IDENTIFYING INJURIES, CHRONIC HEALTH CONDITIONS AND CURRENT MEDICAL CARE FOR PROFESSIONAL JOCKEYS

A Thesis

Presented to the faculty of the Department of Kinesiology

California State University, Sacramento

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF SCIENCE

in

Kinesiology

(Movement Studies)

by

Ashley R. Peltz

SUMMER 2016
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Department of Kinesiology
Abstract

of

IDENTIFYING INJURIES, CHRONIC HEALTH CONDITIONS AND CURRENT MEDICAL CARE FOR PROFESSIONAL JOCKEYS

by

Ashley R. Peltz

Introduction

Statement of Problem

The purpose of this project is to identify injuries, chronic health conditions as a result of chronic weight loss practices and current medical provided to professional jockeys.

Sources of Data

Data was collected from a non-validated survey, which was created by the researcher for the purposes of this study. The secretary of the Jockeys’ Guild recruited the participants through the Jockeys’ Guild email contact list. Participants included currently licensed professional jockeys who were members of the Jockeys’ Guild. Once the secretary of the Jockeys’ Guild emailed all members of the Jockeys’ Guild, participants were asked to click the link to the survey if they chose to participate. The survey was made available through Google Forms.

Conclusions Reached

The data collected revealed that jockeys sustained seven or more injuries during the course of their career and at least one injury last racing meet. Jockeys reported fractures as the most common injury sustained. Injury to the leg was the most commonly reported body part injured.
Jockeys use a variety of weight loss methods with restriction of eating the most common. Jockeys reported that 50% of the time a physician was available for initial evaluation at the racetrack at the time of injury.

______________________, Committee Chair
Michael Wright, Ph.D.

_____________________
Date
ACKNOWLEDGEMENTS

I would first like to give thanks to my committee members, specifically Dr. Wright for his continued support throughout the thesis process. Through all the delays and postponements, he continued to contribute to my completion of this thesis. I also would like to acknowledge Heather Swanson, not only for her help with this thesis, but also for her mentorship in my career. She helped give me hope and reassurance that I would be able to complete my Masters’ degree and further my career.

In addition to my committee members, I must thank my husband Jon. He pushed me to finish and helped me through my many struggles throughout this process. Had he not badgered me and continually reminded me of the deadlines, this thesis would not be what it is today. I am thankful for his continued love and support in everything I do. Lastly, I have to give credit to my parents. They were my inspiration for this project. They provided the foundation for my passion for horseracing and my desire to help those in need. Together with their upbringing and life lessons, I was able to bring light to a subject unknown to many. Thank you, once again.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>vii</td>
</tr>
<tr>
<td>List of Tables</td>
<td>xi</td>
</tr>
<tr>
<td>List of Figures</td>
<td>xii</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>Statement of Purpose</td>
<td>5</td>
</tr>
<tr>
<td>Statement of Problem</td>
<td>5</td>
</tr>
<tr>
<td>Limitations</td>
<td>6</td>
</tr>
<tr>
<td>Delimitations</td>
<td>6</td>
</tr>
<tr>
<td>Assumptions</td>
<td>6</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>7</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>9</td>
</tr>
<tr>
<td>2. REVIEW OF LITERATURE</td>
<td></td>
</tr>
<tr>
<td>Demographics</td>
<td>11</td>
</tr>
<tr>
<td>Licensure</td>
<td>13</td>
</tr>
<tr>
<td>Job Responsibilities</td>
<td>13</td>
</tr>
<tr>
<td>Trainers</td>
<td>14</td>
</tr>
<tr>
<td>Earnings</td>
<td>14</td>
</tr>
<tr>
<td>Injuries</td>
<td>15</td>
</tr>
<tr>
<td>Health Issues</td>
<td>18</td>
</tr>
<tr>
<td>Safety Measures</td>
<td>19</td>
</tr>
<tr>
<td>Medical Care</td>
<td>20</td>
</tr>
</tbody>
</table>
Summary ...........................................................................................................................................21

3. METHODOLOGY .......................................................................................................................... 23
   Participants ........................................................................................................................................23
   Measures (Variables) .........................................................................................................................23
   Instruments .......................................................................................................................................24
   Procedures ........................................................................................................................................25
   Design ...............................................................................................................................................26
   Data Analysis ....................................................................................................................................26
   Summary ..........................................................................................................................................27

4. RESULTS ........................................................................................................................................ 28
   Demographics ...................................................................................................................................28
   Riding Frequency ..............................................................................................................................29
   Weight Loss ......................................................................................................................................30
   Injuries .............................................................................................................................................32
   Overall Findings ..............................................................................................................................35

5. DISCUSSION ...................................................................................................................................37
   Survey Results .................................................................................................................................38
   Complications .................................................................................................................................40
   Future Directions ............................................................................................................................44
   Conclusions .....................................................................................................................................45

Appendix A. Survey Questions English .............................................................................................46
Appendix B. Survey Questions Spanish ...............................................................................................51
Appendix C. Informed Consent Form ................................................................................................56
References ........................................................................................................................................... 57
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Tables</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Daily Weight Loss Methods</td>
<td>32</td>
</tr>
<tr>
<td>2. Types of Injuries</td>
<td>33</td>
</tr>
<tr>
<td>3. Body Parts Injured</td>
<td>34</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figures</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of Years of Experience</td>
<td>29</td>
</tr>
</tbody>
</table>

xii
Chapter 1

INTRODUCTION

Horse racing has been an American spectator sport for hundreds of years in the United States, and dates back as far as 1665, with the first track established in New York (Department of Health and Human Services, 2009). There are numerous tracks i.e., 32 track locations across the United States, making horse racing a year-round sport. Each year the horse racing industry generates approximately 26 billion dollars for the United States economy derived from gambling spectators, simulcast racing and, in some states, from casino gambling (Thoroughbred Horse Racing Jockeys and Workers: Examining On-Track, 2005). There are over 140,000 people employed in the horse racing industry, including trainers, exercise riders, ferriers, and jockeys (Department of Health and Human Services, 2009). Jockeys make up a small percentage of all the workers in the horse racing industry.

