) banned the use of action devices at licensed competitions (Sneed, 2013). Support has also been echoed by the American Veterinary Medical Association (AMVA) and the American Association of Equine Practitioners (AAEP) (Corp-Minamiji, 2014).

Perhaps some reluctance to increase the enforcement (or enhancement) of the Horse Protection Act is based on the assumption that event attendees come to see the “big lick”, and that increasing enforcement will reduce attendance at shows. Lowrey et al. (2013) tested this assumption by assessing whether participants at Tennessee Walking Horse events were supportive of a ban on action devices. Survey results indicated that 55 percent would continue to attend if a ban was enacted, whereas 21 percent were unsure and 24 percent would stop attending shows (Lowrey et al., 2013). Based upon these findings, it appears that Tennessee Walking Horse event participants are somewhat open to the idea of banning pads and action devices, echoing the calls to action from the USEF, AMVA, and AAEP. Having discussed the practice of soring, motivations for violators, and perceptions of attendees, attention is now turned to the application of criminological theory to the problem.

Animal Abuse and Criminological Theory

Animal abuse of any type has been largely ignored by criminological theorists (Beirne, 2011). With that said, research on the prevalence, characteristics and motivation of such abuse is

ample in other disciplines, including anthropology, pediatric health care, psychology, and forensic pathology (Arluke, 2002; Gerdin & McDonough, 2013; Henry, 2015; Henry & Sanders, 2007; Muscari, 2004). Beirne (2011) speculated that this gap relates to the belief by criminological scholars that nonhuman animals do not play a significant role in society. This sentiment has also been expressed by Taylor and Signal (2008), who covered the historical line of thought that humans are only capable of forming and nourishing meaningful relationships with other humans, not animals. There exists, however, a growing interest (within the field of green criminology) in studying animal abuse through a criminological lens (Stretesky et al., 2014). Via a content analysis of published research, Taylor and Fitzgerald (2018) found that attention paid to animal abuse by green criminologists has been increasing in recent years. What was once a topic ignored within the field is now experiencing greater recognition by notable criminological theorists.

Green Criminology

Beirne (2011) defined green criminology as “a variety of counter-hegemonic perspectives that are concerned not only with the health of the environment but also with that of animals” (p. 353). Since animals exist within the environment, it is only logical that their health also be considered by researchers. Animal abuse is typically considered under one (or a combination) of three ecophilosophical perspectives: anthropocentrism, ecocentrism, and biocentrism (Taylor & Fitzgerald, 2018). Anthropocentrism suggests that humans are the center of all existence, with animals being considered resources available for their use rather than entities who experience pain (McNab, 2002). Ecocentrism similarly neglects the pain experienced by animal populations, though it does provide an increased emphasis on the overall harm done to the environment by human actions (e.g., pollution). To date, both anthropocentrism and ecocentrism have been found

to be the most common perspectives utilized by green criminologists (Taylor & Fitzgerald, 2018).

In contrast to these two approaches, biocentrism operates under the assumption that animals are entities capable of experiencing pain and harm (Rottman, 2014). Several green criminologists have argued that this approach is most worthy of research attention (see Sollund & Brisman, 2017). For example, Beirne (1999) called for the development of nonspeciesist green criminology, believing that animals are protected by criminal law and have the right to avoid pain and suffering under the utilitarian calculus. He further posited that animal abuse should be explored through unique criminological theories, citing the work of Agnew (1998) as a guiding example.

Agnew's (1998) Theory of Animal Abuse

Agnew (1998) employed a social-psychological analysis, in conjunction with leading criminological theories, to explain the causes of animal abuse. His work took a biocentric approach in that it suggested that animals are worthy of moral consideration. However, it also included aspects of the anthropocentric viewpoint, as Agnew (1998) believed that abuse of animals may be correlated with violence against humans (with the same perpetrators committing both forms). This supposition has been supported by the work of other researchers. Lockwood and Arkow (2016) found that violent acts against animals displayed similar dynamics of power and control seen in cases of intimate partner violence, sexual assault, and child abuse. Specifically, assessed data suggested that human victims of blunt force trauma often had fractures in the same locations as animals previously abused by the same offenders. These similarities were noted in other types of injuries as well, including gunshot wounds, asphyxiation, and sexual abuse (Lockwood & Arkow, 2016). Similar results have been seen in

the work of Miller (2001), Fitzgerald, Kalof and Dietz (2009) and Hartman et al. (2018), suggesting that an overlap may indeed exist.

Causes of Animal Abuse

Agnew (1998) presented his theory in two parts: (1) immediate determinants related to individual propensity for abuse, and (2) additional factors that exert both indirect and direct effects. The work utilized a broad definition of animal abuse, including traditional forms and those not previously considered by researchers (e.g., factory farming). In addition, it focused not just on actions, but beliefs conducive to abuse as well. The utilization of such a broad definition and approach was considered beneficial to exploring the generalizability of the theory (Agnew, 1998).

Immediate determinants of abuse. Several immediate (individual-level) determinants of animal abuse were addressed in Agnew's (1998) work, with the first set relating to two forms of individual ignorance. First, he suggested that abusers lack awareness of how their behavior affects the treatment of animals, including participation in activities where animals are the sources of entertainment or education (e.g., zoos and rodeos). Second, he posited that abusers were ignorant of the pain and suffering experienced by animals as a result of abusive behavior. Put differently, some involved in animal abuse may justify their actions by suggesting that animals either feel no pain or have a higher threshold for pain. Agnew (1998) believed that isolation played a key role in each of these types. For example, most individuals are not directly exposed to abusive institutions (e.g., slaughterhouses) and are symbolically isolated from the negative consequences of their actions (e.g., the language and packaging of animal products). In addition, they may be persuaded by assurances of the animals' well-being while they experience abuse.

The effects of ignorance were suggested to be compounded by beliefs that abusive treatment is justified. Four justifications were addressed in Agnew's (1998) work, with the first being that animals are deserving of abuse. Some individuals may believe that animals possess an undesirable trait that makes them more deserving of abuse (e.g., pest-like behaviors). The second justification related to the perception that the abuse serves some higher goal. For example, some may argue that human populations are dependent upon animal products (e.g., meat) for their wellbeing, or that certain forms of abuse (e.g., hunting) are necessary to prevent the overpopulation of various species. Third, Agnew (1998) hypothesized that some may view those who criticize their behavior (such as animal rights activists) as equally guilty of corrupt practices and thoughts, believing that these individuals value the rights of animals more than the rights of humans. As such, they may resist pressure to reconsider their actions. Finally, the theory posited that some may not view abuse as the responsibility of the abuser. They may feel that they have no choice in their actions (i.e., humans are predators, so meat-eating is natural).

The final immediate determinant related to an individual-level cost-benefit analysis, with the hypothesis that offenders perceive that the benefits of abuse outweigh any perceived costs. Agnew (1998) supported this assertion by pointing to the fact that the costs of animal abuse are typically low. Internal costs, like guilt, can be neutralized by the abuser. Likewise, external costs (e.g., formal sanctions) either do not exist or do not pose serious threats. Additionally, animals are usually unable to prevent abuse, which makes them relatively easy targets. This is compounded by the fact that many types of abuse are also deemed socially acceptable, and thus unlikely to be taken seriously by the offender (Agnew, 1998). Finally, abuse can also be a status enhancer (e.g., wearing fur), or provide pleasure (through entertainment purposes) (Agnew, 1998).

Additional factors. The second part of Agnew's (1998) theory addressed additional factors that either directly or indirectly influence the likelihood of animal abuse. Each of these was hypothesized to influence the previously discussed determinants (awareness of abusive consequences, justification of abuse, perceived costs and benefits) at the individual level. The first relates to individual traits, which can include impulsivity, anger, and low self-control. Each of these traits can lead individuals to be less aware of the consequences their abusive actions, less likely to believe animals are worthy of moral consideration, and/or increasingly likely to take advantage of the benefits of abuse. These traits were thought by Agnew (1998) to be a product of socialization early in life. Most individuals are socialized in a way that promotes acceptance of various forms of abuse, as they regularly use or consume animal products without being exposed to the treatment that they receive. With that said, variation does exist, in that some individuals are socialized in ways that openly encourage or discourage animal abuse (Agnew, 1998).

Agnew (1998) further suggested that established criminological theories (strain theory, social control theory) may be utilized to explain various forms of abuse. For example, strain has the propensity to directly and indirectly influence socially unacceptable forms of animal abuse. This strain can either be caused by animals (e.g., a predator threatening livestock) or emerge from other factors or events. Additionally, animals may interfere with economic achievement. Individuals who experience strain may resort to abuse as a coping mechanism or for direct personal benefit, since animals are an easy target for their frustrations (Agnew, 1998).

Though social control has little impact on socially acceptable forms of abuse (e.g., consuming meat), Agnew (1998) posited that it may influence those that are generally considered unacceptable. Hirschi's control theory (1969) viewed social control through bonds to

conventional social groups, such as family members, schools and non-delinquent peers. Attachment to others, commitment to conventional society, involvement in conventional activities, and a belief in obeying conventional rules are all important elements of this bond (Hirschi, 1969). Agnew (1998) extended this work by positing that attachment to companion animals might reduce the prevalence of abuse, though society in general is structured in such a way that limits attachment to these animals.

Finally, Agnew (1998) proposed that characteristics of both the animal and individual may influence abuse and its intensity. Traits of the animal include, but are not limited to, physical appearance and cultural importance. Animals that are “cute” or have significant cultural importance (e.g., bald eagles) are less likely to be targets for abuse, as they are given greater moral consideration. Traits of the individual include gender, age, race, occupation, education, income, and geographic location (Agnew, 1998). Opposition of animal abuse is typically greater among females, as they are considered to be more affectionate and give greater moral consideration toward animals. Young adults, whites, and well-educated individuals are also more likely to be opposed to abuse. This is likely due to socialization. Individuals who are well-educated might be taught to oppose animal abuse and younger individuals have been raised in an environment that gives greater moral consideration to animals (Agnew, 1998). Agnew (1998) cites strain in African American communities as contributing to racial disparities. Having discussed the core tenets of the theory, attention is now turned to extending the work to the problem of soring.

