

The Equine Industry: Competing Beliefs, Changes and Conflicts

By

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Fifty million years ago, the equine is chronicled in the early days of Eohippus, the earliest known horse to man. In the 1400s, Cortez and Christopher Columbus transported the first domestic horses to the Americas. Ancient times supported the use of horses in times of war where the industry began utilizing the horse as a vehicle. Today, the equine industry is strongly steeped in traditions and cultural beliefs that prove consistent to the early rituals. However, within the last few decades, the equine industry has started to see a radical new change to the age-old tradition of horsemanship. This new sub-culture is called natural horsemanship. This movement, as it was called in the beginning, challenged tradition and millions of years of beliefs. Why did some adopt, and others did not? The focus of this study is to define the industry, creating a solid picture of how the change began, why the change was necessary in the eyes of some, and what is the current state of the industry as it stands. In this research, the equine industry will serve as an industry model revealing beliefs and cultural frameworks that can serve as a blueprint

for other industries that may be experiencing changes to an embedded cultural way of doing business.

With proposed change comes conflict. The human stress factor, conflict and personal dedication necessary to change decades of tradition has become a daunting task. Long-standing belief systems are usually embedded in tradition and society's acceptance of the status quo. As humans, we initially will resist as change is difficult and takes effort with responsibility. The literature review will provide solid data supporting this industry adaptation,

Horses have been an integral part of industry and recreation for hundreds of years. A radical change in approach is disrupting areas of the traditional industry. Why are some adopting these changes and others resisting?

and how it has affected many aspects of the industry. Data will also show the existence of opposing forces: natural versus traditional and what that means for those on each side. While this offers innovative opportunities for some, it has also resulted in deeper traction in regulatory bodies, traditional organizations, and professional treatment of the equine. This equine industry analysis will demonstrate a unique glimpse into an industry at the forefront of possible change, whereas for centuries very little change has occurred.

Keywords: Equine, Horses, Hoof Care, Natural Horsemanship, Farrier, Shod, Barefoot, Change, Status Quo

It is commonplace for a business, large corporation, or global industry to see resistance to change when there is cultural stagnation or longevity. The actions involved become belief systems where the lines of what is culture or climate get blurred. The old adages, “If it isn’t broken, don’t fix it.” or “We’ve always done it this way.” are common responses to why people might resist cultural changes. However, those are not adequate reasons. Without proper synthesis of why people resist change of embedded beliefs, strategic business decisions in either adoption or resistance to change might be executed blindly.

Horses have always been an integral aspect of my life. It seemed only fitting to recognize this industry as a unique entity that provides a perfect business model for study. What other industry remains unchanged in most aspects regardless of its purpose? The equine industry has been doing most industry activities the same way regardless of the decade. Passion and culture have been cultivated and passed on as strongly as an Olympic torch. We do things with and to the horse because that is just how it was done. No questions were asked. Then, roughly twenty years ago, the industry started to slowly ask, “Why?”. The entrance of natural horsemanship birthed a society of people who saw the horse differently. Even though many members of the traditional sides thought it would pass, it only grew year to year. An industry based on tradition and culture dating back to the early warriors was now being redefined. This was an exciting business phenomenon. I wanted to learn why some people adopted and why some are resisting.

The Industry

Horses exemplify many aspects of business. The industry is divided into areas of recreation, competition, racing, and spectator activities (AHC, 2018). Within this industry, there are areas of manufacturing, breeding, medical, agriculture, political, and federal activities.

Horses were first brought to America by the early settlers. It was there that horses were introduced into North America. Originally used as an integral

part of the agricultural landscape during the industrial revolution, they are currently being used primarily for recreational purposes. Many horses in the United States are registered by breed for professional purposes such as racing or showing. However, most horses are not being registered, causing the total horse census to be a yearly estimate. In 2018, The American Horse Council Foundation reported that the United States houses an estimate of more than 7.2 million horses furnishing 1.6 million horse enthusiast households, as shown in Table 1 (AHC, 2018).

The equine industry is responsible for \$101.5 billion of the GDP. In a recent industry study conducted by the American Horse Council (2018), it was said that one in four participants in the industry believe that the horse industry is improving. This statement warrants a deeper dive into the beliefs around the term “improving” and “why.” It was also cited that the same number believe it is getting worse. The research concluded that 7.1 million people in the United States are involved in the equine industry as either owners, service providers, employees, or volunteers. Annually, \$38.8 billion is produced through the goods and services of the equine industry. The industry has a \$102 billion economic value due to direct, indirect, and induced spending. Table 2 is a reference to the indirect and added value of each equine sector. According to American Horse Council Foundation (2018) data, 45 states in America have over 20,000 horses residing there, with Texas (1,000,000), California (700,000), and Florida (50,000) having the highest resident numbers. The top ten states receiving the highest horse owner expenditures and racetrack revenue totaling \$31,315,000 are illustrated in Figure 1.

Research Findings

A summary of research findings relating to the equine industry and its regulation are presented in Table 3.

Table 1. Equine Census USA (Adapted from the American Horse Council Foundation 2018 Report) (AHC, 2018)

Horse Data USA	2017
Recreation	3,141,449
Showing	1,227,986
Racing	1,224,482
Work Horses	537,261
Amish Institutionally Owned	156,430
Other	959,227
Total Horses USA	7,246,835

Table 2. Equine Economic Impact (Adapted from the American Horse Council Foundation 2018 Report) (AHC, 2018)

2017 Economic Impact	A. # of Direct Jobs Supported by Sector	B. Direct Value to the National Economy	A & B. Drive Further Added Value to the Economy	A & B. More Jobs from Indirect and Induced Effects
Recreation Sector	162,000	\$7.5 billion	\$10.5 billion	110,000
Competition Sector	241,000	\$11.8 billion	\$16.5 billion	175,000
Racing Sector	241,000	\$15.6 billion	\$21.0 billion	231,000
Working Horse Sector	42,000	\$1.9 billion	\$2.7 billion	28,000
Totals	686,000	\$36.8 billion	\$50.7 billion	544,000

Horse Owners

Horse owners are a breed unto themselves. Research shows that out of all U.S. households, only 1.3% own horses. The data comparison in Table 4 is a quick glance at the changes that are occurring in horse ownership.

It is no surprise that the 60+ range ten years later would reflect a 17% increase. My hypothesis is that the same people in 2005 moved into the higher age range still owning horses. Horses are also living longer. What was considered an old equine at 25 is now reaching into their 30s for most horse owners. Like people, I believe we manage the health of the

equine much better than in earlier years. The 45–59 age range took an 18% dip within the ten-year span. This may be an effect of the financial crisis, although no actual data was given by the American Horse Council Foundation as to why the numbers had decreased.

What is surprising is the area of 18-24(29). With an 11.3% decrease, the age of young riders is diminishing. Qualitative data revealed some trends reflecting that the millennials are not engaging in equine activities as readily as the now mature horse owners. Growing up with television shows such as “The Lone Ranger” and “Mr. Ed,” horses were glorified. Considering that, and the now internet driven youth, I

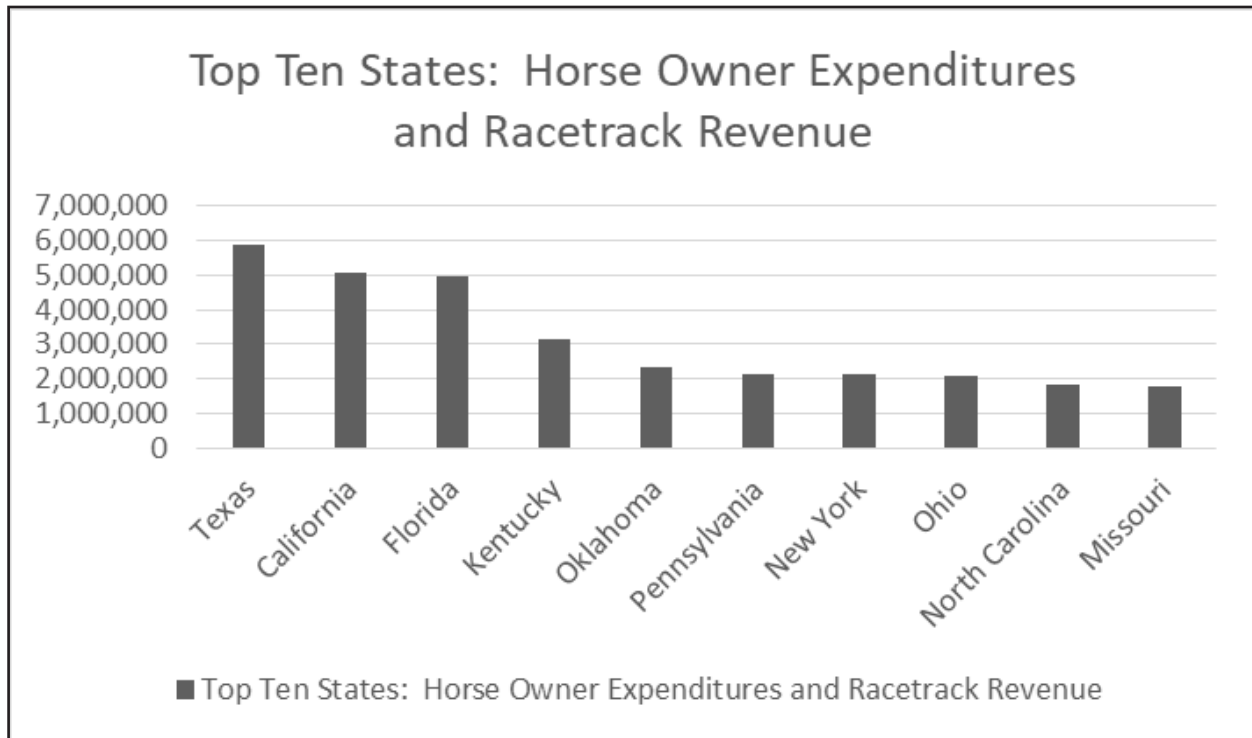


Figure 1. Top Ten States: Horse Owner Expenditures and Racetrack Revenue (Adapted from the American Horse Council Foundation 2018 Report) (AHC, 2018)