Jockeys make up a small percentage of all the workers in the horse racing industry. They are the individuals who ride the horses in a race. And typically weigh about 105 to 110 pounds and are usually between 4’11” and 5’5” in height (Jockeys’ Guild, 2014). They are required to ride a 2,000 pound horse around an oval dirt track at speeds up to 40 miles per hour. There can be as many as 20 horses running in a single race at high speeds and within close proximity to one another. Given the nature of these races, there is the potential for contact between horses that could cause potential injuries from a jockey being thrown from their horse or trampled by the horses.
As introduced above, jockeys are at a high risk for injury, and in some cases, death. Since 1950, there have been more than 100 jockey deaths (Press, Davis, Weisner, Heinneman, Semik, & Addison, 1995). The number of deaths continue to rise in the United States, as well as in other countries. For example in October 2014, within a one week period, three apprentice jockeys died while riding in a race. All three died from the injuries they sustained when they fell from their horse. The staggering number of deaths in this sport, as well as the recent deaths, make the risk for injury and death very salient issues for this population of athletes. However, the outcome of accidents on the track tend to be overshadowed by the casualties of the horse versus the jockey riding the horse. As an example, the article “Mangled Horses and Maimed Jockeys” published by the New York Times in 2012 shed light upon the danger jockeys face each time they mount a horse for a race. The primary focus of the article was on the resulting death of the horse rather than focusing on the jockey who became paralyzed due to the breakdown of the horse. In other words, the death of the horse elicited more public concern compared to the wellbeing of the jockey, even when serious injury occurred.

As with any sport, there is a high risk for injuries and it is understood by those in the horse racing industry that jockeys work in a dangerous environment. Injuries commonly sustained include fractures, dislocations, head injuries, spinal injuries and, in the worst cases, death (Waller, Daniels, Weaver, & Robinson, 2000). The combination of the horses’ power, size and strength with the light weight stature of jockeys increases the likelihood for injuries to occur. There is a high probability to sustain injuries due to the speed at which the horses are running, the position the jockeys are in, and the
proximity of the horses to one another during the race. Traumatic injuries typically occur when a horse goes down and the jockey is unmounted from the horse. Falls have been reported to be the number one cause of acute injury to jockeys (Hitchens, Hill & Stover, 2011).

In addition to acute injuries, this population of athletes may also develop chronic injuries and health issues. The jockey profession poses significant health concerns for those involved in the sport. The most common chronic health issue that plagues jockeys are eating disorders and often coexist with other adverse side effects such as psychological conditions and gastrointestinal problems (Dolan, O’Connor, McGoldrick, O’Loughlin, Lyons, & Warrington, 2011). The jockeys’ concerns with weight management issues are prevalent in the sport of horse racing (Dolan, O’Connor, McGoldrick, O’Loughlin, Lyons, & Warrington, 2011). Jockeys are required to maintain certain weights in order to be eligible to ride and make an earning as racing may be their sole or primary source of financial income. The required weight of the jockey is determined by a scale of weights which varies from race to race within a day of racing (California Thoroughbred Racing Board, 2014). Due to the weight restrictions in the sport, unhealthy eating habits and weight loss techniques are often employed, such as reduction in fluid intake, laxatives, smoking to reduce appetite, and excessive exercise to sweat out extra water weight. Such techniques and habits result in chronic eating disorders, osteoporosis, stress fractures, and dehydration (Department of Health and Human Services, 2009). Chronic conditions not only affect the jockey during their career but well after their career is over.
In many cases medical personnel are not on site for the care of injuries sustained during racing or in the morning during training hours (Hornung, 2007). Only until recently have initiatives been put forth to address the issues surrounding the safety and wellbeing of jockeys. These initiatives include an injury data tracking system, new protective equipment, and changes in the racing environment. Racetracks in the United States are recommended, but not required, to provide on site medical care, similar to that seen in other traditional sports settings, (National Thoroughbred Racing Association, 2014). Emergency Medical Technicians (EMT) are the only required medical professional for tracks to operate and are only used in the event of an accident during a race. The implementation of medical care typically seen in traditional spectator sport settings is not present at every track.

Taken together, the injury risks and poor health habits of jockeys highlight a need for an on staff medical professional to oversee the health needs for this population of athletes. Currently, oversight of the methods jockeys and exercise riders employ in order to make weight is lacking in the horse racing industry (Hornung, 2007). Moreover, this population of athletes is lacking medical coverage seen in other sports with similar injuries and health issues. Identifying the type, severity, and frequency of injuries to jockeys along with the chronic health problems that jockeys face will help to determine the type of medical care that would suffice for this population of athletes.
**Statement of Purpose**

The purpose of the current study is to identify injuries and health issues that occur specifically with jockeys. Particularly the frequency, severity, and type of injuries jockeys incur will be identified. Additionally, chronic health concerns as a result of the jockey profession will be identified. Chronic health issues associated with disordered eating and unhealthy weight loss practices will be specifically addressed, along with the adverse effects of such health issues. Lastly, the current health care services provided by racetracks for acute injuries and chronic health conditions will be assessed as a means of determining the standard of care that jockeys receive while on the job.

**Statement of Problem**

The problem to be addressed in this study is the lack of medical care for jockeys despite the inherent risk for acute, traumatic injuries. Chronic medical conditions plague jockeys throughout their career with minimal to no attention focused on preventing the development of such conditions. The lack of injury tracking, consensus on fit to ride criteria, safety protocols, and workmen’s compensation issues are primary concerns regarding the health and safety of jockeys in the United States. On site medical care is often not available for the care of injuries sustained from riding. Additionally, quality medical care is not readily available for the health and well being of jockeys on racetracks across the country. Adequate care should be provided for jockeys as an athletic population, as is seen with other spectator sports.
Limitations

This study is limited by the accuracy of responses of the participants in this study. This is a limitation because participants will not be required to provide actual medical documentation. Medical documentation will not be included to support the answers given by participants for questions regarding injury and health practices. The non-validated survey as a source of data also provides limitations to this study. The survey questions in the study are non-standardized, and will not be compared to a standard index. The questions on this survey which reference eating habits and weight loss techniques may have influenced or primed responses from the participants and further limited the study. The study is also limited to jockeys who were members of the Jockeys’ Guild and therefore only represent a sample of jockeys.

Delimitations

The participants in the study are actively riding at the time of the study and should be licensed jockeys of the Jockeys’ Guild. Participants must be 18 years of age or older to participate in the study.

Assumptions

It is assumed that the participants in this study understood the questions and answered honestly. It was assumed that all participants in the study were 18 years of age or older. All participants that provided consent to were asked their age and any responses
from participants under the age of 18 were discarded. Also, it was assured that participants understood the questions asked, and answered questions to the best of their knowledge.