The Current Study

The current study takes a mixed-methods approach in order to develop a better understanding of soring practices within the industry. Interviews were conducted with both

trainers of Tennessee Walking Horses and Designative Qualified Persons (the individuals who are tasked with inspecting horses). In addition, surveys were administered to attendees at Tennessee Walking Horse events. The questions, though differing between the three groups, present the opportunity to both extend our knowledge of the practice of soring and to partially apply Agnew's (1998) theory to the problem.

Recall that Agnew (1998) approached the causes of animal abuse in two parts: immediate determinants that increase an individual's propensity for abusing animals and additional factors that have both direct and indirect effects. Since the work employed a relatively broad definition of abuse, it may be effectively applied to the problem at hand. It is important to discuss this potential application as it relates to each component of the theory, address the research questions that can be answered, and discuss how the proposed methods will allow for doing so. A full summary of the research questions is available in Table 1.

First, Agnew (1998) posited that ignorance was a significant determinant of propensity for animal abuse. This ignorance included lack of awareness of how behavior affects the treatment of animals and ignorance of the pain and suffering experienced by animals as the result of abusive behaviors. Four separate research questions will address the relationship between ignorance and the practice of soring: (Research Question #1) Do trainers perceive soring as a harmful practice, (Research Question #2) are trainers aware of the pain soring causes, (Research Question #3) are owners aware that soring is being used, and (Research Question #7) do event attendees perceive soring as abuse? Though Agnew (1998) focused primarily on the perceptions of individuals committing harmful acts, it is also beneficial to investigate the attitudes of attendees. These individuals, through their presence at shows, help to support the industry. As

such, it is likely that their perceptions are given consideration by industry professionals, making them worthy of exploring in the current research.

Additionally, Agnew (1998) suggested that socialization, empathy and demographic characteristics (e.g., gender, age, and education) had an effect on an individual's opposition toward abuse. It is thus possible that these factors influence the perceptions explored in the first two research questions. Two separate research questions are established to test this assumption. The first explores the potential for characteristics of trainers to influence perceptions of soring (Research Question #4), while the second addresses the characteristics of show attendees (Research Questions #8).

As previously discussed, financial incentives play a significant role in the Tennessee Walking Horse industry. Agnew (1998) posited that abuse is justified through a cost-benefit analysis, wherein the abuser perceives the benefits of abuse (e.g., monetary gain) as outweighing any costs associated with their actions. He also noted that the costs of abuse are generally quite low, both internally (e.g., guilt) and externally (Agnew, 1998). Trainers, owners, and judges may justify soring as a training method through such an analysis. Prize money is typically high for prestigious shows (appealing to trainers), winning horses are more likely to be chosen for breeding stock (appealing to owners), and awarding certain horses may solidify social networks (appealing to judges). Since most forms of soring require little in the way of capital (i.e., the chemicals and/or mechanical devices are relatively cheap to acquire), it is likely that the monetary gain resulting from soring greatly outweighs any costs associated with the practice.

Table 1: *Research Questions*

R1: Do trainers perceive soring as a harmful practice?

R2: Are trainers aware of the pain soring causes?

R3: Are owners aware that soring is being used as a training method?

R4: Do the social position of trainers (gender, age, occupation, region) and other characteristics (empathy, socialization) influence perceptions of soring?

R5: Are trainers motivated by finances and/or status (i.e., prestige associated with performing well) to use soring?

R6: Do trainers perceive the inspection process and punishments associated with being caught as being potential deterrents for using soring methods?

R7: Do event attendees perceive soring as abuse?

R8: Does the social position of attendees (gender, age, education) influence perceptions of soring?

R9: Do DQPs believe they are able to effectively deter soring, and what factors influence or are believed to influence this effectiveness?

The current study addresses the potential for this cost-benefit analysis to play a role in the practice via two research questions. The first (Research Question #5) seeks to determine whether soring is motivated by financial and/or status (i.e., prestige associated with performing well) considerations on the part of trainers. The second (Research Question #6) explores the potential costs of soring by assessing whether trainers perceive the inspection process and punishments associated with being caught as being potential deterrents.

Along those same lines, the study also seeks to gain insight into the views of DQPs regarding the practice of soring and the potential deterrence associated with their presence at shows. Past research (see Dane, 2011; Harden, 2010) has suggested that DQPs maintain close relationships with key participants in the performance sector of the Tennessee Walking Horse

industry. Maintaining these close relationships increases the likelihood that inspections might be biased in favor of owners or trainers. Additionally, data has suggested that violations are on average 15 times higher when VMOs are present at shows (Dane, 2011). As such, the final research question assessed in the current study focuses on whether DQPs perceive that they are able to effectively deter soring, and what factors are believed to influence this effectiveness (Research Question #9).

Chapter Summary

The abusive practice of soring in Tennessee Walking Horses has existed since the breed's inception in the 1930s (Mizell & Robboy, 1980). State-level legislation was enacted to curb the frequency of the practice, but this ultimately had little impact on the problem due to non-enforcement (DeHaven, 1999). As a result, Congress passed the Horse Protection Act in 1970, which, among other things, prohibited the sell or showing of sored horses. The Act led to the employment of both VMOs (employed by the USDA) and DQPs (certified by HIOs) to monitor compliance at Tennessee Walking Horse events (USDA, 2016). Additionally, advocacy groups, such as FOSH, have been instrumental in attempts to combat soring. In spite of these efforts, soring continues to remain a problem in the industry due to the effects of socialization, a lack of deterrence, and the financial incentives in place for trainers and owners (Dane, 2011; Mizell & Robboy, 1980).

This Chapter aimed to review our knowledge of the problem by addressing the different types of soring used by trainers, the prevalence of soring in the industry, and legislative initiatives implemented to combat it. Furthermore, it introduced Agnew's (1998) theoretical framework on how immediate determinants and additional factors influence an individual's propensity for animal abuse. This study seeks to apply this framework to the problem of soring

by utilizing data from trainers, inspectors (DQPs) and event attendees to answer the nine established research questions. The next chapter will discuss the methodology employed to achieve this goal.

CHAPTER 3

DATA AND METHODOLOGY

Chapter Two offered an extensive review of the literature concerning the practice of soring within the Tennessee Walking Horse industry, in addition to introducing Agnew's (1998) theory on the causes of animal abuse. It was determined that a gap in knowledge exists regarding how various actors within the industry perceive the practice of soring. The current Chapter provides an overview of the methods that were utilized to address this knowledge gap. Included is a discussion of the populations explored, sampling techniques, and methodological approach. In addition, the nine research questions introduced in the previous Chapter will be covered, with a specific focus on the measures used to assess them. Finally, it will address the manner (both quantitatively and qualitatively) in which the data will be analyzed.

The study relies upon the use of primary data collected through both interviews (with trainers and inspectors) and survey administration (show attendees). Because these individuals were selected based upon access and willingness to participate, it takes the form of non-experimental design. Though potentially problematic in terms of representativeness and validity, such an approach is still beneficial due to the exploratory nature of the study and the lack of current knowledge regarding the problem.

Target Populations

Three distinct populations and their perceptions regarding the practice of soring were explored in the current study. These include Tennessee Walking Horse event attendees, trainers, and inspectors (DQPs). All individuals, due to issues relating to informed consent, were over the age of eighteen. Furthermore, data collection was not limited geographically and thus included individuals located throughout the United States. Both convenience sampling and snowball

sampling (to be discussed) were utilized to secure participants. The following sections discuss these techniques, in addition to the manner in which data were gathered and analyzed for each group.

Tennessee Walking Horse Trainers

Qualitative interviews were conducted with Tennessee Walking Horse trainers. Trainers were contacted, either via e-mail or telephone, using directories provided by national organizations that make their membership lists available to the public. These organizations included HIOs and boarding or breeding facilities. A recruitment letter was utilized for those contacted via e-mail, while a script (containing similar information) was employed for those contacted via telephone. Individuals who agreed to participate in the study were asked to respond to open-ended interview questions (Appendix A). All interviews were conducted over the phone. In addition to recruiting trainers via the above-mentioned membership directories, a snowball sampling method was employed whereby respondents were asked if they personally know of any other trainers that might be interested in participating in the study.

Due to the sensitive nature of the current research topic, respondents were interviewed about their perceptions and not their lived experience. Because of this, trainers who agreed to participate in the interview ($n = 3$) were not questioned regarding their own use of soring techniques. Instead, respondents were asked questions regarding their perceptions of the practice of soring within the Tennessee Walking Horse industry as a whole (in relation to other trainers). This method was employed to increase the likelihood that respondents would be willing to participate. Because of the sensitive nature (and illegality) of the practice, trainers might be reluctant to participate if questions were related to their own behavior.

Interview guide and hypotheses. Adult (18+) Tennessee Walking Horse trainers who agreed to participate were asked to respond to a series of open-ended questions, 12 of which were utilized to address the associated research questions. The first (Research Question #1) assesses whether *trainers perceive soring as a harmful practice?* The corresponding interview question is: *What is the general perception (among trainers) of those who use soring techniques?* Agnew (1998) suggested that abusers are unaware of how their actions affect the treatment of animals. It seems reasonable, based upon his work, to anticipate that the majority of trainers do not believe that soring is a harmful or abusive practice. This research question is exploratory in nature, as past studies regarding soring have not addressed these perceptions/beliefs. Nonetheless, building upon Agnew's (1998) theory, it is hypothesized that trainers are unaware of the harmful nature of soring.

The second query relating to trainers (Research Question #2) seeks to further explore Agnew's (1998) concept of ignorance by assessing whether *trainers are aware of the pain soring causes?* The corresponding interview question is: *Do you think that those who use soring techniques are aware of the pain experienced by the horse?* Based upon the research literature, it is hypothesized that the majority of trainers are aware of the pain caused by soring (Harden, 2010). One primary method utilized by inspectors looking for signs of soring is a manual exam or "palpation" of the front legs to see if the horse reacts (showing pain) to their prodding (Humane Society of the United States, n.d.). As discussed in Chapter Two, some trainers utilize various pain-masking methods (e.g., numbing agents, distraction devices, or special training known as stewarding) to avoid detection (see American Veterinary Medical Association, 2012; Harden, 2010; Humane Society of the United States, n.d.). If trainers were unaware of the pain

caused by soring, they would arguably be less inclined to implement these methods to avoid detection.