Table 3. Findings Relating to the Equine Industry and its Regulation

Source	Findings
American Horse Council Foundation. (AHC, 2005). <i>The Economic Impact of the Horse Industry on the United States.</i>	<ul style="list-style-type: none"> • 9.2 million horses in the USA • \$101.5 billion on America's GDP • \$39 billion: direct economic impact • 460,000 full-time equivalent jobs • 2 million people own horses • 4.6 million involved in the industry, does not include spectators • Top states: Texas, California, and Florida • Racing, showing, and recreation
American Horse Council Foundation. (AHC, 2018). <i>2017 Economic Impact Study of the U.S. Horse Industry.</i>	<ul style="list-style-type: none"> • 7.2 million horses in the USA • \$50 billion to America's GDP • \$122 billion total contribution to U.S. economy • 988,394 jobs to direct employment impact • 38 million households hold a horse enthusiast (30.5%), includes spectators • Top states: Texas, California, and Florida • Recreation, competition, racing sectors • 1.37 million people volunteer their time for horse related activities
Horse Protection Act of 1970. (1970). <i>Title 15 U.S.C. §§1821–1831.</i> An act to prohibit the movement in interstate or foreign commerce of horses which are "sored," and for other purposes.	<ul style="list-style-type: none"> • Equine soring is an act of cruelty that is used to gain a competitive advantage (irritants, blistering, stacks of shoes, chains) • Produces an exaggerated front throwing gait • Began in 1950 with gaited horse • Referred to the "Big Lick" • 4" heel height, 2" toe height, chains, bands, excessive nail use • Supported by AAEP, AVMA and Humane Society of U.S.
American Veterinary Medical Association. AVMA. (2017). <i>Model Veterinary Practice Act - July 2017.</i>	<ul style="list-style-type: none"> • Section 6 – Exemptions • #8. Any person lawfully engaged in the art or Farrier profession • Proposed exemption to farriers • Causing distress in the farrier industry

Table 4. Horse Owners by Age (Adapted Data from American Horse Council Foundation Reports) (2005, 2018)

Horse Owners by Age	2005	Horse Owners by Age	2017
Under 18	No record	Under 18	12%
18-29	16.3%	18-24	5%
30-44	35.4%	25-34	22%
45-59	41.0%	35-44	20%
60+	6.0%	45-59	23%
Not reported	1.3%	60+	18%

would hypothesize that dreaming of mucking stalls to gain time on a horse is not on the top of a millennial or teen's list. It might also be a representation of the racing industry being mature. Owners who have grown up on the track, and being of multiple generations of racing heritage, are now in the 60+ age block and may be representing that spike.

It is not clear why the census did not report on the under 18 owner's blocks in 2005 as that was probably skewed due to parental ownership. It is much clearer and more viable by breaking out the details in the under 18 age range. Marketers would like to know that information as well as impactful trends for the next age bracket.

Among horse owners, a substantial fraction also participates in the equine industry in other capacities. As shown in Table 5, the largest single segment in the market is horse training (20%). Natural horsemanship caters to the professional which may be impacting this number. Farm manager and operator follow a close second (19%). The goods and services sector at a large 23% represents the conglomeration of Equine Assisted Therapy (EAT), boarding, and others. However, 16% participate in horse activities, but do not own a horse, and 13.2% spectate at horse events, but do not own or participate (AHC, 2018). This can skew the participation numbers for those who are non-owners, but contribute to the overall values.

The equine industry is shifting in its attitude to horses and horse ownership. My qualitative data revealed in this research indicates that what is new was once old, and vice versa. There is no evidence that horses perceive us as "honorary horses" or that we can insert ourselves into their social organization (Goodwin, McGreevy, Waran, & McLean, 2009). The simple use of the round pen (circular training pen approximately 50 feet or more) has been a training tool for decades. It allows for the horse to add flight

to his repertoire of responses to humans (Goodwin et al., 2009). The flight response is usually stifled to a controlled conversation.

Industry Regulation

The industrial revolution changed the face of horsemanship. Horses that were once used for travel purposes, agriculture, and heavy labor were basically out of a job. While cars replaced horses, horses became a vehicle for competition. Along with racing, horses were used in the show ring. Competitive showing became a large business and quite competitive among many breeds. Traditional horses (considered non-gaited horses) and gaited horses flock to the show ring for their spectacular athleticism being the highlight of entertainment. The gaited-horse community includes the Tennessee Walking Horse, Standardbred, Paso Fino, Morgan horse, and many others. A gaited-horse is a horse that has a four-beat gait, rather than the traditional three-beat gait. Gaited horses were expected to move effortlessly in gait while providing exaggerated leg movements. Gaiting is an innate ability, although many trainers believe that gaiting is learned or enhanced by humans.

Along with occupational positional changes for the horse since the industrial revolution, equine regulations have also changed. Early changes of 1970 included the Horse Protection Act (HPA). This act protected horses from "soring." The industry began to recognize that horses needed protection from abuse. The illegal act of soring began in the 1950s. According to standard definitions by the act, soring is the practice of applying irritants or blistering agents to the front feet or forelegs of a horse, making it pick its feet up higher in an exaggerated manner that creates the movement of action desired in the show ring (Horse Protection Act of 1970, 1970). According to the HPA, soring is considered an act of animal cruelty that gives practitioners an unfair advantage over

Table 5. Equine Market Segments (Adapted Data from American Horse Council Foundation Report 2018 (AHC, 2018))

Participation in Horse-Related Activities by Owners	% of Owners
Breeding	14%
Blacksmith/Farrier	5%
Carriage Rides	1%
Farm Manager/Operator	19%
Goods/Retailer	4%
Lessons/Instruction	17%
Outfitter/Trail Guide	2%
Horse Trainer	20%
Veterinary	5%
Other Goods and Services	23%

other competitors. However, it was hard to regulate the act through inspectors at the Animal and Plant Health Inspection Service (APHIS), which is part of the USDA. In 1976, there was an amendment to include non-USDA employees. The USDA uses thermographic screening and swabbing techniques to detect soring chemical agents.

“Performance packages” refers to the elevated padded shoe up to four inches thick at the heel, and two inches at the toe, while utilizing up to 16–20 nails, and chains. This obscurely elevated foot, along with the use of two to eight-inch chains was proven to provide thermographic damage from an Auburn University study just after two days of this application. Dr. Ram C. Purohit (1980) submitted this study to the U.S. Department of Agriculture from research completed from September 1978 to December 1982. The soring is usually done by also grinding or carving out the horse’s foot to expose the sensitive tissue or lower the hoof height shorter than the sole. All these techniques were done in the guise of showing the horse. In 2012, the American Veterinary Medical Association (AVMA) along with the American Association of Equine Practitioners (AAEP) further supported the new amendment for further restrictions and regulations. Ironically, the Tennessee Walking Horse Association tried to overturn the regulations of banning these devices, but the lawsuit was fruitless. In 2013, one governing body was created called the Horse Industry Organization (HIO). This was created to protect movement of the act. Finally, in 2017, the USDA passed the law to ban the torture of soring and the performance package. The key with any change to legislation or regulation is the ability to enforce the change.

Though legislation in the equine industry is slow moving, one hot topic that has been of interest to equine practitioners and horse owners is the “Unwanted Horse.” Horses are living longer, well into their late 20s and 30s. Many people are having trouble finding homes for their senior horses and many are being sent to slaughter. The last slaughterhouses closed in 2007. Horse meat is now being shipped to Canada and Mexico with adverse welfare circumstances for the unwanted horses that end up there. Many horses are also being released into the wild or abandoned in remote areas. A survey of 27,000

respondents recorded that 95% perceived that there was an “unwanted horse” problem in the United States (Griffin, 2013). It may not be a reinstatement of the slaughterhouse ruling, but rather a retirement option as a market opportunity for those wishing to extend the life of their senior equine, but do not have the means to keep them. Many unwanted horses are facing cruel and unusual punishments of being elderly, and the economic downturn has not helped in allowing families to keep their equine ward into their silver years. This is a problem for horse owners, particularly amongst the natural sector, found in my qualitative research responses. Solving the senior equine issue, euthanasia, over-breeding, and the slaughter debate are plaguing the industry pushing the legislature to make decisions which may or may not be in the best interest of the horses.