**Definition of Terms**

1. Apprentice Jockey- “Rider who has ridden less than 40 winners or less than two years since first having been licensed in any racing jurisdiction, and who otherwise meets the license qualifications of a jockey” (California Horse Racing Board, 2014).

2. Groom- “Person who cares for (i.e., feeds, grooms, baths, cleans up after) the horse” (Washington Thoroughbred Breeders Association, 2014).

3. Handicap- “A race, often an overnight or stakes race, in which the chances of winning are equalized by the track handicapper assigning weights – heaviest weights are given to the horses with the best race records; lightest weights to the weakest race records. It is done to even the field for betting purposes but is controversial among horsemen” (Washington Thoroughbred Breeders Association, 2014).

4. In-the-money-“A horse which finishes first, second or third in a race” (Washington Thoroughbred Breeders Association, 2014).

5. Horse Trainer (Trainer)- An individual hired by an owner of a horse for the purposes overseeing the training of a horse for competition. The duties of a horse trainer include day to day oversight of workouts, nutrition and veterinary care.
Horse trainers also enter horses in appropriate races and discuss race day strategies with jockeys.

6. Jockey- “A professional jockey who is licensed by one or more State to compete as a rider in horseracing” (Interstate Horse Racing Act 1978).


8. Jockey Health Information System- Medical record system that documents injuries to jockeys for the purpose of allowing authorized medical personnel access to jockeys’ medical records.

9. Overweight- “Surplus weight carried by a horse when his rider cannot make the required poundage” (Washington Thoroughbred Breeders Association, 2014).

10. Owner- Person or persons that paid for the horse. They pay for all the expenses of the horse.

11. Jockeys’ Guild- An organization that advocates for improved work environments for the health and safety of jockeys. The Jockeys’ Guild is also responsible for the Disabled Jockey Fund.

12. National Thoroughbred Racing Association (NTRA)- “The National Thoroughbred Racing Association (NTRA) is a membership-based trade association for the Thoroughbred racing and breeding industry. The NTRA is served by a Board of Directors that includes the NTRA President and CEO, along
with representatives from member racetracks, horsemen’s groups, owners and breeders” (NTRA, 2014)

13. Purse- The horse owner receives the money for winning a race. Purse amounts vary depending on the quality of the horses in the race.

14. Stakes race- “A race which has entries close 72 hours before the running of the race and in which the owners of the entries put up money to run in the race” (Washington Thoroughbred Breeders Association, 2014).

15. Steward(s)- “Person in the employ of the state’s racing commission which officiates at a race meeting (Washington Thoroughbred Breeders Association, 2014).


Hypotheses

1. Jockeys will report multiple acute traumatic injuries such as fractures, dislocations, internal injuries, and head trauma during the course of a racing meet and career resulting in lost riding days.

2. Jockeys will report using laxatives, sweat rooms, excessive exercise, purging and limiting food intake to maintain body weight as part of their daily routine.
3. Jockeys will report inconsistencies with health care provided by racetracks to include no onsite physician, first aid and treatment facilities, post injury care, and return to ride evaluations.
Demographics

It is difficult to ascertain the number of jockeys currently employed in the United State from the published census data. The jockey profession is categorized into a broad group of spectator sports including sports such as football and baseball. As such, this does not provide a clear picture of the actual population of jockeys (Department of Health and Human Services, 2009). According to other data sources, in 2014 there were 1,635 jockeys who rode in at least one race (Equibase, 2014). The number of jockeys currently participating in the sport has reduced by approximately half in the last 20 years and overall, horseracing, is a sport dominated by males. In 1993 there were over 3,000, active jockeys in the United States. Most of the jockeys were male with only 425 reported female riders (Ray & Grimes, 1993). There are barriers to effectively quantifying the number of female jockeys riding in the United States due to different racing seasons in each state and jockeys riding in multiple states. To date approximately 20 to 25% of the 1,100 members of the Jockeys’ Guild are female, as of 2015 (Jockeys Guild, 2015). Furthermore, of the top 100 riders reported in 2014, only three were female (Equibase, 2014).

In regard to jockeys’ physical appearance, they are required to be of small stature and light weight in order to ride. They are fit athletes with minimal body fat and lean muscle mass (Dolan, Crabtree, McGoldrick, Ashley, McCaffrey & Warrington, 2012).
There are weight requirements and the jockeys must meet the weight requirements prior to the race. It is important to note, minimum weight requirements vary depending on state rules and the type of race. The jockey scale of weights can range anywhere from 116 pounds to 124 pounds, depending on the race handicap. The race handicap, takes into consideration the breed of horse, age of the horses in the field, mixed gender of horses in a race, as well as the experience level of the rider. Additionally, there are different weight allocations for apprentice jockeys, which allow them to carry additional weight (NTRA, 2014). The weight limitations for racing include the jockey with all of their riding gear, including the saddle that can weigh one to two pounds (Cotunga, Snider & Windish, 2011). As mentioned above, the average jockey weight is between 95 and 112 pounds and the average height is between 4’11 to 5’5 (Ray & Grimes, 1993). Jockeys with small body types are preferred in this sport as it makes it easier for riders to be within the allocated weight for each race on a daily basis.

Many of the jockeys currently riding in the United States are from other countries, with the majority being of Latin American descent, as the United States has limited training opportunities for jockeys not originally from the United States. The current increase of Latin American riders might be influenced by the growth of jockey training schools in Latin America. These schools, such as Laffit Pinacay Jr. Vocational Jockey School, have produced some of the top riders to ride in the United States (Harun, 2014 Latino Jockeys Article). For example, Javier Castellano, a native of Venezuela, is on the top of the leader board for 2014 with $23.92 million in earnings this year (Equibase, 2014). Castellano is not the only Latino native on the top of the leader board in earnings.
There are seven other Latinos on top of the leader board for 2014. In 2012, the top six jockeys were from various parts of Latin America (Equibase, 2014). The influx of Latin American riders began in the 1960s. The growing number of Latino riders began after Ismael “Milo” Valenzuela won the Kentucky Derby in 1958 and 1968 (Harun, 2014).

Another influencing factor of the increase in Latin American rider may be related to Latin American jockeys tendency to be of smaller build compared to their American counterparts. This assists in increasing their marketable value due to their natural ability to near the weight requirements for various handicap races.

Licensure

A jockey can obtain a license if they meet the following two criteria: the jockey must have a physical completed by a licensed physician within the last year and they must demonstrate competency with controlling a horse. The stewards hold the right to request a secondary physician to re-evaluate the jockey for fitness to ride if they deem it is necessary (NTRA, 2014). The NTRA does not provide any guidelines for pre-participation physical exam questions in the code of standards.