The third research question addresses whether *owners are aware that soring is being used as a training method?* Two separate interview questions are utilized to explore this awareness: *Do you think that owners are aware when soring methods are used? As a follow-up, do you think that some (owners) may pressure trainers to use these methods?* Based upon past research, it is hypothesized that trainers will respond affirmatively to both. Since Tennessee Walking Horse owners have publicly supported efforts to thwart more robust legislative measures related to soring (see Irby, 2018), it can be inferred that they are aware that soring is utilized as a training method. Furthermore, Dane (2011) suggested that some trainers might implement soring as a training method due to pressure from owners.

In addition to the concept of ignorance, Agnew (1998) posited that social position and other characteristics influence perceptions of abuse. As such, this study seeks to explore the relationship between these characteristics and trainers' perceptions of soring via Research Question #4: *Does the social position of trainers (gender, age, occupation, region) and other characteristics (empathy, socialization) influence perceptions of soring?* The corresponding interview questions are as follows: *What factors (in your mind) motivate individuals to use soring? Does socialization play a role? Do you think that trainers who sore their horses differ from those who do not in terms of personal characteristics, such as: level of empathy, gender, age, educational background, geographic location?* The nature of this research question is largely exploratory, as past studies relating to the practice of soring have not addressed these characteristics and their influence. However, based upon Agnew's (1998) work, it is

hypothesized that the themes emerging from trainer responses will support the role of individual characteristics in influencing adoption of soring techniques.

Past research has suggested that monetary goals may share a relationship with a propensity toward abuse within the Tennessee Walking Horse industry (Dane, 2011). As such, this study seeks to further explore how pressures relating to financial success and status influence soring practices. This will be accomplished by assessing, through Research Question #5, whether *trainers are motivated by finances and/or status (i.e., prestige associated with performing well) to use soring?* The corresponding interview questions are: *Do economic pressures (e.g., the prize money associated with performing well) influence decisions regarding soring? Does the status that comes with success motivate soring?* Large prize money payouts associated with competitions can create pressure for Tennessee Walking Horse owners, trainers and riders to perform well. Because of this, trainers might turn to soring techniques to increase the likelihood of winning (Ballard, 2015; Darling, 2000; Mizell & Robboy, 1980). In line with this knowledge, it is hypothesized that both economic concerns and those related to status/prestige will have some influence in the decision-making process.

Finally, this study seeks to explore the deterrent effects associated with current soring prevention measures. This will be accomplished by determining, through Research Question #6, whether *trainers perceive the inspection process and punishments associated with being caught as being potential deterrents for soring methods?* The corresponding interview questions are: *What is the overall perception of the presence and efforts of inspectors at shows? Do you think that the presence of inspectors at shows deters trainers from practicing soring? What is your opinion of the current punishments in place for those who are caught?* Some have argued that the self-policing nature of current soring prevention measures do not operate as a meaningful

deterrent (Animal Welfare Institute, n.d.). For example, Harden (2010) suggested that DQPs responsible for carrying out inspections do not always effectively enforce the law, and in some cases deliberately issue tickets to friends or family members of the responsible individual so that she or he might avoid a violation penalty. Furthermore, others have suggested that the punishment for those found to be in violation of the Horse Protection Act of 1970 is not an effective deterrent, since the majority of punishments are in the form of minor monetary fines and short-term suspension from competition (Cota, 2018; USDA, 2018). In light of these findings, it is hypothesized that the majority of trainers do not view current prevention measures as effective deterrents.

Qualitative analysis. Responses to the aforementioned interview questions were coded and analyzed for common themes, language, and beliefs. The first step in this analysis involved accurately record data emerging from the interviews. Responses were audio recorded, or notes were taken during the interview if the respondent did not consent to the use of a recorder. Once responses were transcribed, the relevant research questions were utilized to create a framework for analysis. Data were then be grouped into themes and subthemes in order to answer the research questions.

Tennessee Walking Horse Event Attendees

The second target population (for which data was gathered) is attendees at Tennessee Walking Horse events. Permission to collect data at event sites was obtained from show coordinators via a recruitment letter. Because gathering this data was dependent upon the willingness of attendees to complete the survey, a convenience sample was employed. Individuals at selected events were approached and asked if they had interest in participating, with those agreeing ($n = 11$) being provided information regarding informed consent and a

written survey (containing no identifying information). In order to ensure a sufficient sample size, the survey was also be distributed via e-mail to a contact list of registered attendees (utilizing information provided by HIOs). Those who agreed to participate ($n = 47$) were asked to complete an online survey hosted by SurveyPlanet. Their inclusion led to a final sample of 58 event attendees.

Survey and measures. The survey document for both groups was identical and contained 15 questions related to demographics, show attendance and perceptions of soring (see Appendix B). Questions were designed to allow for exploration of the two research questions related to attendees. The first (Research Question #7) addressed whether *event attendees perceive soring as abuse?* The corresponding survey question is: *Do you think the practice of soring in Tennessee walking horses is abuse?* Respondents were provided with a dichotomous response option (yes = 0, no = 1). The second research question (Research Question #8) assessed the impact of *the social position of attendees and its influence on perceptions of soring.* The independent measures utilized to explore social position were *gender, age, and education.* Please see Table 2 for a summary of these measures and the provided response options. The nature of these research questions is largely exploratory, since past studies have not explored the relationship between social position of attendees and perceptions of soring. However, based upon Agnew's (1998) work, it is hypothesized that the social position of attendees will have an effect on perceptions of soring.

Analysis. Analyses of the data gained from attendee responses were conducted with the use of IBM's Statistical Package for the Social Sciences (SPSS) and proceeded in three stages. First, descriptive statistics were presented in order to provide an understanding of the distribution of the data. Such an approach allowed for the first research question to be answered via an

assessment of the percentage of attendees who perceive soring as abuse. Stage two explored the correlations that exist between the dependent measure (*perception of soring*) and independent measures (*age, gender, education*) in order to provide an initial understanding of these relationships. The final stage made use of a logistic regression model (due to the dichotomous nature of the dependent variable), which allows for a determination of the impact of each individual factor on *perception of soring*, while controlling for the other predictors.

Table 2: *Independent Variables*

<i>Gender</i>	Male = 0 Female = 1 Other = 2
<i>Age</i>	18-24 = 1 25-34 = 2 35-44 = 3 45-54 = 4 55-64 = 5 65-74 = 6 75 years or older = 7
<i>Education</i>	Less than a high school diploma = 1 High school graduate or the equivalent (such as a GED) = 2 Some college coursework but no degree = 3 Associate degree or the equivalent (such as a technical degree) = 4 Bachelor's degree = 5 Master's degree = 6 Professional degree (e.g., DVM, MD) = 7 Doctorate (e.g., PhD) = 8

Designated Qualified Persons (DQPs)

In addition to adult Tennessee Walking Horse trainers and attendees, this research sought to explore perceptions of Designated Qualified Persons (DQPs). Similar to the approach with

trainers, doing so relied upon interviews with DQPs who agreed to participate via a convenience sampling approach. Current DQPs were contacted, via either e-mail or telephone, through a publicly available directory. A recruitment letter was used for those contacted via e-mail, and a script (containing similar information) was relied upon for those contacted via telephone. Individuals who agreed to participate ($n = 2$) were asked to respond to three open-ended interview questions (Appendix C). These interviews were conducted over the telephone or in person at a location convenient for the participant(s). A snowball sampling method was also utilized for DQPs whereby respondents were asked if they personally know any current or former DQPs who might be interested in participating in the study. As with trainers, respondents were interviewed about their perceptions, but not their lived experience (if applicable).

Interview guide and hypothesis. Adult (18+) DQPs who agreed to participate in the study were asked three open-ended questions. Of these three questions, one was utilized to answer Research Question #9, which assesses whether *DQPs believe they are able to effectively deterring, and what factors influence or are believed to influence this effectiveness?* The corresponding interview question is: *Do you think your efforts/presence at shows significantly deter trainers from participating in soring practices? Why or why not?* As discussed within the review of the literature, data suggest that soring violations are higher when VMOs are present at shows. Several researchers have posited that inspections carried out by DQPs might be biased toward industry connections (Dane, 2011; Harden, 2010). Additionally, it has been suggested that DQPs might ignore certain violations—a result of poor industry self-policing (Corp-Minamiji, 2017). As such, it is hypothesized that the majority of DQPs do not believe that their efforts are effective in deterring soring practices. Since proposed legislation that would increase

anti-soring efforts (e.g., PAST Act) have suggested altering the DQP inspection process, a study on the deterrent effect of DQPs is warranted.

Qualitative analysis. Responses to the abovementioned interview questions were coded and analyzed for common themes, language, and beliefs. The first step in this analysis involved accurately recording data emerging from the interviews. Similar to the approach taken with trainers, responses were audio recorded, or notes were taken during the interview if the respondent did not consent to the use of a recorder. Following transcription, the relevant research question was utilized to create a framework for analysis. Finally, data were grouped into themes and subthemes to allow for a determination of support for the hypothesis.

Chapter Summary

This chapter provided an overview of the research methodology to be used in the current study. It seeks to answer nine separate research questions relating to the applicability of Agnew's (1998) theory of animal abuse to the problem of soring in the Tennessee Walking Horse Industry. Doing so relied upon data gathered from three groups affiliated with the industry: trainers, event attendees and inspectors (DQPs). Both convenience sampling and snowball sampling were utilized to secure participants. Trainers and DQPs were asked to take part in interviews conducted over the phone or in-person. Attendees completed a survey provided at shows or via an online hosting platform. Qualitative data (from trainer and DQP interviews) were analyzed for recurrent themes, language, and beliefs. Quantitative data (from attendee surveys) were statistically analyzed in three stages, including the presentation of descriptive statistics, bivariate correlations, and a logistic regression model. Such an approach allows for a determination of the influence of individual factors (the independent measures) on perceptions of soring (the dependent measure). Attention is now turned to the results of these analyses

CHAPTER 4

RESULTS

This chapter will summarize the results of the quantitative and qualitative analyses designed to answer the established research questions. Qualitative data were analyzed for recurrent language, themes, and beliefs. Quantitative data were analyzed in three stages, including descriptive statistics, bivariate correlations, and a logistic regression model. Descriptive statistics were assessed in order to provide an overview of the data. Next, bivariate correlations were utilized to provide a basic understanding of the relationships between both the dependent and independent measures. Finally, the logistic regression model was employed to test the relevant hypotheses regarding perception of soring and individual characteristics.