Industry Outlook

The equine industry has no doubt been affected by the financial crisis of 2008 when the housing bubble burst and rippled its effects throughout the United States and abroad. According to the data analysis in Table 6, the competition (showing) portion of the equine industry was hit with the biggest loss from 2005 to today. Down 55%, the competition circuit took the hardest beating, as the cost to travel to the event, entry fees, registration, veterinarian requirements, and training was most likely tough to justify when the market crashed. I would hypothesize that only the most serious competitors waited out the economic downturn by continuing to participate. The second area to feel the effects of the downturn was recreation. Ten years later, down 19% from 2005, it appeared the horse owners were making hard choices as well. The most interesting aspect of this analysis was the racing industry. Between 2005 and 2016, racing has had a tremendous increase in participation. It was a banner year when American Pharaoh won the coveted Triple Crown in 2015, and just three years later, it was won again by Justify in 2018. The industry breathed a sigh of relief since the last winner prior to American Pharaoh was crowned in 1978. In the qualitative data collected, it was stated by a well-known thoroughbred trainer that even though breeding was registered and must be approved to protect the bloodlines, the industry was

Table 6. Horse Data USA (Adapted Data from American Horse Council Reports) (2005, 2018)

Horse Data USA	2005	2017	Change	% Change
Recreation	3,906,923	3,141,449	-765,474	-.19
Competition	2,718,954	1,227,986	-1,490,968	-.55
Racing	844,531	1,224,482	+379,951	+.45
Work, Amish, Other	1,752,439	1,652,918	-99,521	-.06
Total Horses USA	9,222,847	7,246,835	1,976,012	-.21

overbreeding in his opinion. Many trainers went on to state that a future industry goal is to breed more responsibly in smaller amounts and not breed in volume to get that one big winner.

Growth and opportunity have replaced the recently dipping industry since the financial crash of 2008. As with many industries, the industry slowed during the recession. Even though the market suggests that the number of horses owned has declined since the economic downturn in 2008, *American Horse Publications* (Zoetis, 2015) states that in 2015, 70.1% of horse owners own the same amount of horses since the year prior, and 88.6% plan to own the same or more the following year. This outlook is deemed as positive for the equine industry.

Areas of Competing Philosophies

Despite its long history, the equine industry has several areas where significant differences in philosophy and assumptions about horses and their relationship to humans exist. For this study, our focus is the hoof care and horsemanship areas. In hoof care, the dispute relates to the need for, and impact of, horseshoes. In the horsemanship area, the controversy is regarding traditional vs. natural approaches to training and using horses. In both cases, we find a long-standing belief--i.e., the need for horseshoes, how horses must be trained and ridden--being challenged by approaches that can be radically different. For this reason, these are intriguing models that have the potential of increasing our understanding of change processes. We now turn to each of these areas individually.

Hoof Care

For hundreds of years, the hooves of domesticated horses were the purview of the farrier industry. As part of the changes being experienced by the equine industry, a barefoot movement has evolved that could reduce, or potentially eliminate, the role of traditional farriers. In addition, potential hoof care stakeholders include the veterinary industry. These interrelationships are now described, preceded by a brief summary of relevant literature.

Existing Research Findings

Research findings dealing specifically with hoof care and the alternative approaches to it is relatively limited. Some of the highlights are summarized in Table 7.

The Farrier Industry

History of the horseshoe began as early as 430–354 BC in ancient Greece. Although a metal shoe was not used, the inspection and care of the hooves became known through the Greek General Xenophon, specializing in cavalry training and war horses. The first metal shoe attached to the horse's hoof was used by the Romans and called a hippo sandal. This oval metal plate was used throughout Europe, but it was not affixed by nailing. The first nail-on shoe was used by the Celts prior to the Romans by 450 BC. The Celts were ironworkers with advanced skills in metal work and blacksmithing. During the sixteenth and seventeenth centuries, the work of Caesar Fiaschi gained much acclaim due to the extensive treatise of the horse's shoe. Towards the end of the sixteenth century, Carlo Ruini, a senator of Bologna, published an extensive work of the anatomy and diseases, drawing attention to the evils of paring the sole, opening the heels, and shoeing with high calks. He advised that the shoe allows the heels to contact the ground by thinning the shoe in the caudal (rear) region of the foot. This was an important finding for the farrier industry. This was also confirmed by

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Frenchman Jacques Labes-sie de Solleysel with his publication in 1664 of *Le Parfait Marechal* (Hickman & Humphrey, 1988).

During the eighteenth and nineteenth centuries, veterinarian schools were established, creating an enlightenment era of knowledge in relation to

the horse's hoof. This was an era of experimentation, which led to the harmful mistreatment of the horse. In France, the view of Étienne-Guillaume Lafosse was a major contributor to the farrier sciences. It was the first time that the horse's hoof was compared to its wear pattern, including the defining of the hoof structures by function. According to Professor William Russel from his book on scientific horse shoeing (Russell, 1892):

There is no use in mincing matters, for the more one knows about shoeing, the more he knows that the common mode of doing the work is so frequently destructive, that we seldom meet with a horse whose feet have not in some degree lost their natural form, and this deviation from their original shape is generally proportioned to the length of time he has worn shoes.

Horseshoes have changed over the years, but the purpose has always been the same, to protect the horse's hoof on rough terrain and domesticated forces. Horseshoes provided a barrier from weak structures to the ground. In domestication, it was

Table 7. Selected Research Related to Hoof Care

Source	Findings
La Pierre, K. C. (2004) <i>The chosen road, achieving high performance through applied equine podiatry</i> . Dover, DE: Naked Greyhound Press.	<ul style="list-style-type: none"> • Definition of applied equine podiatry • High-Performance Trim Method • Proprietary method to hoof trimming • Horse has the innate ability to heal itself given the proper environment • Structure + Function = Performance • Do no harm • Suspension Theory of Hoof Dynamics
O’Grady, S.E., & Poupard, D.A. (2001) <i>Physiological horseshoeing: An overview</i> . <i>Equine Veterinary Education</i> , 13(6), 330-334.	<ul style="list-style-type: none"> • Traditional hoof balance standards • Reflects the proper rules to farrier profession • Strict adherence to hoof angle, hoof pastern axis, and mediolateral balance • Refers to the Farriers sciences as an art form • Pro traditional farrier
O’Grady, S. E. (2016) <i>Various aspects of barefoot methodology relevant to farriers in equine veterinary practice</i> . <i>Equine Veterinary Education</i> , 28(6), 321-326.	<ul style="list-style-type: none"> • Horseshoeing: This change in interface will invariably have consequences on foot function. • Less heel expansion than the barefoot hoof • Shod trim and barefoot trim are defined as different • Recognize the proponents of the pressure to be barefoot • Agreed palmar heels improved without shoe application
Dyson, S.J., Tranquille, C.A., Collins, S.N., Parkin, T.D.H., & Murray, R.C. (2011) <i>An investigation of the relationships between angles and shapes of the hoof capsule and the distal phalanx</i> . <i>Equine Veterinary Journal</i> , 43(3), 295-301.	<ul style="list-style-type: none"> • Traditional hoof care practices • Previous belief that poor foot confirmation is associated with increased risk of foot-related lameness • Limited scientific evidence about distal phalanx orientation and gross confirmation of the foot • Previous traditional studies used unloaded feet (X- rays) which showed concavity differences to (photographs) of the barefoot • This study recorded no change shod to barefoot
Thirkell, J., & Hyland, R. (2017). <i>A preliminary review of equine hoof management and the client-farrier relationship in the United Kingdom</i> . <i>Journal of Equine Veterinary Science</i> , 59, 88-94.	<ul style="list-style-type: none"> • 387 responses from online survey, shod horses only • 98 responded were omitted due to being barefoot • Client Farrier relationship study • Rise of hoof abnormalities suggesting rise of owner awareness • 98% recorded they would recommend their farrier • 41% said they did not trust their farrier completely

not uncommon for horses to be housed in smaller environments with little to no turnout. The domestication of the horse and man’s desire for excessive performance such as racing, steeple chasing, and triple crown winners has exceeded the usability of the horse’s hoof. The racing industry requires the use of a shoe to participate. The overriding belief is that shoes are necessary in environments that are harsh on the foot because this harshness causes the hoof to wear, which leads to lameness or soreness, thereby causing the horse to be un-rideable/unusable.

The T-Square method in the farrier trade had been around for centuries. The T-Square method was exactly that, a draftsman’s tool that simulated the flat balance of the horse’s hoof. The T-square method used by veterinarians and farriers today has not changed in over 300 years. The bone alignment of the coffin bone (point of articulation) is balanced along the limb and shoulder angle. This method required the farrier to balance the foot while standing under the horse, supporting the foot with your lap, then coming out from under the horse to measure

the shoulder. Alternative trimming methods argue that this also required the horse to be standing with his head perfectly forward and still. Consequently, the shoulder of the horse was not connected by bone, but rather muscle. The suspension of the shoulder to the limb caused an area of conflict for measurement. Also debated was what was being used in the hind limb when there was no shoulder to gauge. Most farriers try to achieve a 48–54-degree angle to the dorsal wall (front) of the hoof and the ground surface. When this was not achieved due to repetitive years of shoeing, the farrier would provide a wedge or prosthesis to build up the forward, underrun heels to achieve the angle. The farriers stand firm in their science, holding tight to the reins that have guided farriers for centuries.