Job Responsibilities

Jockeys are independent contractors and are employed by racehorse owners. The jockey’s role is to ride a racehorse in a race and in many instances; they may ride the horse when training in the morning. Often a jockey is employed by more than one owner and rides multiple horses on a daily basis. The jockeys have to be knowledgeable of the
tendencies of the horse they are riding including their speed, stamina, and their start and finish preferences. In addition to understanding the horse they are riding, they must also know information on the other horses in the race.

**Trainers**

Trainers are individuals who are responsible for training the horses by planning daily workouts, creating a nutrition plan, and overseeing the daily care of the horses. Horse owners also employ the trainers and it is common to train for multiple owners. Trainers have many responsibilities including the hiring of jockeys, veterinarians, and grooms, and they work directly with each one on a daily basis. The trainer is the person who determines what jockey to hire for specific horses; therefore, they have a close relationship with the jockeys and may discuss aspects of this profession including upcoming races, competition, workouts, and race day strategies.

**Earnings**

Unlike other professional athletes, jockeys do not receive a predetermined wage for riding in a race. The wage jockeys earn is contingent upon their performance in a race. If a jockey does not have a working contract with the owner, there is a scale to determine the money they will earn dependent upon the race purse and the position they finish (Ray and Grimes, 1993). Jockeys that win a race receive 10% of the purse at minimum (California Horse Racing Board [CHRB], 2015). From the 10% that the jockey receives, they also must pay their agents a percentage agreed upon in their contract.
Jockeys who do not place in the top three are still required to pay fees in the form of a mount fee. Mount fees are not returned to the jockey and are a financial loss for a jockey that does not finish in the top three. The mount fees vary dependent on race purse and the mount number for that jockey for the day (CHRB, 2015). The average earnings for a jockey is approximately $52,000 per year (Colton, 2007).

**Injuries**

There is minimal literature on the health and wellness of jockeys in the United States and even fewer have focused on the type of injuries or the rates of injuries. One notable study by Press and colleagues (1995) surveyed over 700 jockeys in the United States and reviewed the injuries sustained during the course of their careers (Press et al., 1995). The study not only focused on the types of injuries jockeys sustained, but also the cause of the injuries. The study found the most common injury that jockeys sustained were fractures, and the jockey falling from the horse was the primary cause of the fractures. Another study by Waller and colleagues (2000) studied the rates of jockeys’ injuries and investigated where and when the injuries occurred throughout the course of a race. These researchers used the injury reports of the insurance broker whom the claims were filed, to record the data for the study. This study found that injury to the head or neck, followed by injury to the lower leg or ankle were the primary injuries reported. Reported injuries primarily occurred within proximity of the starting gate (i.e., either entering, within, or leaving the gate). Recently, Hitchens and associates (2013) focused on injury and fatality rates of jockeys who fell from their horse while on racetracks in California. Specifically, the study compared the incidence of injuries in Thoroughbred
races and Quarter Horse races in California. Data collected on injury rates and falls were derived from accident reports submitted to the California Horse Racing Board (CHRBB) during a five-year period (Hitchens et al, 2013). The researchers found that jockeys sustained 269 injuries from 505 falls, for both Thoroughbred and Quarter Horse racing. In all reported falls, significant injury occurred approximately 50% of the time. The average number of falls per jockey was 2.55 for Thoroughbred jockeys and 2.74 for Quarter Horse jockeys. A review of the health and safety of workers in the horse racing industry heavily referenced the studies by Press et al (1995) and Waller et al (2000) in the discussion of the types of injuries that workers in the horse racing industry sustain (Department of Health and Human Services, 2009). There is limited information in the literature on injury, severity of injury, fatalities, and the rates of injury for jockeys in the United States.

International data on injury incidence rates in other countries is also lacking. There is limited epidemiological data on incidence and severity of injuries to jockeys, and the information that is available is not uniform (Forora Reuda, Halley and Gilchrist, 2010). Forora Reuda and colleagues (2010) completed an epidemiological study of jockey injuries which focused primarily on concussions. The study investigated concussion grading, loss of consciousness, and documented the number of days jockeys were required to miss following a concussion in Ireland, France and Britain. Information was collected through online searches of databases. The data showed that France had more injuries from falls, while there was not a significant difference for concussions per ride between the countries. As for loss of consciousness from concussions, Ireland had a
higher incidence. It is important to note that the data in this study also included jump races, flat races and point-to-point races, as well as reports from amateur jockeys. A study in Australia by Cowley, Bowman and Lawrence (2007) also noted there was minimal information available regarding the types of injuries that jockeys sustain and the rates at which they occur. Despite the popularity of the sport and the revenue generated from it, there is little information regarding injury rates of jockeys. The aim of Cowley and colleagues’ study was to determine how often jockeys were injured and the type of injuries typically sustained with this population of athletes in Victoria, Australia. These researchers used workmen’s compensation claims reported to the Victorian WorkCover Authority (VWA) along with injury reports from Racing Victoria Limited (RVL) to collect information on jockey injuries. The majority of injuries that the jockeys sustained resulted from a fall from the horse during the course of the race. That is, of the 358 injuries reported, 75% were due to the jockey falling from the horse. In congruence with injury reports from the United States, fractures to the extremities were the most common types of injuries jockeys experienced.

As demonstrated above, jockeys have a high risk to sustain injuries while riding. In an eight-year period from 1998 to 2006, there were approximately 14,200 injuries of workers in the horse racing industry that required emergency medical attention in the United States (Department of Health and Human Services, 2009). The limitation of this statistic is that it relates to the inclusion of all workers in the horse racing industry, not just jockeys. One of the most common injuries for jockeys were non-fatal injuries such as fractures, dislocations, and concussions (Department of Health and Human Services,
Fractures accounted for approximately 64% of the injuries that required jockeys to miss riding days (Waller et al., 2000). Jockey injuries typically occur at the beginning of the race (i.e., about 35% of the time) when the horses are loaded into the starting gate or exiting the starting gate (Waller et al., 2000). Moreover, the start of the race imposes a greater risk of injury from horses stumbling out of the gate, clipped heels by another horse, or physical contact with another horse causing the jockey to dismount from the horse.

The risk of injury while in the race does not dissipate over time as the jockeys are still at risk from falling from the horse. The speed of the horse, the position of the jockey on the horse and the proximity of the horses to one another elevate the risk for injuries to occur. According to Waller and colleagues (2000), jockeys missed riding days 69% of the time due to injuries sustained after falling off the horse. The possibility of fatal injuries is also a concern as over 100 jockeys have died from falling off their horse since 1950.