Qualitative Analysis

Interviews with trainers and DQPs were analyzed using inductive coding due to the open-ended nature of the interview questions. Narratives were coded independently to uncover any recurrent language, themes, and beliefs and to answer the corresponding research questions previously discussed. The analyses were conducted in a hierarchical manner for both trainers and DQPs, in which subgroups were initially created and various emerging themes were then further defined.

Coding and Analysis of Trainer Responses

Information on the accounts (i.e., ignorance and factors influencing perceptions of soring) from trainer responses was derived from respondent narratives during one-on-one interviews. The interviews were analyzed using inductive and deductive coding. Agnew's (1998) theory on the causes of animal abuse guided deductive analysis in order to determine whether various types of ignorance or individual factors influenced perceptions of soring among Tennessee Walking

Horse trainers. Additionally, understanding that this theoretical framework may not comprehensively cover all responses, inductive analysis was utilized to include accounts that may be expressed throughout the interview process.

In order to answer Research Question 1, trainers were asked about the general perceptions (among trainers) of those who use soring techniques. A summary of the findings can be found in Table 3. Ignorance was the most common theme emerging from these responses. All three trainers reported a lack of awareness among their peers of how training tactics affect animals and/or no empathy for the pain experienced by the abused horses.

Accounts suggested the existence of *mixed groups* in that the general perception of soring varies between different types of trainers. For example, Respondent 1 reported, “For those [trainers] using soring techniques, they think it is not a big deal. For those who don’t, we are appalled, so it is an interesting conundrum.” Respondent 3 offered a similar take, stating that “It depends on what group of trainers you are talking to. If you had a section of Tennessee Walking Horse trainers who only trained big lick horses, especially those who had always trained big lick horses, they would go, ‘well, yeah, it’s bad, but it’s part of the business; it’s just what you do.’ But if you sample those with experience with other breeds, among the flat shod trainers, it’s generally disregarded [sic] from pretty bad to reprehensible.” Based on these responses, the hypothesis that the majority of trainers do not believe that soring is a harmful or abusive practice is partially supported. Put differently, there appears to be a dichotomy in terms of perceptions—some trainers are appalled by the practice, but others do not perceive it as an issue.

To answer Research Question 2, respondents were asked if trainers who use soring techniques are aware of the pain the horse experiences. Respondents 1 and 2 believed that trainers who used soring techniques are aware of the pain experienced by the horse, with

Respondent 1 stating, “You can’t see a horse laying in the stall moaning and not know there is a problem.” Respondent 3, however, reported that trainers who utilize soring techniques are unaware of the horse’s pain, stating, “Trainers have argued that horses do not feel pain as humans feel pain. This is a big myth among big lick trainers. They do not understand how sensitive the horse is.” This account represents *Ignorance*, in that trainers are unaware of the pain experienced by horses as the result of abusive behaviors. Based on these responses, the hypothesis that the majority of trainers are aware of pain caused by soring is supported.

In order to answer Research Question 3, respondents were asked if owners are aware that soring is being used as a training method. The accounts of two trainers are supportive of the belief that owners are aware. Respondent 2 stated, “[Owners] are either aware or fooling themselves.” Additionally, these respondents reported that trainers rationalize the continued use of soring methods, as owners utilize certain pressures. For example, Respondent 2 also stated, “Owners will pressure trainers to get results, and the only way these trainers know how is to cheat, and soring is cheating.” Furthermore, Respondent 1 indicated, “Owners will move their horse to someone who will do a little more to make that horse [move] bigger, so the pressure comes from that the horse will be moved to someone who will do that.” Respondent 3 did not believe that owners are aware when soring methods are being used, stating, “I think some don’t know, some don’t want to know, but I think most just don’t know the difference.” This respondent echoed the sentiments of Respondents 1 and 2 regarding pressures from owners, reporting, “There are a few clients who may send horses to a different trainer if soring methods aren’t being used to be competitive.” These responses provide support for the hypothesis that the majority of trainers perceive owners as being aware when soring methods are used and might pressure trainers to use these methods.

To answer Research Question 4, respondents were asked if certain characteristics (i.e., socialization, empathy, gender, age, education, geographic location) influence perceptions of soring. Respondents 1 and 2 did not believe that socialization plays a role in motivating individuals to use soring techniques. They further believed that trainers who use soring methods are less empathetic than those who do not. For example, Respondent 2 stated, “[You’ve] got to be a real jackass to cause pain in an animal just for the fun of it.” Respondents 1 and 3 believed that gender plays a role, in that men are more likely to use soring methods than women, with Respondent 3 stating, “Statistically, if you look at Horse Protection Act violations, they are mostly male. It has been a boys club for a long time.” Additionally, none of the respondents believed that age nor education played a role, while all believed that soring is more common in the South.

The hypothesis that the themes emerging from trainer responses would support the role of individual characteristics in influencing the adoption of soring techniques was partially supported. Specifically, respondents believed that some individual characteristics had an influence, while others did not. As such, the majority of respondents did not believe that socialization, age, nor education influenced the adoption of soring techniques. However, most respondents perceived empathy, gender, and geographical location as influencing factors in the adoption of soring techniques.

In order to answer Research Question 5, respondents were asked if trainers are motivated by finances or prestige to use soring techniques. All three responded affirmatively to this question. According to Respondent 2, for example, “Money is the only thing that plays any role in it.” Additionally, Respondent 1 reported that that the status that comes with success motivates soring because, “With the status, you will make more money.” Based on these responses, the

hypothesis that both economic concerns and those related to status/prestige influences the decision for trainers to utilize soring methods is supported.

Finally, in order to answer Research Question 6, respondents were asked how trainers perceive the inspection process and if the efforts of inspectors or the punishments associated with violations are deterrents for using soring techniques. Respondents 1 and 3 believed that there exist conflicts of interest within the industry regarding DQPs. Respondent 1 stated, “DQPs are part of the industry, so if it’s not the USDA, I don’t see any point.” Furthermore, all respondents reported that the efforts of DQPs do not operate as a deterrent for trainers utilizing soring methods. Specifically, Respondent 1 believed that only inspectors from the USDA operated as a deterrent, while Respondents 2 and 3 reported that trainers will either use masking agents or avoid showing but continue to use soring as a training method outside of competitions. Finally, all respondents believed that punishments from DQPs are ineffective. For example, Respondent 1 stated, “[Punishments] from DQPs are useless; [they are] a slap on the wrist.” Further, Respondent 2 stated that current punishments are, “Worthless.” These responses support the hypothesis that the majority of trainers do not view current prevention measures as effective deterrents.

Table 3: *Trainers Content Coding*

Code category	Description
Ignorance	Lack of awareness of how behavior affects the treatment of animals or ignorance of the pain and suffering experience by animals as the result of abusive behavior.
Mixed groups	Those who sore horses have different perceptions than those who do not sore horses.
Rationalizations	Certain pressures from owners causes trainers who use soring methods to rationalize continuing using those methods.
Lack of understanding	Belief in the myth that animals do not feel pain in the same way humans do.
Factors influencing perceptions of soring	
Socialization	The process of learning soring from others.
Empathy	Varying levels of empathy influences perceptions of soring.
Demographic characteristics	An individual may perceive soring as being more or less acceptable based upon characteristics such as gender, age, educational background, and geographic location.
Cost-benefit analysis	The benefits of soring (money, prestige, status) outweigh any costs (deterrent effect of punishments) associated with the practice.

Coding and Analysis of DQP Responses

As with trainer responses, information on the accounts (i.e., conflict of interest and denial) from DQP responses was derived from respondent narratives during one-on-one interviews. Analysis of DQP responses was conducted in the same manner as analysis for trainer responses, and a summary of the findings can be found in Table 4. DQP responses were utilized to answer Research Question 9, which sought to determine if DQPs are able to effectively deter soring, along with what factors influence or are believed to influence effectiveness.

Table 4: *Designated Qualified Persons Content Coding*

Code category	Description
Deterrent effect of inspection process	The perception that DQPs are either able or unable to effectively deter soring.
Conflict of interest	Relationships within the performance sector of the industry influence the efficacy of attempts to deter soring.
Denial	Soring no longer exists in certain show circuits.

Neither of the respondents believed that DQPs are able to effectively deter trainers from using soring techniques. The two main accounts were *Conflict of interest* and *Denial*, which were equally represented in DQP responses. Respondent 4 stated, “There is a conflict of interest with DQPs. Some DQPs are honest, but judges are trainers. Everyone knows each other.” Furthermore, Respondent 5 stated, “I work with flat shod horses, and those organizations that I work with have been clean for quite a period of time.” In light of these responses, the hypothesis

that the majority of DQPs do not believe that their efforts are effective in deterring soring practices is supported.

Quantitative Analysis

Descriptive Statistics

Quantitative analysis was utilized to answer the remaining research questions focused on event attendees. The first stage in the quantitative analysis involved the calculation of descriptive statistics. These provided an introductory understanding of the distribution of the data and characteristics of the sample. In addition, they allowed for Research Question #7 to be answered: *Do event attendees believe soring to be abuse?* A summary of the findings can be found in Table 5.

Analysis of the data indicated that the majority of event attendees (93.1%) do perceive soring as abuse. In relation to the independent variables, 81% of respondents were female, 55.1% of respondents were between the ages of 45 and 64, and 41.4% of respondents had a bachelor's degree. These sample demographics, though a limiting factor that will be later discussed, are comparable to sample characteristics of the overall equine industry, as discussed by Stowe (2012).

Table 5: *Descriptive Statistics*

Variable	Percentage
Gender	
Male	19.0%
Female	81.0%
Age	
18-24	0.0%
25-34	1.7%
35-44	13.8%
45-54	17.2%
55-64	37.9%
65-74	20.7%
75 years or older	8.6%
Education	
Less than a high school diploma	0.0%
High school graduate or the equivalent (such as a GED)	3.4%
Some college coursework but no degree	6.9%
Associate degree or the equivalent (such as a technical degree)	15.5%
Bachelor's degree	41.4%
Master's degree	25.9%
Professional degree (e.g., DVM, MD)	3.4%
Doctorate (e.g., PhD) ¹⁹	3.4%

Bivariate Correlations

The second stage explored correlations that exist between the dependent measure (*perception of scoring*) and independent measures (*age, gender, education*) to provide an initial understanding of these relationships. A summary of the findings can be found in Table 6. *Gender* ($r = .39$; $p < .01$) shared the strongest relationship with *perception of scoring* among the independent variables (statistically-significant and positive in orientation). Although non-significant, both *age* ($r = .09$; $p > .01$) and *education* ($r = .06$; $p > .01$) shared a positive relationship with the dependent measure. In relation to associations between the independent variables, *age* (r

= -.05; $p > .01$) shared a negative relationship with *gender*, while *education* ($r = .05$; $p > .01$) shared a positive relationship with *age*, though neither emerged as significant at the .05 level.