Farrier Regulatory Bodies

Due to alternative thinking that has spurred on, the farrier science began to develop regulatory bodies that would oversee the learning, standards, and protocol of farriers, especially in the United Kingdom and Europe. People in congress and parliament began taking notice of the farrier craft and its importance to the government and tradition.

In the United States, it is not required for a farrier to attain a degree of any sort to practice the farrier trade. Most farrier schools are set up to teach very little anatomy other than the basic hoof

and bone structures. Basic foot function of expansion and contraction is covered, along with gross anatomy of the central nervous system of the equine foot. The standard farrier school is a two-week course that provides a foundation for a part-time practice in the industry. Most of the concentration is on corrective shoeing and forging skills. The farriers become masters in their craft, many engaging in competitions for forging excellence. They do recommend each student complete the eight-week training course if they wish to pursue a full-time practice as a professional farrier. Qualitative data collected in this research from a well-known farrier school in the United States discusses the issue that newer horse-man may not be there for the love of the horse, but rather the attraction of shaping metals. It is very evident that this school and many others are extremely passionate about their craft, take great pride in their work, and rarely consider a day at the forge work.

There are three farrier organizations in the United States that certify farriers. These are the American Association of Professional Farriers (AAPF), the American Farriers Association (AFA), and Brotherhood of Working Farriers (BWFA). These organiza-

tions help to represent the farrier industry through continued education and association with the veterinarian community and professional horse industries. They each provide an exam for “certification” that allows for membership. There has been much debate regarding “certification” and “registration” within the farrier industry. Today, the debate lingers as to whether certification and registration would help or hurt the industry. Many experts in the industry were quoted saying that registration is not enforceable and will prohibit their work. Others feel it would strengthen the industry to mimic the schools in Europe and the United Kingdom. Although the farriers provide a trimming service, their primary purpose is to prepare the horse’s hoof for the application of a horseshoe. Possible definitions of a farrier include the following:

- The definition of a farrier according to Google: a craftsman who trims and shoes horse’s hooves.
- The definition of a farrier according to Merriam-Webster: A person who shoes horses.
- The definition of a farrier according to Wikipedia: A farrier is a specialist in equine hoof

care, including trimming and balancing of horses’ hooves and the placing of shoes on their hooves, if necessary. A farrier combines some blacksmith’s skills (fabricating, adapting, and adjusting metal shoes) with some veterinarian’s skills (knowledge

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of anatomy and physiology of the lower limb) to care for horses’ feet.

- The definition of a farrier according to Farrier’s Registration Council, UK: A farrier as defined by the Farriers (Registration) Act of 1975 as any work in connection with the preparation or treatment of the foot of a horse for the immediate reception of a shoe thereon, the fitting by nailing or otherwise of a shoe to the foot or the finishing off of such work to the foot.

Outside the United States, the regulatory boards are more organized. The governing bodies of the United Kingdom which represent the farrier industry include the Farrier Registration Council (FRC) and the Worshipful Company of Farriers (WCF). Several universities provide training and apprenticeships that are considered one-year programs for the pre-farrier student. Higher examinations are expressed as an Advanced Apprenticeship (AA) which is a four-year program followed by the Diploma of the Worshipful Company of Farriers (Dip WCF), which is an exam and paper. The Associate of Worshipful Company of Farriers (AWCF) is an additional two-year program after becoming a Dip WCF, followed by the Fellow of

the Worshipful Company of Farriers (FWCF) which can only be achieved after a 12-month period following the completion of the AWCF. It is a highly regulated industry with registered farriers currently listed in the United Kingdom. Much pride and history are witnessed throughout the farrier industry in the United Kingdom.

National Vocational Qualifications (NVQ)

The queen's farriers are the choice selections for equine podiatry needs in the United Kingdom. The recent introduction of the barefoot natural movement has stirred the pot and awoken a previously sleeping group. No one has ever challenged the farrier laws or definitions. Currently, the United Kingdom's government (on the farrier profession) is questioning whether non-registered people should be allowed to trim their horse's feet. This is where the conflict resides and is an ongoing debate. With associations and regulations being the cornerstone of organizations in the United Kingdom, occupational standards have been enforced.

The occupational standards in the United Kingdom are driven by a proposed set of qualifications or achievements by completing a mandatory level of education. This education level was transmitted to the eligibility of the occupation or career for a person in the United Kingdom. The five levels of NVQ (1–5) were “intro,” “trade,” “technical/craft and supervision,” “incorporate equivalent,” and “chartered equivalent.” The NVQ creates a standard of education that will encourage people to achieve higher levels of learning. The farrier trade in the UK holds a level 2 NVQ.

It had become apparent that the Farrier Industry in the UK and its governing body would like to further clarify the shoeless industry by approving them to an NVQ rating. DEFRA and LANTRA are two organizations that work together to propose the NVQ requirements for the podiatry perspective. Cities and Guild is another organization that is representing the NVQ requirements much like Dunn & Bradstreet would represent businesses in the United States. The approval is costly for outside organizations, but is worthwhile for the NVQ rating. These organizations require a percentage payment of tuition per student that graduated from an approved organization. The culture in the United Kingdom is such that it relied on the NVQ to solidify the authenticity and reliability of the service level of the product being sold or performed. Currently, the non-farrier members in the United Kingdom are striving to become recognized as legal to work on horse's feet. The loopholes in the laws allow them to perform acts of trimming

because natural trimmers and podiatrists do not prepare the hoof for a shoe. With culture and history being at the forefront of the traditions, it is easy to understand both viewpoints. The farrier profession is a well-respected and well-defined career in the United Kingdom. Should non-farrier members be allowed to perform the same tasks without the same dedication to education as outlined? This is the debate that is currently being discussed.

Farrier Exemption Changes

Previously, in the United States, the farriers were being protected by the American Veterinary Medical Association's (AVMA) Model Veterinary Practice Act. This act protects the farriers by being exempt from those who are not allowed to practice veterinarian medicine. The farrier is included as an “exemption” of the act, which states that the Act shall not be construed to prohibit any person lawfully engaged in the art or farrier profession. However, in 2018, the AVMA is proposing to remove the farrier exemption. This is causing many organizations such as the American Association of Equine Practitioners (AAEP) to show their concern for this mistake, in their opinion. The use of titles, words, or abbreviations are currently used

in the farrier industry to delineate the superior knowledge or background of a farrier. A farrier's job in most cases is providing an expert service to horse owners regarding their horse's feet. This protocol includes recommending

rehabilitation avenues, offering advice and treating horses in their care. The exemption would allow this protocol to continue. Removal of the farriers from this act may put the role of the farrier in jeopardy within each state.

The American Veterinary Medical Association has recently rescinded their decision on this proposal (Lessiter, 2018). The proposed change would have more than likely caused future regulations and governing bodies to be created that represent the farrier industry more directly if they indeed were removed from the veterinary practice act. Much debate has been circling around in the farrier industry. A recent meeting of the International Hoof Care Summit highlighted the issue and is available for discussion on the American Farrier's Board website and through the *Farrier's Journal* blog. The farriers were not clear on how this removal would affect them going forward. In their minds, many were discussing that this is the next step towards regulation and private governing bodies that would encompass the industry in the United States once and for all. The farriers seem to have dodged the bullet on regulation and legislation at this time. Pressure from their

Currently, the United Kingdom's government (on the farrier profession) is questioning whether non-registered people should be allowed to trim their horse's feet.

side may have attributed to the rescinded decision. But clearly, the industry is divided and some powers to be believed have indicated that the farrier's job is changing.

The Barefoot Movement

Over the past three decades, a group of participants within the equine industry experienced a shift in thinking about the horse. Many were not happy with the existing farrier science and felt that it did not serve them well or their horses. Qualitative data collected revealed a common thread of people believing that they should remove their horse's shoes if their discipline did not need it. Many considered giving their horse's time off, and some searched for alternatives to applying shoes.

The barefoot movement is a product of the emergence of a new era for horses. A new natural horsemanship trend has created a niche market for the introduction of a DIY mindset for bare hoof trimming. What has happened is a change of attitude of accepting the status quo for hoof care amongst horse owners and trainers. The original thought was that if a horse was ridden, it needed a shoe to protect its hoof from wearing down beyond what would allow the horse to be rideable without inflicting pain. The barefoot movement or "shoeless" mindset is a belief that shoes are harmful to the hoof, and people who were inspired by the natural movement in horsemanship questioned whether shoes followed suit. The barefoot movement opened a market segment where "iron free" and "shoeless not clueless" were market slogans used to show their rebellion to the status quo of shoeing.