**Health Issues**

Other health issues prevalent among jockeys are weight management issues. Since jockeys are required to weigh in prior to the race to determine if they are eligible to race, the pressure jockeys experience to maintain weight result in the jockeys using extreme measures to shed pounds prior to the race. Jockeys differ from other sports that require weigh-ins prior to the start of competition as jockeys also have to weigh in after the race if they finish in the money. Other sports, such as boxing and wrestling have weigh-ins the day before, allowing them to refuel on energy sources. In addition, they are
not required to make weight every day, only before a match, which is usually weeks apart.

The methods employed to maintain weight could increase the risk for developing chronic health issues later in life. Jockeys are weight category athletes and given their methods of dietary restriction and other weight control techniques, have low bone density (Dolan, Crabtree, McGoldrick, Ashley, McCaffrey, and Warrington, 2012). Low bone density is a cause for concern given that fractures and other musculoskeletal injuries are the most common injuries jockeys sustain. Low bone density is also concerning as jockeys could develop osteoporosis and athlete triad. The athlete triad is the combination of low energy, low bone mass density, and reproductive issues, a disorder most often seen with female athletes in weight control sports (Dolan et al, 2012). Some of the methods that jockeys use to make weight include using a hot bath, restricting eating, excessive exercise, diet pills and purging (Hornung, 2007). The low energy intake jockeys use to make weight often causes dizziness prior to and during the race, increasing their risk of falling from the horse during the course of a race. Passing out, prior to and after a race, is also a commonality with jockeys (Hornung, 2007).

Safety Measures

Jockeys are required to wear protective equipment while riding including a helmet and safety vest. The National Thoroughbred Racing Association (NTRA) requires anyone mounted on a horse to wear a helmet (National Thoroughbred Racing Association, 2014). In addition, the helmets have to meet the standards of the American Society for Testing
and Materials (ASTM). The safety vest worn by jockeys must also meet the standards of ASTM. The code of standards of the NTRA only specifies that the helmet and safety vest be properly secured. There are no other specifications of what “properly secured” entails, and there are no guidelines requiring jockeys to have their helmet and safety vest inspected by a person who is knowledgeable in the proper fitting of equipment.

**Medical Care**

The recommendations for the medical care of jockeys specified by the NTRA are minimal. Racetracks are not required to adopt the recommendations, but are strongly encouraged to do so. Such recommendations include having a medical director, nurses, paramedics, facilities, and communication to outside health care facilities such as hospitals and trauma centers. If tracks do not have a medical director, they are required to show how they comparably can provide these services for jockeys (NTRA, 2014). In addition to strong recommendations for a medical director, the NTRA recommends having first aid facilities, a working relationship with a trauma level one (TLO) center, and communication with nearby hospitals to inform them of the potential for injured patients during racing hours.

Issues with proper care for jockeys have been long standing in horseracing. Until recently, jockeys were considered independent contractors and were required to pay for their own health coverage when injuries occurred while working. Due to the high risk for injury associated with being a jockey, premiums were high and some companies were not willing to cover jockeys (National Horsemen’s Benevolent Protection Association,
Amendments to the Interstate Horseracing Act of 1978 were proposed in an effort to use money revenue earned from simulcast racing to fund medical insurance for jockeys and track personnel (Interstate Horseracing Act, 1978). Legislators asked that a minimum of 50% of funds earned from off track wagering be put aside to create an insurance fund for track personnel injured on the job.

There has not been sufficient improvement in this area as in 2005, only five states offered workmen’s compensation for jockeys. Some racetracks in other states carried $100,000 insurance policies for the protection of jockeys in the event that they suffered an injury while on the job. Only a handful of tracks carried $1 million insurance policies (Thoroughbred Horse Racing Jockeys and Workers, 2005). The Jockeys’ Guild, an organization dedicated to the health and safety of jockeys was carrying the burden of paying for the health costs of jockeys injured while working.

**Summary**

The jockey profession is a small population of the spectator sport realm. This population of athletes does not receive the same national attention as other spectator sports in this country. Jockeys, demographically, do not receive the same benefits as their counterpart sports (i.e. pay, recognition, and medical care), their wages are dependent upon performance, televised events are a rare occurrence, and the same quality of medical is not readily available.

The literature on jockeys is limited, specifically in the area of health related issues. Literature regarding the injuries that jockeys sustain is limited in the United
States. Identification of the injuries that jockeys sustain has primarily been reference in international research. The results of the research on injuries to jockeys shows jockeys are at high risk for injury, to include fractures, dislocations, and concussions.

The current literature fails to looks at the jockey health in a multifaceted approach. This study’s purpose is to not only identify the injuries that jockeys sustain, but also the care they received post injury. In addition, to identifying the injuries that jockeys incur, this study aims to look at more chronic health issues and unhealthy habits that jockeys use as a result of the weight requirements in their profession.
Chapter 3

METHODOLOGY

Limited information is available regarding injuries, rate of injuries, and medical care received for jockeys in the United States. The purpose of this project was to collect information regarding jockey injuries and other health related issues to describe the current health state of jockeys in the United States.

Participants

The participants of this study included licensed jockeys who were current members of the Jockeys’ Guild. The participants were active jockeys from various states and licensed. Both male and female participants were included in this study. Retired members of the Jockeys’ Guild were not included in this study. Participants were recruited through the Jockeys’ Guild contact list. The survey was disseminated by the Jockeys’ Guild, and the researcher had no knowledge of whom the Jockeys’ Guild sent the survey. The goal was to receive 100 responses back, with the understanding that there would be participants who chose not to participate.