Table 6: *Bivariate Correlations*

Variable	1	2	3	4
1. Perception of soring	—			
2. Gender	.39**	—		
3. Age	.09	-.05	—	
4. Education	.06	.05	.05	—

** $p < .01$

Logistic Regression Model

The third and final stage of the quantitative analysis made use of a logistic regression model, allowing for a determination of the impact of the independent variables on *perception of soring*, while controlling for one another, and a summary of the findings can be found in Table 7. It assessed the impact of *gender*, *age* and *education* on perception. Though both *age* and *education* featured a positive relationship with the dependent measure, neither showed to be statistically significant. However, *gender* did reveal to be significant in the model. The measure was positive in direction, indicating that females were more likely to perceive soring as abuse. Analysis of the odds-ratio suggested that females were approximately 19 times more likely to perceive soring as an abusive practice than their male counterparts. As such, the hypothesis that the social position of attendees has an effect on perceptions of soring is partially supported. Specifically, gender was found to affect perceptions of soring, but neither age nor education had an effect.

Table 7: Results of the First Logistic Regression Model

Variable	Coefficient	Standard Error	<i>Exp(B)</i>
Gender	2.94	4.25	18.99
Age	.35	.46	1.43
Education	.30	.71	1.34
Constant	-2.21	4.02	.11

The model does not feature good overall fit as determined by the significance of Hosmer-Lemeshow test ($\chi^2 = 15.38$; $p = .031$), which indicates potential problems due to the fact that χ^2 is a measure of how well the dependent variable can be predicted based upon the included independent variables (Hosmer & Lemeshow, 2000; Menard, 2002). One potential option for addressing poor model fit is to explore the potential for interaction terms to improve overall estimation (Jaccard & Turrisi, 2003). The inclusion of interaction terms allows for an understanding of the interaction between each variable along with cumulative effects that exist jointly with other factors (Jaccard & Turrisi, 2003). Because *gender* was the only measure statistically significant, it is beneficial to determine what potential interactive effects it shares with *age* and *education*. Doing so requires the creation of various dummy measures (due to the categorical nature of the three measures). Each of these was inputted into the previously discussed model in order to assess two separate concerns: (1) the potential for improved model fit, and (2) whether the interaction terms showed to be significant.

This second logistic regression model featured good overall fit as determined by the non-significance of Hosmer-Lemeshow test ($\chi^2 = 5.48$; $p = .48$). However, no variables were significant in relation to *perception of scoring*, despite the direction of the relationships remaining the same. Overall, the exploratory analysis utilizing interaction terms revealed no improved

understanding of possible interactions between gender and age or education. As such, the initial model was deemed most suitable, though limitations associated with model fit merit caution when interpreting its results.

Chapter Summary

The current study sought to assess whether Agnew's (1998) theory on the causes of animal abuse could be utilized to explore Tennessee Walking Horse industry participants' perceptions of the practice of soring. This was accomplished through conducting a series of analyses utilizing primary data. These analyses included exploring common themes, language, and beliefs in qualitative responses, and reliance upon the presentation of descriptive statistics, bivariate correlations and a logistic regression model for the quantitative data. .

Results of the qualitative analyses indicated that ignorance, socialization, empathy, demographic characteristics, and a cost-benefit analysis were common themes among trainer responses regarding the practice of soring. Additionally, the majority of DQPs did not believe that they are able to effectively deter soring. The most common themes emerging from DQP responses included conflict of interest and denial. These responses were utilized to gain a better understanding of several hypotheses within the current study and provided either complete or partial support to each. This indicates that the theoretical framework appears to at least partially explain these perceptions.

Result from the quantitative analyses indicated that females are more likely to perceive soring as an abusive practice. However, neither gender nor age emerged as statistically significant predictors. Results from the initial logistic regression model indicated poor overall fit. Because of this, interaction terms were introduced to better explore potential multiplicative effects among the independent measures. Ultimately, this exploratory analysis did not yield a

better understanding of these relationships. With that said, results were at least partially supportive of the use of Agnew's (1998) theory to explore perceptions of soring.

Having provided an overview of results from the various analyses, attention is now turned to placing them within context. The following chapter will provide a more thorough discussion of these findings and discuss how well they align with prior research in the areas of both soring and animal abuse in general. In addition, theoretical implications, limitations, and guidelines for future research on the topic will be covered.

CHAPTER 5

DISCUSSION

Introduction

This study sought to explore perceptions of soring within the Tennessee Walking Horse industry, a topic not well researched to date. Specifically, it sought to answer an established set of research questions through primary data gathered from trainers, inspectors (DQPs) and event attendees. These questions were largely based upon the core tenets of Agnew's (1998) theory of animal abuse and endeavored to determine whether the framework could be useful in explaining motivations for, and acceptance of, soring practices. Results were for the most part supportive of this extension and the established hypotheses. This Chapter will serve to discuss those findings, in addition to covering study limitations and directions for future research.

As discussed, soring is the abusive practice of applying chemicals or using mechanical methods on the limbs of horses in order to achieve gaits sought after in equine competition (USDA APHIS, 2016). The origin of soring can be traced to the 1930s, but its use did not gain popularity until the early 1950s (Mizell & Robboy, 1980). This increase in popularity was the result of the breed's quality improving, which led to increased competition in the show ring (Hart Poe, 2006). Concern regarding the practice led to the passage of the Horse Protection Act in 1970, which made it unlawful for individuals to sell or use sored horses in competition, in addition to prohibiting certain chemicals or equipment used for soring (Horse Protection Act of 1970). It further outlined an inspection process for uncovering soring violations, including the utilization of both VMOs and DQPs (USDA, 2016). While VMOs have been found to be more effective in uncovering violations, DQPs carry out the majority of inspections (Harden, 2010; USDA Horse Protection Program, 2017).

Despite the existence of both civil and criminal penalties for uncovered violations, soring remains a significant problem within the Tennessee Walking Horse Industry. Though understudied in comparison to other forms of animal abuse, past research suggests that several factors promote its practice, including the motivations of trainers, owners and judges (Ballard, 2015; Dane, 2011; Larkin, 2014; Lowrey et al., 2013; Mizell & Robboy, 1980). While these studies have been beneficial to our understanding of the problem, all have approached the issue outside of the field of criminology. The current study sought to fill this gap in the literature by assessing whether Agnew's (1998) theory of animal abuse features applicability to the problem. Agnew's (1998) work was presented in two parts: (1) immediate determinants related to individual propensity for abuse, and (2) additional factors that have both direct and indirect effects. Immediate determinants include ignorance regarding pain experienced by animals and a cost-benefit analysis whereby individuals justify abuse by referencing economic concerns. Additional factors encompass socialization and empathy, along with individual characteristics such as age, gender, and education (Agnew, 1998). The current study extended these assumptions to the problem of soring via surveys and interviews (designed to assess the viability of the core tenets in explaining soring use and acceptance) with trainers, inspectors (DQPs) and attendees associated with the Tennessee Walking Horse Industry. Attention is now turned to a discussion of the findings presented in the previous chapter.

Findings

Trainers

Interview results indicated that there may exist a lack of awareness of how training methods affect Tennessee Walking Horses and the pain experienced by the animal as the result of abusive methods. This provides support for Agnew's (1998) theory (and the study

hypotheses), as he posited that ignorance is a significant determinant of propensity for animal abuse. The theory also suggests that some abusers might justify their actions by suggesting that animals either feel no pain or have a higher threshold for pain, a suggestion echoed by trainer responses. As such, the hypothesis that many trainers are unaware of the harmful nature of soring is supported. With that said, somewhat mixed results were obtained for the prediction that the majority of trainers are aware of the pain experienced by horses. Interviewees indicated that those who use soring do not perceive it as causing significant pain, while those who oppose it hold the opposite belief.

Trainers were also asked whether they believed that owners are aware that soring is being used as a training method. Responses provided support for the hypothesis that the majority of trainers perceive owners as being aware, and that in fact some might pressure trainers to use these methods in order to achieve improved performance. This finding is in line with previous research on the topic, as Dane (2011) suggested that some trainers might be pressured by owners to implement soring as a training method. As such, the current work offers further support for the role that owners play in perpetuating the reliance on harmful methods within the industry.

In addition to a focus on ignorance, Agnew (1998) posited that individuals participating in abuse take part in some variation of a cost-benefit analysis, with offenders believing that the benefits of abuse outweigh perceived costs. This was addressed in the current study by seeking to determine if trainers are motivated by finances or prestige when employing soring techniques. All respondents responded affirmatively to this question, suggesting that trainers perceive the benefits (finances or prestige) as outweighing the costs (official sanctions) of being caught. These accounts are supportive of Agnew's (1998) conceptualization, and furthermore in line

with past research suggesting that the primary cause of soring is the pressure associated with performing well (Mizell & Robboy, 1980).

Agnew (1998) further suggested that individuals with less empathy, males and those residing in rural areas are all more likely to take part in (and rationalize) abusive actions toward animals. This was explored in the current work by assessing whether trainers believed that these characteristics played a role in the adoption of soring as a training method. The majority of respondents believed that trainers who use these methods are in fact less empathetic than those who do not. Additionally, they perceived males as being more likely to participate in soring than their female peers. Finally, the majority reported soring being more common in the South. Each of these findings is supportive of the generalizability of Agnew's (1998) work to the problem.

Agnew's (1998) theory also suggested that socialization, age, and education play a role in an individual's propensity for abuse. Ultimately, these sentiments were not supported in the current work (contrary to the study hypotheses), as the majority of respondents did not believe these factors to play a role in an individual's decision to implement soring as a training method. It is possible that financial incentives and a lack of deterrence are simply more impactful, as has been found in prior studies (Ballard, 2015; Darling, 2000; Mizell & Robboy, 1980).