The natural horsemanship concept alters the paradigm of horse care to moves toward a more natural or holistic response. The hoof care industry follows suit with several theories surfacing that mimic the wild horse and its hoof. The wild horse model and barefoot movement are about anti-shoeing. Horse hoof shapes were copied from the Bureau of Land Management (BLM) and trimming concepts were provided by several barefoot trimmers such as Jaime Jackson, and Dr. Ingrid Strasser, a veterinarian from Germany. The barefoot movement capitalizes on the romantic theory that horses move 20 miles a day, toughening up their feet on rough terrain. The Institute of Applied Equine Podiatry, founded by a registered journeyman farrier KC La Pierre, discarded the wild hoof model theory at the start by using the formula, Force = Mass x Acceleration. Through the science of Applied Equine Podiatry, their industry leader's response is that wild horses do not carry rider weight, nor were required to perform repetitive

movements for extended periods of time. Most wild horses are not in the United States, particularly not on the BLM. Most of those horses are either turned out from domesticity or are from the mustang bloodline. Particularly noted is that most horses in the "wild" do not have many predators; therefore, the movement of most herds is small and unnecessary. Many do not travel more than a mile a day.

The argument is further fueled by the lack of regulation and certification in the United States. It is apparent that the barefoot movement is growing as more schools such as the Institute of Applied Equine Podiatry defend the function of the horse's foot. They are considered the middle of the industry, neither natural nor traditional, but rather independent. Their claim is to educate about a healthy hoof, and shoeing is not the issue. Get a healthy hoof first, then decide if your discipline requires a shoe. But never shoe to an unhealthy hoof to create structure. Shoe to a healthy hoof, and shoe for a discipline knowing the shoe will impede the foot growth to some extent (La Pierre, 2004).

The essence of Applied Equine Podiatry is the conscientious study of the equine foot, always striving to expose it to proper environmental stimuli, making every effort to promote proper structure and function, as we progress in achieving high performance. It is accepting the fact that the horse has the innate ability to heal itself and that domestication has caused imbalance and broken the golden rule of "Do No Harm." -- KC La Pierre, Institute of Applied Equine Podiatry, 2002.

The barefoot movement or "shoeless" mindset is a belief that shoes are harmful to the hoof.

Horsemanship

Riding horses means something different to everyone. My qualitative research revealed that the relationship with the horse is extremely important regardless of what faction you belong to: natural or traditional. It was also learned that many factions although tried and true to the desired faction, showed areas of grey that overlapped into the other. For example, a traditional professional Olympic jumping hopeful was recorded stating that natural training was used to improve the horse-human relationship. It was difficult to see any strict line in the sand.

Existing Research Findings

Findings related to natural horsemanship and its relationship to traditional horsemanship are summarized in Table 8.

The nature of natural is now up for debate. One study suggests that natural horsemanship exercises im-

Table 8. Research Related to Natural Horsemanship and its Relationship to Traditional Horsemanship

Source	Findings
<p>Birke, L. (2007) “Learning to speak horse”: The culture of “natural horsemanship.” <i>Society & Animals</i>, 15(3), 217-239.</p>	<ul style="list-style-type: none"> • Examines the popularity of Natural Horsemanship (NH) • Mixed results from practitioners • Natural horsemanship: radical change • Significant shift in the horse industry • Considerable fragmentation in natural training world • Respect and kindness to horses: important attribute of NH • Improvement in horse/human relationship
<p>Dorey, N. R., Conover, A. M., & Udell, M. R. (2014) Interspecific communication from people to horses (Equus ferus caballus) is influenced by different horsemanship training styles. <i>Journal of Comparative Psychology</i>, 128(4), 337-342.</p>	<ul style="list-style-type: none"> • Natural vs. traditional training (20 horses) • Point and follow task • Natural uses no tools other than arms, hands, legs, feet, and facial expressions • Both groups improved in ten trials, however, natural horsemanship (Parelli) trained horses learned faster • Human gesture might better provide success on socio-cognitive tasks • Two-stage hypothesis suggests that genetic domestication is not required for responsiveness to human actions in many animals
<p>Edgell, J., & Rivard, R. (2003) With a whisper: A chronicle of natural horsemanship. <i>Journal of Agricultural & Food Information</i>, 5(3), 95-102.</p>	<ul style="list-style-type: none"> • A personal account of the change to Natural Horsemanship from traditional training • Challenges of horse reactions to training • Fear and frustration, tempers flared • Natural Horsemanship through Parelli trainers • Positive results through horse/human relationship • Revealed multiple natural training options as well
<p>Goodwin, D., McGreevy, P., Waran, N., & McLean, A. (2009) Review: How equitation science can elucidate and refine horsemanship techniques. <i>The Veterinary Journal</i>, 181(1), 5-11.</p>	<ul style="list-style-type: none"> • Argues that natural techniques date back to the Greeks and Romans • No evidence that horses perceive us as honorary herd members • Sharing of knowledge among practitioners increases success • Proposes equitation science: study, measure, and interpret interactions between horse and rider during equitation • Welfare debate of unnatural performance
<p>Fureix, C., Pagès, M., Bon, R., Lassalle, J., Kuntz, P., & Gonzalez, G. (2009) A preliminary study of the effects of handling type on horses’ emotional reactivity and the human–horse relationship. <i>Behavioural processes</i>, 82(2), 202-210.</p>	<ul style="list-style-type: none"> • Traditional vs. natural horsemanship training (12 horses) • ER: Emotional Reactivity • HHR: Human–Horse Relationship • Natural horsemanship training could be more efficient than traditional training methods • No significant difference in ER • Small sample, future research necessary
<p>Rozempolska-Rucińska, I., Trojan, M., Kosik, E., Próchniak, T., & Górecka-Bruzda, A. (2013). How “natural” training methods can affect equine mental state? A critical approach – a review. <i>Animal Science Papers and Reports</i>, 31(3), 185-194.</p>	<ul style="list-style-type: none"> • A review of papers supporting natural horsemanship • Answers questions: <ul style="list-style-type: none"> • How natural training methods can affect equine mental state • Are naturally trained horses experiencing solely positive emotions? • Any method of training which allows horses time to access • Prompt response to horse behavior is crucial in any method • Removal of adverse stimulus that invokes fear • No scientific reasons to claim that natural training evokes only positive emotions, strengthens the horse/human relationship, or establish relationships based on human trust

<p>Visser, E. K., VanDieren-donck, M., Ellis, A. D., Rijksen, C., & Van Reenen, C. G. (2009) A comparison of sympathetic and conventional training methods on responses to initial horse training. <i>The Veterinary Journal</i>, 181(1), 48-52.</p>	<ul style="list-style-type: none"> • Study of natural vs. traditional training on 28 warmblood horses during a 5-week time-period • ST: Sympathetic (natural training methods) • CT: Conventional (Traditional Training methods) • CT: Showed more fear, stress-related behavior, lip movements, teeth grinding • Both horses reach same technical level • Seemed to reduce stress on a young horse in training
<p>Visser, K., VanWijk, E., Kortstee, H., & Verstegen, J.(2011). Passion for horses: Improving horse welfare communication through identifying information search patterns, knowledge levels, beliefs, and daily practices of horse enthusiasts. <i>Journal of Veterinary Behavior: Clinical Applications and Research</i>, 6(5), 297.</p>	<ul style="list-style-type: none"> • “Old” horse enthusiasts tend to be less receptive to new beliefs vs. “new” horse enthusiasts who fail to hold correct beliefs, knowledge and daily practice to ensure welfare of the horse • Rural dwelling horse enthusiasts and breeders lack basic knowledge of equine welfare • Natural horsemanship enthusiasts least organized group • 4267 respondents: 85% women, 64% believe welfare problems exist in the equine industry, 55% believe welfare minimum requirements should be set by government, and 77% believe the industry should take that responsibility
<p>Visser, E. K., Van Wilk-Jansen, E.E.C. (2012). Diversity in horse enthusiasts with respect to horse welfare: An Explorative Study. <i>Journal of Veterinary Behavior: Clinical Applications and Research</i>, 7(5), 295-304.</p>	<ul style="list-style-type: none"> • Equine Belief Systems • Equine enthusiast: knowledge and daily practice, emotional involvement, information outlets • 51% individual housing • Persistent belief that horses can copy stereotypical (abnormal) behavior from one another • No scientific study to support stereotypical copying of horses • Lack of industry definition of traditional and modern horse enthusiasts
<p>Parelli, P. (2003). <i>Natural Horse-Man-Ship: Six keys of a natural horse-human relationship</i>. Colorado Springs, CO: Western Horseman.</p>	<ul style="list-style-type: none"> • Natural “Horse-Man-Ship” • Improve horse-human relationship • Introduction of seven games
<p>Parelli, P. (2006). <i>Discovering natural horsemanship: A beginner’s odyssey</i>. Guilford, CT: Lyons Press.</p>	<ul style="list-style-type: none"> • Natural Horsemanship • Love, language, and leadership • Trust and partnership • Savvy horsemanship • Leadership

prove the horse–human relationship (Fureix et al., 2009), while another suggests that there is no scientific evidence that natural horsemanship evokes only positive emotions in horses, strengthens the horse/human relationship, or establishes interactions based on trust in the human (Rozempolska-Rucińska et al., 2013). Criticism is from both sides, thus forming a conflict state of the industry. Although surprisingly, during the qualitative data collection process, one highly ranked individual in the Thoroughbred Racing Industry was not aware of any discipline such as “natural horsemanship.”