Measures (Variables)

The variables in this study include:

1. Days per week participants raced
2. Number of injuries during last racing meet
3. Number of injuries during career
4. Types of injuries
5. Body parts injured
6. Length of recovery time from each injury
7. Number of pounds lost each day
8. Methods for losing weight
9. Frequency of weight loss methods on a weekly basis
10. Evaluation by physician after an injury
11. Evaluation by a physician prior to returning to riding

**Instruments**

A non validated survey created in Google Forms was used to gather information regarding jockeys’ injury history over the course of their career, the care received for their injuries, dietary habits and weight loss techniques, and health care standards of racetracks. There were two separate language versions of the questionnaire (i.e., in Spanish and in English) disseminated to the participants. (Appendix A and B). The survey will be divided into three sections. The first section was composed of demographic questions such as age, gender, years in the profession, what racetracks they primarily ride, and where they rode the last racing meet. At the end of the section, participants were asked about their dietary habits and or weight loss practices. Questions included their normal weight, how much weight they needed to lose in a day and the various practices they use to maintain weight. Participants were asked to respond to
questions pertaining to other behaviors such as purging, using sweat rooms, tobacco use, limiting eating or drinking, use of laxatives and excessive exercise. In addition to such practices, participants were asked if they have been diagnosed with osteoporosis or eating disorders. The second section of the questionnaire focused on participants’ injuries, specifically the type of injury, body part injured, and the recovery time. Questions focused on both injuries sustained during their career, as well as the last racing meet. In addition, participants were be asked how their injuries and at what occurred and at what point. The required time of recovery was asked for each injury they sustained. The third section focused on the medical care received after injury. Questions attempted to identify if care was initiated by track medical personnel or outside medical facilities. Questions regarding follow up care were also be included to identify the length of time between injury and the time they were able to return to riding, if medical personnel were present at the time of injury, and if on track medical personnel evaluated them prior to returning to riding.

**Procedures**

Participants were recruited through the Jockeys’ Guild contact list. Prior to recruitment, Internal Review Board (IRB) approval was granted. Approval from the National Manager of the Jockeys’ Guild was also obtained. Following approval, the secretary of the Jockeys’ Guild sent members of the Jockeys’ Guild a recruitment email provided by the researcher via email. The email was sent to approximately 390 members of the Jockeys’ Guild who had their email addresses listed with the secretary of the
Jockeys’ Guild. The recruitment emailed included the link to the survey where members were directed to the informed consent form (Appendix C). Recruits read and provided consent prior to participation in the study. Parental consent forms or signatures were not needed since all participants were 18 years of age or older. Those who consented to the participate then answered the questions in the provided questionnaire. The survey was available for response for a three week period, between April 1, 2016 to April 25, 2016. Once all questions were answered, the participants’ responses were then submitted and stored with Google Forms. The researcher then compiled all responses into an excel spreadsheet on the researcher’s computer.

**Design**

Descriptive statistics were used to provide a picture of the current health situation of jockeys in the United States. A non validate survey was used to ask questions regarding injuries, weight loss practices, and physician evaluation for jockeys injured while riding. The non validated survey utilized multiple choice questions to gather data on their injury history as well as weight loss practices. The design of this study did not intend to find a causation of why injuries occurred, reasons behind weight loss practices, or a racetrack’s ability to provide follow up care.

**Data Analysis**

Descriptive statistics were used to quantify the types, averages, and frequencies of injuries, weight loss techniques and physician interaction post injury. Measures of central
tendencies were used for total reported injuries, and frequency distribution was used to show the type of injuries, the body part injured, and the number of riding days missed following injury. Frequency distribution was used to illustrate injuries during the course of their career as well as during the last racing meet. Frequency distribution was used to analyze weight loss techniques reported by jockeys. Frequency distribution was used to describe how often a physician is on site at a racetrack, if first aid or treatment facilities are on site, and if return to ride evaluations were performed by a track physician. All data collected provided a descriptive analysis of the current state of jockeys in the United States.

Summary

The purpose of these methods in this study were to determine the types of injuries that jockeys sustain, areas commonly injured, weight loss practices, as well as physician availability at racetracks post injury. The assumption was that jockeys are at risk for sustaining severe injuries to multiple body parts. In addition, the assumption was jockeys are required to lose excessive amounts of weight on a daily basis and will use multiple known weight loss methods. Lastly, it is assumed, that racetracks do not provide adequate access to health care personnel on site and that there is a lack in follow up care for those jockeys who sustain injuries while riding.
Chapter 4

RESULTS

The Jockey Health History Questionnaire was sent to three hundred and ninety members of the Jockeys’ Guild, on a national basis. The questionnaire was dispersed to members in both English and Spanish for response. Of the 390 members the questionnaire was sent to, only 17 responses were received, with all 17 responses from the English survey. With only 17 responses, no results can be determined to be statistically significant. Demographic information was obtained as well as descriptive data of injury history, weight loss practices, and physician treatment post injury.

Demographics

The demographic information obtained included age, gender, the racetrack they primarily rode throughout their career and the last race track they rode, and the number of years in the profession. Of the seventeen responses received, twelve were male and five were female respondents. The average age for female respondents was 38, for males 36, and 29 for the total respondents. Respondents with over 10 years’ experience as a professional jockey accounted for 64.7% of the 17 total responses and 1 to 3 years made up only 5.9% of all responses (See Figure 1). The locations where the respondents rode last track meet and throughout their careers’ was variable; with tracks from Arizona, New Mexico, California, Texas, Pennsylvania, and New Jersey identified. The tracks that respondents primarily rode and the tracks that they rode at last racing meet differed in all
but two cases. One of the two respondents rode at Turf Paradise in Arizona, while the other one rode at Golden Gate Fields in California.

Figure 1

Number of Years of Experience

Riding Frequency

Jockeys are often required to ride multiple days a week during any given racing meet. The number of live racing days a week varies from track to track, as well as the season. Respondents were asked how many days a week they rode on average for their career. Of the 17 responses, 8 responded with 4 days a week accounting for approximately 50% of all responses. None of the respondents rode seven days a week, and only one respondent rode only one day a week.
In a day jockeys are eligible to ride in multiple races. The number of races per day also varies by track, with the most number of races being 12 on a single day. The participants were asked on average how many races per day did they ride, with the answers being between 1 and 12. None of the respondents rode in more than 6 races a day. Four races per day was reported with 31.3% of the respondents.

**Weight Loss**

Maintaining weight for riding eligibility is a major aspect of a jockey’s profession. Participants were asked to provide their normal weight. The average weight for female respondents was 114 pounds and 116 pounds for male respondents. For the female respondents, only one respondent reported their normal weight to be over 114 pounds, it being 127 pounds. The normal weights for the male respondents were between 114 pounds and 122 pounds.

Jockeys often have to lose weight daily in order to stay within the weight requirements for any race. Participants were asked how many pounds a day they had to lose on a daily basis. 47% of the respondents reported that they had to lose less than 1 pound a day and 35% reported they had to lose between 1 and 3 pounds on a daily basis in order to be able to make the required weight to ride. None of the respondents reported needing to lose more than five pounds a day.