The final research question associated with trainers focused on whether they perceived the current DQP inspection process as ineffective due to conflicts of interest within the industry. It was hypothesized that the majority of trainers do not view prevention measures as effective deterrents, in line with past studies suggesting flaws in the inspection process outlined by the Horse Protection Act. These works have found that some HIOs may employ DQPs with close ties to the performance sector of the industry, creating a conflict of interest that serves to bias their decision-making (Dane, 2011; Harden, 2010). This notion was supported in the current

work, as the majority of trainers indicated that inspectors may experience difficulty in remaining impartial. They further stated that the punishments associated with being caught are trivial in nature, effectively removing any deterrent for current and future offenders.

DQPs

In relation to DQPs, the study sought to determine whether those interviewed felt that inspectors are able to deter soring, in addition to the factors that would influence this effectiveness. The most common themes emerging from their responses were *conflict of interest* and *denial*. Aligning with trainer responses, DQPs did not view the inspection process as a deterrent. This was perceived to be the result of conflicts of interest within the field, which is supportive of past research (Dane, 2011; Harden, 2010). Other statements suggested that soring no longer exists in certain show circuits (e.g., flat shod circuits). This is in line with Agnew's (1998) theory, as he believed that some might justify or excuse abusive behavior by denying or minimizing responsibility for it. Specifically, Agnew (1998) stated, "[...] many believe that their role in abuse is small, perhaps inconsequential" p. 190. It is possible that denials of problem existence may in fact be the result of an attempt to lessen potential culpability for it. The limited number of respondents (n=2), however, renders it difficult to determine whether this is truly the case.

Event Attendees

As discussed, responses from event attendees were analyzed in three parts, including the presentation of descriptive statistics, bivariate correlations, and a logistic regression model. This analysis sought to determine whether support existed for the various hypotheses related to the group. Calculation of the descriptive statistics indicated that most Tennessee Walking Horse event attendees (93.1%) perceive soring as an abusive practice, in line with the study prediction.

Results from the logistic regression model revealed that females were approximately 19 times more likely to perceive the practice of soring as abuse than their male counterparts. Based upon these results, the hypothesis that the social position of attendees has an effect on perceptions of soring was partially supported—gender was found to affect these perceptions, but neither age nor education had an effect.

While past research has not attempted to explore the relationship between these factors (e.g., gender, age, and education) and perception, findings are to a degree in line with Agnew's (1998) theory. As discussed, Agnew (1998) believed that opposition toward animal abuse was greater among females. However, Agnew (1998) also suggested that age and education shared a relationship with one's propensity for abuse. Specifically, he posited that younger, well-educated individuals had greater opposition to it. This was not supported by the findings of the study, perhaps due in part to the fact that Agnew (1998) believed these factors (age and education) were associated with differences in socialization. Recall, however, that trainers did not report socialization playing a role in the adoption of soring techniques, which may be useful in interpreting these results. Having discussed the findings of the study, attention is now turned to discussing potential theoretical and policy implications.

Theoretical and Policy Implications

The results of the current study advance criminological theory in two key ways. First, they promote the extension of criminological theory to the problem of soring in the Tennessee Walking Horse industry. Though soring has been characterized as one of the most blatant forms of abuse within the horse industry overall (White & Palmer, 2014), little research has been conducted to better understand its use and acceptance. In addition, studies that have been undertaken have not relied upon theories of human behavior and deviance. The current study's

revelation that Agnew's (1998) theoretical framework may be beneficial to exploring the problem should serve to promote continued use of theory to guide exploration of abuse within the industry.

Despite Agnew (1998) being the first to create a general, integrated theory of animal abuse, there are only a handful of studies testing his core assumptions to date. Further, results are for the most part inconclusive in terms of overall support (see Burchfield, 2016; Green, 2002; Pagani, Robustelli, & Ascione, 2010; Tallichet & Hensley, 2005; Vollum, Buffington-Vollum, & Longmire, 2005). Since the current study did offer support for the theory's generalizability, there is merit in a continued application of the theoretical framework in exploring the causes of a variety of forms of animal abuse.

Policy implications emerge from the findings as well. As previously discussed, analysis of DQP responses did not support their role as an effective deterrent. This sentiment was echoed in trainer narratives. In light of this finding, it is suggested that efforts to introduce the Prevent All Soring Tactics (PAST) Act are continued. Recall that the PAST Act was introduced to Congress in 2015 and sought to amend the Horse Protection Act by establishing a new inspection system, introducing revisions to violation penalties, and improving enforcement practices. Despite strong support, the future of the Act remains unclear due to regulatory holds (Chan & Reilly, 2017). Because it would serve to overcome some of the limitations revealed in the current work, a continued push for passage is warranted.

Finally, results call for potential changes in judging criteria. Recall that research has suggested conflicts of interest exist between judges and trainers (Dane, 2011; Mizell & Robboy, 1980). The current study revealed that trainers are motivated by the financial status and prestige associated with performing well in equine competitions to use soring as a training method. By

continuing to award sored horses, judges incentivize the use of soring. Therefore, it is suggested that criteria for judging is altered in order to discourage the use of soring. Specific steps may vary, but could include banning action devices, as the majority of Horse Protection Act violations in recent years have been uncovered in padded horses (USDA Horse Protection Program, 2017; 2018).

Limitations

It is important to address the limitations associated with the current work, with the first relating to the size of the samples obtained for trainers, DQPs and event attendees. As aforementioned, the Tennessee Walking Horse is quite populous within the state of Tennessee (Kenerson & Moore, 2004). Because of the breed's overall popularity, and number of individuals involved within the industry, a larger sample size was anticipated for all three groups. However, time constraints due to competitions primarily being held during the summer months created some difficulty in accessing potential participants. Additionally, many individuals contacted for participation were unwilling to take part in the study. This could be due to a variety of reasons, including the aforementioned stigmatization of the breed as the result of soring and the illegal nature of the act. In spite of this concern, the exploratory nature of the study and obtained information on the perceptions of soring among industry participants should still render the findings meaningful.

The sampling methods utilized in the study presented additional limitations. The approach revolved around both convenience and snowball sampling, rather than a more random method. Because of this, the representativeness of the sample could not be guaranteed. It is possible that individuals who chose to participate may be unique in comparison to the typical industry participant. More specifically, these individuals may feature more negative views

regarding the practice than those who chose not to take part. With that said, acquiring a sample inclusive of individuals more sympathetic to soring techniques is virtually impossible due to the stigma associated with this viewpoint. The study's methodology also sought to overcome potential bias by asking how other trainer's perceive and utilize soring techniques, as opposed to focusing upon individual-level actions. The unique placement of those interviewed (and their insider knowledge of the industry) offers some confidence in the validity of the findings.

A final potential limitation relates to the demographic characteristics of sampled event attendees, as 81% of respondents were female. The ability of the employed logistic regression model to accurately model gender as a predictor of soring perception is limited due to a lack of variation in the measure. As such, it is important that the findings are viewed with caution. With that said, past research suggests that over 90% of equine industry participants are female (Stowe, 2012), meaning that the findings may ultimately be generalizable to the larger population of Tennessee Walking Horse event attendees.

Though each of the aforementioned limitations merit caution in interpreting the results of the study, its exploratory nature (and status as the first known attempt to apply criminological theory to the problem) means that implications related to theory and policy should not be dismissed. In addition, future researchers may seek to alter their methodologies to account for these limitations. Attention is now turned to providing a framework that may be utilized to do so.

Future Research

As aforementioned, the primary limitation associated with the current study related to sample size. Ideally, future research should address this by seeking methods to increase participation. Alternatively, they could explore the problem relying upon an ethnographic approach. This would allow researchers to become immersed in the Tennessee Walking Horse

industry in the hopes that meaningful relationships between potential participants and the researcher(s) are formed. Further, and if deception regarding their role is employed, it may allow for an in-depth understanding of those who rely upon soring techniques. It should be noted that ethnographic studies often require a long-term commitment from the researcher(s) (Sangasubana, 2011), making it important that future researchers considering this approach account for its exhaustive nature.

Conclusion

As established, animal abuse is a significant problem within the United States. Though this is generally accepted by members of society, little research has sought to apply criminological theory to an understanding of the problem (Beirne, 2011). Further, no study to date has explored the potential for soring—a common practice within the Tennessee Walking Horse industry—to be explained by such theories. The current study was motivated by this gap in the literature and sought to determine whether Agnew's (1998) theory of abuse was generalizable to the problem. Results obtained from trainers, inspectors (DQPs) and event attendees suggest that it may in fact be beneficial to furthering our understanding of soring motivation and acceptance. This finding should serve to promote continued exploration into both soring and the application of Agnew's (1998) work to abuse within the equine industry as a whole, with the goal of improving policy and deterring future offending.

REFERENCES

- Agnew, R. (1998). The causes of animal abuse: A social-psychological analysis. *Theoretical Criminology*, 2(2), 177-209.
- American Horse Council Foundation. (2018). *2017 economic impact study of the United States horse industry*. Washington, DC: American Horse Council Foundation.
- American Veterinary Medical Association. (n.d.) Use of action devices and performance packages for Tennessee Walking Horses. Retrieved from <https://www.avma.org/KB/Policies/Pages/Use-of-Action-Devices-Performance-Packages-for-Tennessee-Walking-Horses.aspx>.
- American Veterinary Medical Association (AVMA). (2012). *Soring in horses*. Retrieved from http://www.humanesociety.org/sites/default/files/archive/assets/pdfs/horse/soring_in_horses_avma.pdf.
- Animal and Plant Health Inspection Service. (2016, August 9). Horse Protection Act and its administration. Retrieved from https://www.aphis.usda.gov/wcm/connect/aphis_content_library/sa_our_focus/sa_animal_welfare/sa_hpa/ct_hpa_history_and_administration.
- Animal Welfare Institute (n.d.). Prevent All Soring Tactics (PAST) Act. Retrieved from <https://awionline.org/content/prevent-all-soring-tactics-past-act>.
- Arluke, A. (2002). Animal abuse as dirty play. *Symbolic Interaction*, 25(4), 405-430.
- Ballard, L. (2015). The legal tipping point on horse soring, racing, and slaughter. *Kentucky Journal of Equine, Agriculture, & Natural Resources Law*, 7(3), 423-443.
- Beirne, P. (1999). For a nonspeciesist criminology: Animal abuse as an object of study. *Criminology*, 37(1), 117-147.