Traditional Horsemanship

Prior to the 1980s, horsemanship was traditional or just called horsemanship. People shared the common belief of utilizing their horses for sport and recreation. Riding was competitive and breed registries were high. Most children, including myself, grew up reading books like *National Velvet* or *The Black Stallion*, dreaming of the days when they could own a horse. Rodeo, barrel racing, jumping and equitation showing were among the common past times shared throughout the United States. It was common

to believe horses needed saddles, bridles with metal bits, and metal horseshoes to survive in domestication. Horse owners hired a farrier every eight weeks to replace shoes on their horses' feet. The industry grew strong through breed registries and racing associations. The Kentucky Derby remains one of the choice crowns that until recently had not been won in over 30 years. The romantic notion of the winning underdog was where Secretariat wins by an unfathomable 27 lengths. During the great depression, racing was a favorite pastime and held great respect among horse enthusiasts and non-horse enthusiasts alike. It is said to be the sport of kings. Horses went from pulling carriages to pulling in the winnings in no time. The evolution of the horse's role in society changed to a recreational entity. The nation invested heavily in the racing industry, allowing for the rise of the thoroughbred. Their racing career is usually not as long since the elite races are limited to age 3; yet some older horses have raced at the age of 13. The recreational horse has provided much impact on the industry.

In the process of research, traditional horsemanship has been defined as the type of riding, along with the customs, practices, beliefs, and understandings that are acceptable in the aspects of riding, care, and training of a horse. That definition is rooted in the history of the American cowboy or the classical riding and training such as dressage.

Most people would define traditional riding as the use of bits and saddles that reflect the unchanged viewpoint of horse management. Others define traditional horsemanship as making the horse do what you want through force or extreme training practices. Still, others just define horsemanship as just the way it is. Horsemanship has remained virtually unchanged in riding techniques.

For example, it is known that riders mount a horse *always* from the left. Why is that? It was originally proposed as riders in the war carried a sword. So why do we continue to mount from the left when a sword is no longer necessary. It is just something we continue to do without question or a good reason. Traditional horsemanship, in my definition, is the absence of natural horsemanship which came about in the '80s as a force in the industry. Phrases like "breaking a horse" are commonplace when bringing a horse to the saddle for the first time. Horsemanship was developed early in history. Cave horses were drawn on walls as early as 15,000 BC. The horse has always been a strong entity for humans in areas of survival and recreation. With 308 equine-related associations active in the U.S. today, the industry has

the largest segments of the traditional horsemanship included in these three breeds: Quarter Horse, Thoroughbred, and Standardbred.

Natural Horsemanship

Over the past twenty years, a change in horsemanship has been introduced to the industry. This is called natural horsemanship or a new way of looking at the horse not as a vehicle for a discipline, but as a partner. The "cowboy way" was discarded for a more guided approach to riding through the eyes of a predator/prey viewpoint. The training simulated the natural horse instincts and communication related to horse communication and herd tendencies. Natural horsemanship became popular in the late '80s by horse trainer Pat Parelli. Pat and Linda Parelli have rewritten the horsemanship rules of "breaking a horse" to "playing with a horse." Natural horsemanship has been introduced as an alternative DIY training technique, which empowers the rider and horse. Horses are introduced to the seven games (friendly game, porcupine game, driving game, yo-yo game, circling game, and squeeze game). Parelli natural horsemanship was about love, language,

and leadership of the horse. The theory behind Parelli natural horsemanship was that like people, horses were either right brained or left brained, extroverted or introverted. The behaviors of each horse are defined by their actions. The autonomous

The theory behind Parelli natural horsemanship was that like people, horses were either right brained or left brained, extroverted or introverted.

delivery of this experience allowed the average horse owner to train and ride their horse better than most professionals. The partnership was empowering. Most riders strive for the "at liberty" stage of training when all bridles and saddles were removed, and the success of riding or playing was dependent on the strong partnership. This was inherently different than the adage of "breaking a horse" to ride under saddle. Natural horsemanship is to communicate with horses to complete a task by using your body which is a better way to guide a horse's behavior from the ground than traditional horse training methods (Dorey et al., 2014). In Dorey's (2014) recent testing, 90% of the Parelli-trained horses reliably followed the experimenter's point compared with the 40% of the traditionally trained horses. There is reliable evidence to support the argument that natural horsemanship is an effective transition to traditional training.

It may be reasonable to think about equitation science as introduced in a recent study on refining horsemanship techniques (Goodwin et al., 2009). Researchers state that equitation science argues that successful and humane training relies on the horse

trainer understanding the application of learning theory, horse ethology, physiology, and biomechanics, as well as recognizing the goals and limitations of the training approach being used (Goodwin et al., 2009). Humane horsemanship may just be the bridge between traditional and natural. It is said that the pendulum swings one way heavily before returning more to center.

The confusion that was discovered in my qualitative research on natural horsemanship is that many now define it as their discipline. When asked what they do with horses, they say “natural horsemanship” just as if they are describing barrel racing or dressage. Natural horsemanship as I understand it from the Parelli’s is a method of training that builds a partnership, but it was never meant to replace traditional riding. It is meant to enhance it through a foundation that extends into the traditional discipline. By training more through leadership and love, the result is supposed to be much stronger and more equal. It’s the horse’s decision to partner with the rider as if the task at hand or sport is their choice. Natural horsemanship is now an entity all to itself. New relationships with your horse exist solely on the ground. It has become its own discipline of sorts.

Horse–Human Relationship

The horse–human relationship has always been the goal of most horse enthusiasts. Building and improving the communication between the

two is what horsemanship is built upon, both traditional and natural. Forced approaches by humans could be too stressful, inhibiting the positive effect (Fureix et al., 2009). Research detected the anxiety levels of horses were increased when handling was not performed, or the horse was in isolation. What is being defined as sympathetic training methods or methods that mimic natural herd dynamics was found to be helpful in reducing the stress of early training practices (Visser et al., 2009). Their results discussed that technical performance was not compromised. What I took from this was that if the results were achieved with less stress during the early training, then wouldn’t that be a win-win situation for the horse?

Niche Businesses

The natural horsemanship trend has created a niche market for businesses. The natural horsemanship concept altered the paradigm of horse care to move toward “natural.” The hoof care industry followed suit by several theories surfacing that mimicked the wild horse and its hoof. With the age of the internet expanding at lightning speed, the opportuni-

ties for niche markets are exploding. The barefoot movement is now turning towards not being “solely shoeless” but rather a hybrid shoe that is neither nailed nor permanently affixed to the foot. Many new designs are hitting the market to include sport booting, and flexible shoes that affix to the horse’s hoof wall via Velcro. Natural horsemanship has also spurred on an industry fueled by new natural trainers who use catchy titles such as horse behaviorists, or horse psychologists. When it comes right down to it, the new belief of “natural” has provided a quick and steady avenue into the horsemanship and hoof care markets worldwide via the niche market portal. Products are being distributed internationally through niche avenue groups via social media and websites. It appears that possibly the pendulum is swinging back down towards center where saying no to shoes and saying no to bridles, bits, and spurs may have been too quick and rash. I do believe the traditional market is changing. Will the demand for the new alternatives to traditional be comfortable enough for the traditionalists to finally adopt or will they continue to resist these changes? Will a reinvention of natural to accommodate the traditionalists be enough? Further research is required.

Building and improving the communication between the horse and human is what horsemanship is built upon, both traditional and natural.

Discussion

The analysis of both hoof care and horsemanship finds a similar dichotomy between traditional and “natural” belief systems. This can be illustrated using SWOT analysis.

Traditional Belief Systems: Hoof Care and Horsemanship

Through further analysis of the industry, Figure 2 is an illustration of the strengths, weaknesses, opportunities, and threats of the traditional belief systems. For this study, the results reflect the overriding entities that exist for traditional horsemanship and hoof care.

There is a strong correlation in the longevity of traditions and culture holding the strongest characteristic for the traditional beliefs. Qualitative data collected exposed beliefs that reflect the protocol that is performed because it works, tried and true. “It’s been that way for hundreds of years.” is a common response recorded in the interview process. Universally, the art and science of horsemanship has been taught and passed down through the generations. Recreation, competition, and racing are most alike globally and reflect a strength in the industry.

Weaknesses for the traditional side of the industry include the cost prohibitive nature of traditional belief systems. Costs to shoe horses, excessive tack, trainers and the like cost more for the traditional

Strengths	Weaknesses
Embedded Culture and Tradition	Cost Prohibitive
Longevity	Professionally Driven
Time Tested	Low Responsibility
Universally Understood	
Opportunities	Threats
Ease of Entry	New Belief Systems
Past Performance	Natural vs. Traditional
Quick Results	Stagnation

Figure 2. SWOT Analysis of Traditional Horsemanship and Hoof Care

riders than natural enthusiasts. Having a trainer that you send your horse to for an extended period is commonplace. Most people do not train their young horse themselves, and believe shoes are necessary at a young age. This equates to a lower responsibility for the horse owner as much of the science of things is done by a professional. The traditional side to hoof care and horsemanship is not a DIY sector.

Opportunities that exist within the traditional side of the industry include easy entry and past performance. It is relatively easy to enter the industry as a horse owner and hire the professionals you need to keep your horse safe. Past performance of hundreds of years proves to most horse owners that this is how things are done. There is a sense of relief in knowing how to specifically do something, and the results are much faster. There is a timetable that is innately followed.