Various methods are known to be effective for losing weight in a short amount of time. Some of the weight loss techniques that jockeys have been known to use to make weight on a consistent basis include purging, sweat rooms, excessive exercise, limiting
food intake, smoking, and the use of laxatives. The participants were asked to report what weight loss methods they have used to lose weight. Participants reported using multiple techniques for losing weight. Limiting eating was reported 81.3% of the time. Sweat rooms or saunas were reported 62.5% by the respondents. 56.3% of the respondents reported using excessive exercise to lose weight (See Table 1). It is important to note that these numbers are only based on 16 responses, as one of the respondents chose to not answer the question.

Participants were also asked about the frequency in which they used weight loss methods. 31.3% of respondents reported using the above mentioned weight loss methods 3 to 5 times per week. Daily use of weight loss techniques was reported by 25% of the respondents. These numbers are also reflective of only 16 responses, as on the same respondent chose not to provide an answer to the question.

Due to the frequent use of weight loss practices participants were asked if they ever experience adverse effects from weight loss techniques prior to riding in a race. Participants were asked if they ever felt dizzy or light headed from weight loss before a race. Only seven participants chose to answer the question and all responses were yes. Out of the seven respondents, two reported fainting before a race due to weight loss before a race. Participants who answered yes to to feeling either light headed, dizzy, or if they fainted before a race were asked if they still raced. Only three of the seven reported that they still raced and the other four did not provide a response.

In an attempt to identify possible long term effects of daily weight loss, participants were asked if they ever were diagnosed with any eating disorders or
disordered eating. In addition to eating disorders or disordered eating participants were asked if they ever were diagnosed with osteoporosis. All 17 respondents answered no to both questions.

Table 1. Daily Weight Loss Methods

<table>
<thead>
<tr>
<th>Weight Loss Methods</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>smoking tobacco</td>
<td>1</td>
</tr>
<tr>
<td>limit eating</td>
<td>12</td>
</tr>
<tr>
<td>limit drinking</td>
<td>5</td>
</tr>
<tr>
<td>excessive exercise</td>
<td>8</td>
</tr>
<tr>
<td>sweat rooms</td>
<td>9</td>
</tr>
<tr>
<td>purging</td>
<td>4</td>
</tr>
<tr>
<td>laxatives</td>
<td>4</td>
</tr>
</tbody>
</table>

Injuries

Injury history was a primary focus of the survey. Over 50% of the respondents reported having more than seven injuries during their entire career, with more than seven injuries being the most common answer among respondents. In terms of the last racing meet, 14 of the respondents reported having between 1 and 3 injuries. Three of the respondents did not respond to the question or did not sustain any injuries during the last
racing meet. Various types of injuries were reported by participants. Fractures and sprains were the most frequently reported injuries (See Table 2).

Table 2. Types of Injuries

<table>
<thead>
<tr>
<th>Type of Injuries</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fracture</td>
<td>10</td>
</tr>
<tr>
<td>Dislocation</td>
<td>6</td>
</tr>
<tr>
<td>Sprain</td>
<td>8</td>
</tr>
<tr>
<td>Strain</td>
<td>6</td>
</tr>
<tr>
<td>Internal Injury</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>

Injuries to the shoulder and leg received the most responses, with injuries to the leg consisted of 75% of all reported injuries. 11 shoulder injuries were reported, accounting for 68.8% of all reported injuries (See Table 3). Of the total injuries reported, for both the last racing meet and entire career, 81% of injuries occurred during the course of the race. The starting gate was reported as the second most common place where injuries occurred, 43.8% of the time. Injuries at the starting gate could entail loading into the starting gate, while inside the starting gate, or as the horse was leaving the starting gate at the start of the race.
The number of days respondents were required to miss following an injury were variable. Respondents were asked to provide an average number of days that they missed for each injury. This took into consideration both non severe injuries as well as severe injuries. Only one respondent reported missing over 6 months on average of riding days during the course of their career. Injuries that required one month to over six months made up 52% of all responses. Injuries that required one to 10 days of missed riding time accounted for 41% of all responses.

From all injuries reported, participants were asked if they were diagnosed by a physician for their injuries and if they were seen by a physician at the racetrack. Over 80% of the respondents answered yes to being diagnosed by a doctor for their injuries following a riding accident. As for being seen by physician at the racetrack, 47% were
seen at the racetrack, with 52% not being seen by a track physician. All but two respondents reported that they were diagnosed by the physician immediately following an injury at the racetrack. For those who stated that a physician was not available at the track, all reported that an ambulance was available and were transported to the hospital in that ambulance. In addition to whether an ambulance was on site, participants who were not diagnosed by a physician immediately afterwards, were asked if a track physician cleared them to return to ride. One respondent reported no, while the other respondent reported that they were not cleared by a track physician prior to returning to ride. In regards to whether a treatment facility was available at the racetrack, 70% reported that a health care facility, doctor’s office or some other kind of treatment facility, was available following an injury.

**Overall Findings**

Overall, the results of the survey included jockeys from various states who ride at a multitude of racetracks across the United States. Participants in this study reported having a multitude of years of experience. The majority of the respondents were male.

The most frequent response for number of riding days per week for respondents was four days a week along with four races per day. The most frequently reported number of injuries for the respondents over a course of their careers was seven or more injuries. During the last racing meet, the most common response was between one and three injuries. Injuries to the leg was the most common injury reported, followed by shoulder injuries and back injuries. Fractures and sprains were the two most frequently
reported type of injury for the respondents. A majority of the injuries occurred around the starting gate (i.e., loading into the starting gate, in the starting gate, or as the horse was leaving the starting gate). As for the recovery time, by missed riding days, the most frequent response was two to four months. Approximately 50% of the respondents reported missing anywhere between four weeks to over six months following an injury.

As for physician availability, the results showed that all but two respondents were seen by a physician following an injury. Evaluation by a track physician versus an outside physician was closely divided, with approximately half saw by a track physician and the other half by a different physician. 70% of the respondents reported that a treatment facility was available on site at the race track.