- Beirne, P. (2011). Animal abuse and criminology: Introduction to a special issue. *Crime Law and Social Change*, 55, 349-357.
- Block, K. (2018, March 21). The HSUS sues USDA for failing to release animal welfare records [Blog post]. Retrieved from <https://blog.humanesociety.org/2018/03/hsus-sues-usda-failing-release-animal-welfare-records-sunshine-law.html>.
- Bulliard, K. (2017, February 3). USDA abruptly purges animal welfare information from its website. *The Washington Post*. Retrieved from https://www.washingtonpost.com/news/animalia/wp/2017/02/03/the-usda-abruptly-removes-animal-welfare-information-from-its-website/?utm_term=.28464720bc51.
- Burchfield, K.B. (2015). The sociology of animal crime: An examination of incidents and arrests in Chicago. *Deviant Behavior*, 37(4), 368-384.
- The Celebration. (2016). *The 78th Annual Tennessee Walking Horse National Celebration*. Shelbyville, TN: The Celebration.
- Chan, M., & Reilly, K. (2017, January 21). Here's everything Donald Trump did during his first day as president. *TIME*. Retrieved from <http://time.com/4641565/donald-trump-president-first-day/>.
- Connors, S.E., Furdek, J.M, Couetil, L., & Preston, G. (2011). The impact of Indiana horse racing on the Indiana economy, a preliminary study. *Journal of Economics and Economic Education Research*, 12(3), 49-54.
- Connors, S.E., & Furdek, J.M. (2014). *Economic impact of the horse racing and breeding industry*. Hammond, IN. Purdue Calumet Equine Program.
- Corp-Minamiji, C. (2014). Dueling legislation a sore spot in horse community: Bills tackle pain

- as training technique. *Vin News Service*. Retrieved from <https://www.vin.com/news/VINNews.aspx?articleId=31504>.
- Corp-Minamiji, C. (2017). USDA issues rule to help wipe out soring: Regulators gird enforcement of ban on controversial horse training tactic. *Vin News Service*. Retrieved from <http://news.vin.com/vinnews.aspx?articleId=43648>.
- Cota, J. (2018, June 8). Will anti-soring legislation finally hit its mark? *American Farriers Journal*. Retrieved from <https://www.americanfarriers.com/blogs/1-from-the-desk-of-afj/post/10291-will-anti-soring-legislation-finally-hit-its-mark>.
- Darling, L. (2000) Legal protection for horses: Care and stewardship or hypocrisy and neglect. *Animal Law*, 6, 105-127.
- Dane, K. (2011). Institutionalized abuse: The soring of Tennessee Walking Horses. *Kentucky Journal of Equine, Agriculture, & Natural Resources Law*, 3(2), 201-219.
- DeHaven, W.R. (1999). The Horse Protection Act—a case study in industry self-regulation. *Journal of the American Veterinary Medical Association*, 216(8), 1250-1253.
- Equo. (2017). The horse industry by the numbers [Blog post]. Retrieved from <https://www.ridewiththequo.com/blog/the-horse-industry-by-the-numbers>.
- 53 FR 14778-14782.
- Fitzgerald, A.J., Kalof, L. & Dietz, T. (2009). Slaughterhouses and increased crime rates: An empirical analysis of the spillover from “The Jungle” into the surrounding community. *Organization and Environment*, 22(2), 158-184.
- Friends of Sound Horses. (n.d.). *Fact sheet on soring & the Horse Protection Act*. Retrieved from <http://www.fosh.info/pdf/soring/FOSHSoringFactSheet3.pdf>.
- Gerdin, J.A., & McDonough, S.P. (2013). Forensic pathology of companion animal abuse and

- neglect. *Veterinary Pathology*, 50(6), 994-1006.
- Green, G.S. (2002). The other criminalities of animal freeze-killers: Support for a generality of deviance. *Society and Animals*, 10(1), 5-30.
- Hamilton-Fletcher, R. (2004). *Veterinary advice on laminitis in horses*. Surrey, UK: Ringpress Books.
- Harden, G.H. (2010). *Animal and Plant Health Inspection Service administration of the Horse Protection Program and the Slaughter Horse Transport Program*. Retrieved from <https://www.usda.gov/oig/webdocs/33601-02-KC.pdf>.
- Hargett, T. (2018). *Tennessee blue book 2017-2018*. Nashville, TN: Tennessee Secretary of State.
- Hartman, C.A., Hageman, T., Williams, J.H., & Ascione, F.R. (2018). Intimate partner violence and animal abuse in an immigrant-rich sample of mother-child dyads recruited from domestic violence programs. *Journal of Interpersonal Violence*, 33(6), 1030-1047.
- Hart Poe, R. (2006, February/March). Into the hurricane: Interview with Don Bell, Director of Operations, National Walking Horse Association. *The Gaited Horse Magazine*.
- Henry, B.C. (2015). Empathy, home environment, and attitudes toward animals in relation to animal abuse. *Anthrozoös*, 19(1), 17-34.
- Henry, B.C., & Sanders, C.E. (2007). Bullying and animal abuse: Is there a connection? *Society and Animals*, 15, 107-126.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.
- Horse Protection Act of 1970, 15 U.S.C. §§ 1821–1831 (2006).
- Hosmer, D.W., Jr., & Lemeshow, S. (1980). *Applied logistic regression* (2nd ed.). New York, NY: Wiley.

- Humane Society of the United States. (2012). Federal Court sentences former Tennessee Walking Horse trainer Jackie McConnell [press release]. Retrieved from <https://www.humanesociety.org/news/federal-court-sentences-former-tennessee-walking-horse-trainer-jackie-mcconnell>.
- Humane Society of the United States. (n.d.). What is soring? Important facts about this cruel abuse. Retrieved from <https://www.humanesociety.org/resources/what-soring>.
- Humane Society Veterinary Medical Association. (2012, June 14). *The painful truth of horse soring*. Retrieved from https://www.hsvma.org/horse_soring#.W-CNTtVKiUk.
- Irby, M. (2018, August 22). Congressional delegation must stand up for Tennessee Walking Horses. *The Tennessean*. Retrieved from <https://www.tennessean.com/story/opinion/2018/08/22/tennessee-walking-horse-needs-more-support-home-state-delegation/1064031002/>.
- Jaccard, J. (2001). *Interaction effects in logistic regression*. Thousand Oaks, CA: Sage.
- Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression*. Thousand Oaks, CA: Sage.
- Kenerson, D., & Moore, J. (2004). *A Tennessee tradition equine 2004*. Nashville, TN: Tennessee Agricultural Statistics.
- Kleine, K. (2014). *Current trends in the horse industry* [PowerPoint slides]. Retrieved from <https://animalagriculture.org/Resources/Documents/Conf%20-%20Symp/Conferences/2015%20Annual%20Conference/Speaker%20Presentations/Equine-Kleine-stateoftheindustry.pdf>.
- Kovatch, K. (2018, June 14). An update on the PAST Act. *Horse Nation*. Retrieved from <http://www.horsenation.com/2018/06/14/an-update-on-the-past-act/>.

- Larkin, M. (2014). A horse industry's change of heart. *Journal of the American Veterinary Medical Association*, 244(8), 883-885.
- Larkin, M. (2017, March 15). APHIS pulls welfare information from website. *AVMA*. Retrieved from <https://www.avma.org/News/JAVMANews/Pages/170401e.aspx>.
- Lockwood, R., & Arkow, P. (2016). Animal abuse and interpersonal violence: The cruelty connection and its implications for veterinary pathology. *Veterinary Psychology*, 53(5), 910-918.
- Lowrey, E.D., Gill, W.W., & Hoffman, R.M. (2013). Demographics and perceptions of Tennessee Walking Horse National Celebration Attendees. *Journal of Equine Veterinary Science*, 33, 381.
- McLean, A.N., & McGreevy, P.D. (2010). Ethical equitation: Capping the price horses pay for human glory. *Journal of Veterinary Behavior*, 5, 203-209.
- McNab, K. (2002). Anthropocentrism: Are humans the centre of existence? *Peace Research*, 34(1), 113-116.
- Menard, R.J., Hanks, K.W., English, B.C., & Jensen, K.L. (2010). *Tennessee's equine industry: Overview and estimated economic impacts*. Knoxville, TN: The University of Tennessee Institute of Agriculture.
- Menard, S. (2002). *Applied logistic regression analysis*. (2nd ed.). Thousand Oaks, CA: Sage.
- Miller, C. (2001). Childhood animal cruelty and interpersonal violence. *Clinical Psychology Review*, 21(5), 735-749.
- Mizell, T.A., & Robboy, H. (1980). Tender feet and high stepping: Soring in the Tennessee walking horse industry. *Deviant Behavior*, 1(2), 217-229.
- Muscari, M. (2004). Juvenile animal abuse: Practice and policy implications for PNPs. *Journal*

of Pediatric Health Care, 18(1), 15-21.

Pacelle, W. (2017, February 16). Trump administration needs to uphold ban on soring. *The*

Tennessean. Retrieved from

<https://www.tennessean.com/story/opinion/2017/02/16/trump-administration-needs-uphold-ban-horse-soring/97599584/>.

Pagani, C., Robustelli, F., & Ascione, F.R. (2010). Investigating animal abuse: Some theoretical and methodological issues. *Anthrozoos*, 23(3), 259-276.

Porca, S., & Byington, J.R. (2010). Economic impact of equestrians on Aiken, South Carolina.

The Sport Journal, 13(1).

Prevent All Soring Tactics (PAST) Act of 2015, S. 1121 (114th).

Raia, P. (2013, January 25). USEF bans action devices for gaited horses. *The Horse*. Retrieved

from <https://thehorse.com/115170/usef-bans-action-devices-for-gaited-horses/>.

Rottman, J. (2014). Breaking down biocentrism: Two distinct forms of moral concern for nature.

Frontiers in Psychology, 5, 1-3.

Sangasubana, N. (2011). How to conduct ethnographic research. *The Qualitative Report*, 16(2),

567-573.

77 FR 33607.

Sneed, K. (2013). When cheaters prosper: A look at abusive horse industry practices on the horse

show circuit. *Kentucky Journal of Equine, Agriculture, & Natural Resources Law*, 6,

253-275.

Sohn, P. (2012). Horse owners could be next in soring prosecutions. *Times Free Press*. Retrieved

from <https://www.timesfreepress.com/news/local/story/2012/sep/23/horse-owners-could-be-next-in-soring/88699/>.