The industry has many threats, one being natural horsemanship. Traditionalists are now having to defend their craft. They are exposed to the question of whether they are doing what is right after all for their horses. In many arenas, natural horsemanship has replaced the traditional ways of doing things. People are beginning to question if racing, dressage, and highly competitive classes are worth risking the horse's health. Qualitative data collected and professional experience have exposed the natural vs. traditional debate, which in some internet sites and conferences has provided a heated argument. Interview data exposed the hidden truth that the farriers did not believe that the barefoot movement would be around for long. They rated it as a fad and something that would not go the distance. One in-

terviewee was quoted saying, "We were caught with our pants down, and the industry changed around us." It is commonplace to see articles on natural ideas for the traditional farrier or traditional professional competitors using natural horsemanship as a training tool prior to traditional methods.

My hypothesis is that the industry is changing regionally and within certain niches. I do think areas that are heavily concentrated in traditional disciplines such as dressage and racing are deeply concerned with the natural horsemanship techniques. Qualitative data collected suggested that it may be useful with youngsters, but traditional rules and regulations prohibit the use of the natural option, such as in the thoroughbred racing industry which has the requirement for shoes to be worn on the track. One interviewee who is a Grand Prix competitive dressage rider explained that the natural horsemanship dressage team did not perform well at the high stake's events. Another criticism was that there is a tight timetable for events, and performance is your livelihood. There is no window for taking the time it takes. Things must get done when the race, event, trial, or show is scheduled. Pat Parelli coined the phrase, "It takes the time it takes." about working through the partnership with your horse (Parelli, 2003). Some horses learn faster or need the time to develop into the partner that is required to excel in natural horsemanship. Traditional horsemanship and hoof care allow the participants to move faster through training. Depending on what side you are on, some may consider this as a benefit, while others may consider it a weakness. The debate looms on.

Natural Belief Systems: Hoof Care and Horsemanship

Natural horsemanship is analyzed below. Refer to Figure 3 for an illustration of the strengths, weaknesses, threats, and opportunities of the natural belief systems. For this study, the results reflect the overriding entities that exist for traditional horsemanship and hoof care.

One of the strengths in the natural horsemanship and hoof care faction of the equine industry is that natural is emotionally driven. People are drawn to the romanticized demonstrations of horses being ridden without bridles, ropes, saddles, or halters. It is an empowerment to people and reflects the DIY mindset that became popular in the 21st century. It would be tough to find a horse enthusiast that did not want their horse to be a partner with them. The barefoot movement followed suit with the natural movement in that it was supposed to be “better” for the horse. The goal of riding and having a relationship with your horse is the appealing aspect of the new market industry of natural horsemanship and hoof care.

Weaknesses include the cost prohibitive nature of owning a horse, although the aspects of natural hoof care and horsemanship are less expensive than the traditional means. Qualitative data and personal experience expose that they miss the process of matching attire, tack and the rituals of the process of traditional horsemanship. They were quoted saying that natural horsemanship is not as steep in cultural ideals and protocols that took up their time. There is a

higher responsibility in ownership in natural horsemanship and hoof care. Natural horsemanship is not about sending your horse away, but rather trains you to train your horse, or rather “play” with your horse (Parelli, 2003). It takes longer to get things done, and the responsibility is on the owner to create an enjoyable partnership with their horse.

It is virtually also easy to enter the industry. Other opportunities include new markets, the DIY mindset, and global acceptance in certain areas. Many new marketers are joining forces in the natural horsemanship and hoof care market. New products such as hoof boots, rope halters, carrot sticks, and natural hoof care trimming methods are just a few of the innovations in the natural marketplace today.

The threats that exist in the natural horsemanship and hoof care industry are that the traditional belief systems are pushing back in defense of their beliefs in some realms. The farrier industry is one of those realms that argue that the DIY barefoot movement does not represent responsible and proper hoof care. The threat of natural vs. traditional is an on-going debate that to some is growing, and to others, is dying out.

Analysis

No true data exists that can explain why some are adopting and why some are resisting this phenomenon in the industry of natural vs. traditional. This study will try to begin to explain the belief systems that exist, define what some of those are, and why some people have chosen to change.

Strengths	Weaknesses
Emotionally Driven	Cost Effective
Empowers People	High Responsibility
Partnerships	Not Readily Accepted
Opportunities	Threats
Ease of Entry	Traditional Belief System
DIY	Natural vs. Traditional
New Markets	Infancy
Globally Accepted	Not Time Tested

Figure 3. SWOT Analysis of Natural Horsemanship and Hoof Care

Regulations in the industry are proving to demonstrate that the horse is being considered more often. It appears that regulations such as the Horse Protection Act of 1970 are in a constant state of updating. The industry is looking at the health of the horse more closely. Rules and regulations in racing and competition are being reviewed to ensure the safety of the horse and rider. Alternative medicines and protocols are being introduced into the veterinary protocol such as acupuncture, body work, massage, red light therapy, and essential oils. A more holistic approach to equine wellness seems to be mirroring the evolution of alternative therapies in human non-western medicine. The qualitative data collected exposed many holistic veterinarians who practiced more natural non-western medicines, but were still traditional riders. What became interesting is this “hybrid” culture than explains just that--traditional enthusiasts that also adopted natural hoof and health care. It seems acceptable to them to stand firm in horsemanship traditions and cultural protocols, although shift toward the natural sciences of wellness.

This “hybrid” culture is something that may explain the future melding of a paradigm shift within the industry. As the opposing viewpoints “duke it out” what may be happening is their adoption of the natural belief without giving in to the masses. An example of this exists in the farrier sciences. Farriers are known for what is called a flat, unshod pasture trim. With customers now searching for natural trimmers in the marketplace, farriers are forced to attend the schools that offer this new science. Their client base is also a “hybrid” in that they offer both services. This is a market shift as the farrier now must become educated to stay on top of the market demand for natural hoof care. The qualitative research did not expose any data that would suggest that trainers are doing

the same. The trainers are specific to one or the other talent. There does not seem to be a “hybrid” trainer specializing in both natural and traditional horsemanship, although they may incorporate ideas from the natural camp in training or hoof care into their traditional practices. What is old is then defined as being new again. Or is natural horsemanship just a foundation for the traditional rider to be used as a tool and nothing else?

Broader Implications

The adoption and resistance phenomenon are alive and well within the barefoot movement. Leaders within the industry are pushing for change, while others stand true to their beliefs and traditions. This research is exceptionally exciting because the long-standing belief system about horses is a unique variable. People sometimes believe what they believe without question. Passive innovation resistance is defined as resistance to the changes imposed by an innovation (Talke & Heidenreich, 2014). Figure 4 depicts the passive innovation resistance model. Some could argue that the innovation or disruption of belief systems holds true here. Adopter-specific factors are said to form personally-related inclinations to resist changes and situation-specific factors determine a person's status quo satisfaction (Talke & Heidenreich, 2014).

Adoption or resistance has sparked much debate in the industry. Most research is based on people's beliefs as to the benefit or risk accrued by making a change. The conflicts within the equine industry are no different, yet researchers have yet to deeply explore these individuals' beliefs. The farrier sciences as they have stood for hundreds of years are at risk of being changed. That may be too much risk for most people with very strong belief systems, who rely on culture and tradition as guiding principles

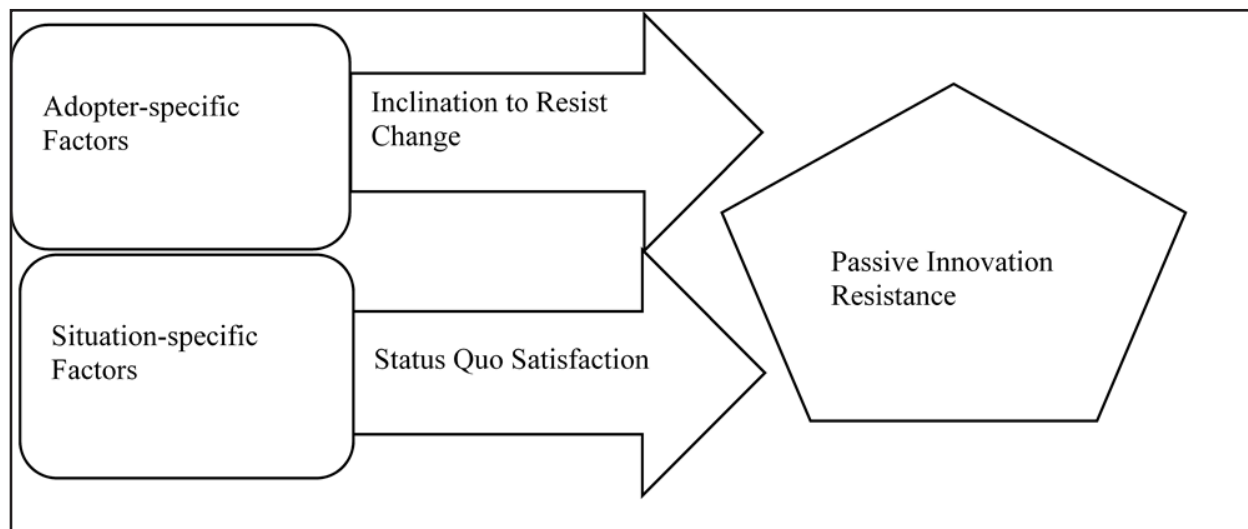


Figure 4. Sources of Passive Innovation Resistance (Adapted from Talke & Heidenreich, 2014)

(Dean, Kibris, & Masatlioglu, 2017)). When a decision maker chooses between alternatives, it is often the case that one will be the “status quo” or default option. The barefoot movement is challenging the decision maker to relook at the industry and reject the status quo, even though the status quo has been the status quo for an extremely long time. I believe the default option advocates did not expect that the farrier science would be in question. To explore that question further, researchers would need to dive deeply into resistance, change management and reasons why the risk factors were not examined more carefully in what appeared to be a solid industry, void of significant change for so long.

The new genre of horsemanship satisfies the core elements of belief systems. In recent research by Usó-Doménech and Nescolarde-Selva (2016), they discuss the elements that are logically required to understand a belief system--belief system being our

reality or what we know to be true. The elements of a belief system include values, substantive beliefs, orientation, language, perspective, prescriptions, and ideological technology (Usó-Doménech & Nescolarde-Selva, 2016). Table 9 illustrates the requirements of what is expected to accept a belief system or rather adoption through understanding. This may be where natural horsemanship began, and why it is now a discipline all to itself.

Values and substantive beliefs are core to how the horse is viewed through natural horsemanship. The relationship between horse and rider is more important than the act of riding itself. The orientation and language that is used in the Parelli method or other natural horsemanship methods are built around a specific language that is inherently different than that of traditional horsemanship. The adoption of such beliefs encircles the use of a shift in perspective. Norms that are carried out by the social group

Table 9. Core Elements of a Belief System (Adapted from Usó-Doménech & Nescolarde-Selva, 2016)

Elements of a Belief System	Criteria Necessary for Understanding a Belief System
Values	Implicitly or explicitly, belief systems define what is good or valuable. Ideal values tend to be abstract summaries of the behavior attributes which social systems reward, formulated after the fact. Social groups think of themselves, however, as setting out various things to implement their values. Having abstracted an ideal value from social experience, a social group may then reverse the process by deriving a new course of action from the principle.
Substantive Beliefs	They are the more important and basic beliefs of a belief system. For the believers, substantive beliefs are the focus of interest.
Orientation	The believer may assume the existence of a framework of assumptions around his thought, though it may not actually exist. The orientation he shares with other believers may be illusionary. Believers interact, share specific consensuses, and give themselves a specific name. Then professionals of this belief system work out an orientation, logic, sets of criteria of validity, and so forth.
Language	It is the logic of a belief system. Language of the belief system is composed of the logical rules which relate one substantive belief to another within the belief system. Language must be inferred from regularities in the way a set of substantive beliefs is used. The language will be explicit, and it may not be consistently applied.
Perspective	The perspective of a belief system or their cognitive map is the set of conceptual tools. Central inmost perspective is some statement of where the belief system and/or social group that carries it stands in relation to other things, especially nature, social events or other social groups.
Prescriptions and proscriptions	This includes action alternatives or policy recommendations as well as deontic norms for behavior. Deontic norms represent the cleanest connection between the abstract ideas and the concrete applied beliefs because they refer to behavior that is observable.
Ideological Technology	Every belief system contains associated beliefs concerning means to attain ideal values. It is composed of associated beliefs and material tools providing means for the immediate or distant belief system. Ideological technology is not used to justify or validate other elements of a belief system, although the existence may limit alternatives among substantive beliefs. Ideological technology commands less commitment from believers than do other elements.

is how natural horsemanship is being transported so quickly. Natural horsemanship tools and technology exist as a vehicle for understanding and achieving the goals either immediate or distant. Misunderstanding or allowing the weighting of either element could impede the belief system to morph into something that the original innovator did not plan.

Qualitative research has discussed the possibility of horses now moving from recreation to companion. This change removes the act of riding in most cases. Change agents can also contribute to the occurrence of resistance through communication breakdowns, such a failure to legitimize change, misrepresenting its chances of success, and failing to bring people to action (Ford, Ford, & D'Amelio, 2008). Depending on the leader, resistance to this new belief system within the industry may be of no fault of the decision maker. Exploratory qualitative interview research may be needed to develop a further understanding of the equine industry's participants' acceptance or resistance to change.

Conclusions

The industry is going through a lot of change possibly due to economic or innovation disruption. The equine industry has stood strong for hundreds of years. Beliefs are being challenged, and some markets are expanding, while others are shrinking. Today, industry data suggests that horse ownership is down, but racing is on the rise. This may be due to the internet and statistics of racing. Betting is no longer required to be done in person at the track. Traditional equine enthusiasts may no longer be riding, but are spectators instead.

Analysis of the marketplace reveals that entry into the industry is easy. That said, the competitors within the marketplace have grown. Qualitative data stated that competition within the middle level of clinicians is growing, thereby impacting the higher-level clinicians. The internet and DIY mindset fosters an entrepreneurial vision. Many leaders in the equine industry have revealed that business at the face-to-face level has slowed while the mass media business and larger convention style instruction is increasing. For many, they have priced themselves out of being able to be affordable for the average host, thus causing a demand for more affordable protégés.

Natural versus traditional is an ongoing debate. Future research will reveal the patterns and themes that represent the long-standing belief systems that are embedded within the age-old industry. The horse has been an integral part of society and history. It may be necessary to further define natural horsemanship as

many traditional leaders consider what they do to be natural for the horse but dislike the word "natural" in the context of their training techniques. The research thus far has adequately demonstrated the opposing viewpoints and the requirement for further definitions. Industry subgroups such as the farriers are recognizing the market demand for a more detailed barefoot knowledge and are responding in kind. According to the qualitative data collected, what the farriers considered to be a fad is not going by the wayside. There was a misjudgment of this new market entry.

Future research is necessary for understanding why some adopted the new belief system of natural in either horsemanship or hoof care. To further understand why people adopt a proposed shift in paradigm, which may or may not ever occur fully, would be instrumental in implementing a proposed shift in an organization. The concept was first identified by Kuhn's (1962) book, *The Structure of Scientific Revolutions*. The focus of further study is based on a later definition as defined by a major shift in thought-patterns, personal beliefs, and complex systems or organizations. The previous paradigm shift definition

by Kuhn was replaced with a radically different way of thinking or organizing. The conflict that arises during the forging process is apparent in the theory by Lewin (1997) called "Force Field Analysis." Long-standing belief systems in the equine

industry are unique in that they are driven and embedded by years of tradition and culture. People's ability to adopt or resist change may be related to the embedded traditions and culture of their own heritage. The equine industry could, therefore, be used as a model to further understand change management and change theory. Those who are proponents of change would benefit to seek out research such as this to understand underlying reasons for resistance.

The equine industry could be used as a model to further understand change management and change theory.

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Review

This article was accepted under the **constructive peer review** option. For further details, see the descriptions at:

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Robyn Lord is the Co-Founder and CEO of the Institute of Applied Equine Podiatry, Inc. in Naples, FL. Lord oversees all business and program development, product development, as well as student recruitment and assessment. Currently, the institute has graduates in over 18 countries. Lord received her BS in Business Administration from Castleton State College in VT (1999) with High Honors, an Executive MBA from Florida Gulf Coast University in FL (2015) and a Doctorate in Business Administration (DBA) from University of South Florida in Tampa (2018).

In the belief that the issues surrounding peace, justice, freedom, and security are vital to civic education, we developed this study guide to expand readers' knowledge, perspectives, and understanding about these complex topics. About the Study Guide This study guide is designed to serve independent learners who want to find out more about international conflict and its resolution, as well as educators who want to introduce the topic to their students. The main text discusses natural resources and related issues that play significant roles in managing conflicts and building international peace. The character of strategic competition and conflict is changing in a manner that amplifies the coercive potential of information. It has little to do with a "way of war" and everything to do with what J.F.C. Fuller called the constant tactical factor. A counter-adaptation checks every action. If you can see strategic competition and conflict as a system, you have a better chance of identifying the dominant feedback loops, indirect effects, and resulting tendencies. While there is no lifting the fog of war, those insights help strategists determine when, where, and how to put energy into the system. Understanding the character of war enables you to match strength against enemy weaknesses and change the allocation of risk.

Most current conflicts, such as in the Sudan or the Congo, are within states, although there is often considerable outside intervention, as in Afghanistan. In the past 30 years Africa, Iraq, Afghanistan, Syria have been especially badly affected by war. It took away homes, took apart families and result of millions of innocent people lives. In this research, the equine industry will serve as an industry model revealing beliefs and cultural frameworks that can serve as a blueprint for other industries who may be experiencing changes to an embedded culture way of doing business. With proposed change comes conflict. The human stress factor, conflict and personal dedication necessary to change decades of tradition is a daunting task. Long-standing belief systems are usually embedded in tradition and society's acceptance of the status quo. As humans, we initially will resist as change is difficult and takes effort with responsibility. The issue provoked conflicts between the press and the police. to be / get involved in (a) conflict: The United States was involved in these conflicts, sometimes as a mediator, always as a supplier of arms. | A decree in February banned the sale of weapons to countries involved in armed conflict. to prevent / avert (a) conflict: The National Security Council has met to discuss ways of preventing a military conflict. to avoid (a) conflict: We wish to avoid conflict between our countries.