- Sollund, R., & Brisman, A. (2017). Editors' introduction to the Special Issue, "researching environmental harm, doing green criminology". *Critical Criminology*, 25(2), 159-163.
- Stretesky, P., Long, M., & Lynch, M. (2014). *The treadmill of crime: Political economy and green criminology*. New York, NY: Routledge.
- Stowe, C.J. (2012). *Results from 2012 AHP Equine Industry Survey*. Lexington, Kentucky: University of Kentucky Department of Agricultural Economics.
- Tallichet, S.E., & Hensley, C. (2005). Rural and urban differences in the commission of animal cruelty. *International Journal of Offender Therapy and Comparative Criminology*, 46(6), 711-726.
- Taylor, N., & Fitzgerald, A. (2018). Understanding animal (ab)use: Green criminological contributions, missed opportunities and a way forward. *Theoretical Criminology*, 22(3), 402-425.
- Taylor, N., & Signal, T. (2008). Throwing the baby out with the bathwater: Towards a sociology of the human-animal abuse 'link'? *Sociological Research Online*, 13(1), 1-11.
- United States Attorney's Office. (2012, September 18). Jackie McConnell sentenced to serve three years' probation for violations of the Federal Horse Protection Act. Retrieved from <https://archives.fbi.gov/archives/knoxville/press-releases/2012/jackie-mcconnell-sentenced-to-serve-three-years-probation-for-violations-of-the-federal-horse-protection-act>.
- United States Department of Agriculture. (2018a, April 26). *Horse industry organizations and designated qualified persons*. Retrieved from https://www.aphis.usda.gov/aphis/ourfocus/animalwelfare/sa_hpa/ct_hpa_hio_and_dqps.
- United States Department of Agriculture. (2018b). *USDA Horse Protection Act disqualification*

- and civil penalty list*. Retrieved from
https://www.aphis.usda.gov/ies/downloads/disqualification_list.pdf.
- United States Department of Agriculture. (2017a, February 15). *Updates to APHIS' website involving Animal Welfare Act and Horse Protection Act compliance information*.
https://www.aphis.usda.gov/aphis/newsroom/stakeholder-info/sa_by_date/sa-2017/sa-02/awa-hpa-compliance
- United States Department of Agriculture. (2017b, March 6). *List of certified Designated Qualified Person programs*. Retrieved from
https://www.aphis.usda.gov/animal_welfare/hp/downloads/hio/LIST-OF-CERTIFIED-DESIGNATED-QUALIFIED-PERSON-PROGRAMS.pdf.
- United States Department of Agriculture. (2016, October). *Questions and answers: An overview of inspections conducted under the Horse Protection Act for the management of horse shows, exhibitions, sales, and auctions*. Retrieved from
https://www.aphis.usda.gov/publications/animal_welfare/2016/October-2016-HPA-Manager-Inspection-Process-Tech-Note-final-102116.pdf.
- USDA Horse Program. (2015). *FY2015 USDA Horse Program activity report*. Retrieved from
https://www.aphis.usda.gov/animal_welfare/downloads/hp/hp_fy15_annual_report.pdf.
- USDA Horse Program. (2016). *FY2016 Horse Program activity report*. Retrieved from
https://www.aphis.usda.gov/animal_welfare/downloads/hp/FY-2016-Horse-Program-Activity-Report.pdf.
- USDA Horse Program. (2017). *FY2017 Horse Program activity report*. Retrieved from
https://www.aphis.usda.gov/animal_welfare/downloads/hp/FY2017-Horse-Program-Activity-Report.pdf.

- USDA Horse Protection Program. (2018). *FY 2018 Quarter 1 – Quarter 3 (10/10/2017-06/30/18) Horse Industry Organization (HIO) inspection data*. Retrieved from https://www.aphis.usda.gov/animal_welfare/downloads/hp/FY2018_Q1-3_HPA_HIO_Inspection_Data_Summary_Report_Card.pdf.
- USDA Horse Protection Program. (2017). *FY 2017 Horse Industry Organization (HIO) inspection data*. Retrieved from https://www.aphis.usda.gov/animal_welfare/downloads/hp/fy17-hio-inspection-data.pdf.
- Vollum, S., Buffington-Vollum, J., & Longmire, D.R. (2005). Moral disengagement and attitudes about violence toward animals. *Society & Animals, 12*(3), 209-236.
- Whitcomb, R. (2012). Groups urge USDA to crack down on equine soring: HSUS files petition asking for masking of soring to be made a felony offense. *DVM Newsmagazine, 43*(5), 32+.
- White, N.A., & Palmer, S.E. (2014). Therapeutics in sport horse competition: Searching for definition *Equine Veterinary Education, 26*(7), 339-340.

APPENDICES

Appendix A

Interview Guide for Tennessee Walking Horse Trainers

1. How long have you been training Tennessee Walking Horses?
2. Is it your full time occupation?
3. How did you get into the business of training?
4. Approximately how many do you train at a time? How many (in total) have you trained to date?
5. What is the general perception (among trainers) of those who use soring techniques?
6. Do you think that the culture of the industry promotes soring or does it work to limit the practice of it?
7. What percentage of trainers (based upon your understanding) use soring techniques?
8. How do trainers (as a group) feel about the Horse Protection Act and its prohibition of soring?
9. Do you think that those who use soring techniques feel differently (in terms of the Horse Protection Act)?
10. Do you think that owners are aware when soring methods are used? As a follow-up, do you think that some may pressure trainers to use these methods?
11. Do you think that certain techniques of soring are more widely accepted than others? Why?
12. What types/techniques of soring (in your experience) are most common?
13. Based upon what you have seen or heard, has soring increased or decreased over time? Why do you think this is?

14. Do you think that techniques have developed over the years in an attempt to avoid detection?
15. Do you think that those who use soring techniques are aware of the pain experienced by the horse?
16. Do you think that trainers who use soring techniques find ways to justify or rationalize the pain that they cause?
17. What factors (in your mind) motivate individuals to use soring?
 - a. Does socialization play a role?
 - b. Do economic pressures (e.g., the prize money associated with performing well) influence decisions regarding soring?
 - c. Does the status that comes with success motivate soring?
 - d. Do you think that trainers who sore their horses differ from those who do not in terms of personal characteristics, such as:
 - i. Level of empathy?
 - ii. Gender?
 - iii. Age?
 - iv. Educational background?
 - v. Geographic location?
18. In your opinion, do trainers who use soring techniques do so with each horse they train, or out of frustration when approved methods are ineffective?
19. What is the overall perception of the presence and efforts of inspectors at shows?
20. Do you think that the presence of inspectors at shows deters trainers from practicing soring?

21. What is your opinion of the current punishments in place for those who are caught?
22. Do you think that prohibitions against soring (and the resulting presence of inspectors) reduces the quality of shows?
23. In your opinion, are there any steps or alterations that can be taken to improve the inspection process and better deter those who use soring techniques?
24. How do trainers who are not soring their horses respond to the presence of inspectors?

Appendix B

Survey for Tennessee Walking Horse Event Attendees

1. What is your gender?

Male

Female

Other

2. What is your age?

18-24

25-34

35-44

45-54

55-64

65-74

75 years or older

3. What is the highest degree or level of school that you have completed? *If currently enrolled, what is the highest degree you have received to date?*

- Less than a high school diploma
- High school graduate or the equivalent (such as a GED)
- Some college coursework, but no degree
- Associate degree or the equivalent (such as a technical degree)
- Bachelor's degree
- Master's degree
- Professional degree (e.g., DVM, MD)
- Doctorate (e.g., PhD)

4. About how often do you attend equestrian (e.g., horse riding; horse racing) related events each year?

- Less than once per year
- Once per year
- Twice per year
- Three times per year
- Four times per year
- Five or more times per year
- I do not know

5. About how many events featuring Tennessee walking horses do you attend each year?

- Less than once per year
- Once per year
- Twice per year
- Three times per year
- Four times per year
- Five or more times per year
- I do not know

6. Approximately how many years have you been attending events featuring Tennessee walking horses (on a regular basis)?

- Less than 2 years
- 2-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- Over 20 years

7. At what age did you begin attending events featuring Tennessee walking horses (approximately)?

10 or younger

11-17

18-24

25-34

35-44

45-54

55 or older

8. Are you currently involved in any of the following? *Please check all that apply.*

Organizing events featuring Tennessee walking horses

Volunteering at events featuring Tennessee walking horses

Training (or helping to train) Tennessee walking horses

Owning Tennessee walking horses

Leasing (or taking lessons with) Tennessee walking horses

9. Are you familiar with the concept of soring in Tennessee walking horses?

Yes

No

10. How common do you think the practice of soring is among trainers of Tennessee walking horses?

- Very common
- Somewhat common
- Neither common nor uncommon
- Somewhat rare
- Very rare

11. Do you think that the practice of soring in Tennessee walking horses is abuse?

- Yes
- No
- I am unfamiliar with soring

12. Do you think that the practice of soring in Tennessee walking horses should be illegal?

- Yes
- No
- I am unsure
- I am unfamiliar with soring

13. How satisfied are you with current steps to eliminate soring as a training method?

- Very satisfied
- Somewhat satisfied
- Neither satisfied or dissatisfied
- Somewhat dissatisfied
- Very dissatisfied
- I am not familiar with the steps

14. Do you think that steps to eliminate soring (such as inspectors at each event) have reduced the entertainment quality of shows?

- Yes
- No
- Unsure

15. Would you continue to attend Tennessee walking horse related events if the use of artificial aids (pads, blocks, chains, weighted shoes, etc.) were banned?

- Yes
- No
- Not sure

Appendix C

Interview Guide for DQPs

1. What are the most common types of cover-ups (e.g., dye or artificial hair) do you see?
2. Do you think your efforts/presence at shows significantly deter trainers from participating in soring practices? Why or why not?
3. Are there certain tools (e.g., infrared scanners) that make detecting soring easier? If so, do you believe you have adequate access to these types of instruments?

VITA

HANNAH MEDFORD

Education: Haywood Early College, Clyde, NC 2015
B.S. Criminal Justice & Criminology, East Tennessee State University, Johnson City, TN 2017
M.A. Criminal Justice & Criminology, East Tennessee State University, Johnson City, TN 2019

Professional Experience: Graduate Teaching Assistant, Dept. of Criminal Justice & Criminology, East Tennessee State University; Johnson City, TN, 2017-2019

Courses Assisted:
CJCR 1500: Criminal Investigation
CJCR 2540: Criminal Law
CJCR 3000: Statistics in Criminal Justice
CJCR 4670: Race, Gender & Crime
CJCR 4680: Policy & Criminal Research