In response to questions regarding weight loss, the results showed that the respondents needed to lose less than one pound in order to make weight on a daily basis. The most frequent reported method that the respondents used to make weight was limiting food intake, followed by the use of sweat rooms. The results illustrated that the respondents employed such techniques between three and five times per week. None of the respondents reported being diagnosed with either eating disorders, disordered eating or osteoporosis.
Chapter 5

DISCUSSION

Injuries to jockeys are a common occurrence as a result of high speeds, strength and proximity of the horses to one another during a race. Injuries commonly sustained include fractures, dislocations, head injuries, spinal injuries and, in some cases death (Waller et al, 2000). Despite the high risk of injury, safety measures have been slow to develop in the jockey profession, with limitations in medical care and oversight (Hornung, 2007). In addition to the potential risk of injury, jockeys also have pressure to be within specific weight ranges and to maintain that weight in order to be eligible to ride in certain races. As part of the weight limits for certain races, jockeys are required to weigh themselves multiple times a day on racing days, for each race they are hired to race in. The weight restrictions result in the use of various weight loss methods and can lead to adverse health conditions (Dolan, Crabtree, McGoldrick, Ashley, McCaffrey, and Warrington, 2012).

The purpose of this study was to show the injuries that jockeys sustain, the weight loss techniques they utilize, and physician evaluation after injuries occur. Information gained from this study should provide a picture into the injury history of jockeys, access to physician evaluation at the time of injury, post injury, as well as their requirements to maintain weight as required by each race. Each of these factors in combination with one another are unique to this population of athletes and their professional wellbeing and athletic performance The information could be used to provide a sample of what the health care needs are for jockeys in the workplace.
Survey Results

A non validated survey was created by the researcher to identify the types of injuries that jockeys sustain, the frequency of such injuries, as well as the location of the injuries. Following injury history, the survey also attempted to identify the frequency of physician interaction in the form of initial injury evaluation as well as clearance evaluation prior to returning to riding after an injury. In addition, the survey aimed to identify weight loss practices, to include the methods employed, the frequency of methods, and the amount of weight participants needed to lose on a daily basis.

Demographics regarding age, years as a professional jockey, and location of where participants were employed (i.e. the racetracks where they rode last track meet as well as their primary racetrack) were collected as a means of identifying the population of the participants. The demographic data showed that the average age of the participants was 29 years of age and the majority of the participants were male. As for location where the participants primarily rode, there were multiple open ended responses, which showed that the participants were employed in various different states across the United States. This study provided a small sample of jockey injuries on a national basis. As discussed previously, there is limited research on jockey injuries in the United States. Prior studies are limited to horse racing injuries in California (Hitchens et al. 2013; Waller et al 2000).

The results regarding injury showed that participating jockeys sustained many injuries throughout the course of their career. As shown in this study, although the sample was small, jockeys reported sustaining more than seven injuries through their entire career. In the their previously concluded racing meet, the results showed that jockeys
sustain at least one injury. This finding is consistent with previous research on European jockeys, as well as those in the United States (Press et al, 1995, Hitchens et al, 2013, Waller et al, 2000). In addition to the frequency of injury, although not statistically significant, did show that fractures were the most common reported injuries that jockeys incur as seen by the Press and colleagues (1995) study. Missed riding days as a result of injury showed that 50% of the participants missed one to over six months of riding days. The responses were not open ended responses which did not allow the participants to provide specific time frames for missed riding days. In addition, participants were asked to provide an average for the of missed riding days for all injuries, not independent injuries. These findings make it difficult to discern the length of time that the participants were unable to ride as a result of each injury, whether the injury was minor or if the injury was severe.

Weight loss methods employed was another aspect of the study. Multiple methods of weight loss were reported by the participants. Restriction of eating along with the use of sweat rooms were the most frequent responses. The method frequency showed that these methods are used three to five times a week, consistent with the number of days per week that the participants raced. The researcher did not ask how many days a week that each method was used, but rather how many days a week were any weight loss methods used. The survey also did not differentiate if multiple weight loss methods were used on the same day, but rather if they used them at any time during a course of a week. Other methods may have been used, but may not have been a provided answer for the participants.
Although previous research has shown that adverse effects of chronic weight loss can occur, this study did not support those findings. None of the respondents reported being diagnosed with any disordered eating or osteoporosis (Dolan et al, 2012, Dolan et al, 2013). Participants may not have been comfortable with answering yes to the question. It is possible that the participants may have disordered eating habits and or eating disorders that have not been diagnosed by a physician. Participants may have not understood what disordered eating entailed and did not feel that their eating habits did not constitute disordered eating. In regards to acute effects of weight loss, participants did report feeling dizzy or light headed before a race, although only seven participants responded to that question. In addition, of the seven that responded, five reported fainting before the race. Two of the five that reported fainting before a race due to weight loss, did say that they still continued to race afterwards. The purpose of the question was to identify if jockeys depleted their energy intake to the point of feeling dizzy, and thus increasing their risk of injury due to a fall. The findings of this study did support the hypothesis that jockeys would report using multiple weight loss techniques to maintain weight.

Although physician availability was assumed to not be present at racetracks, this study showed that physicians are sometimes present for injury evaluation. Approximately 50% of the participants reporting that they were seen by a physician at the racetrack at the time of their injury. Also, those who were evaluated by a physician, reported being cleared by a physician prior to returning to ride. This question could have been confused with evaluation by ambulance personnel, as all respondents stated that an ambulance was
present at the time of injury. In addition to the assumption that treatment facilities would not be present at racetracks, 70% of the participants reported that at the racetracks they rode, treatment facilities were on site.

Complications

Throughout the course of this study there were complications that caused the results to be statistically insignificant. The primary complication was a lack of response by the members of the Jockeys’ Guild. The survey was sent out to approximately 390 members, and only 17 responses were received. Also, no responses were received from the Spanish survey, thus further limiting the number of responses. The lack of response from both surveys did not provide enough data to draw significant conclusions about jockey injuries or overall health and wellness of this population. Response may have been limited by a number of different factors. The population may not have access to a computer or internet on a consistent basis, respondents may not have been comfortable with providing past injury history, or the response period may not have been long enough. The email sent through the Jockey’s Guild may not have reached the members due to changes in contact information. The email sent through the Jockey’s Guild may have been filtered in the spam folder of their email accounts as well. In regards to not feeling comfortable answering the questions asked in the survey, the participants may not have wanted to disclose their private health information, despite the responses being self reported and not supported by medical documentation. The length of time for response was also very brief. The members of the Jockeys Guild who were sent the
survey may not have ever checked their email prior to the response window closing. Due to the limited number of responses the data obtained cannot be used to provide generalized or specific information regarding this population. The results can only provide a small sample of what may be the current health state of jockeys in the United States.

The non validated survey also provided complications with this study. The survey was the primary reason that limited descriptive statistics were obtained, the questions within the survey made it difficult for the participants to provide accurate details of their injury history, weight loss methods, and physician interaction. The questions in the injury section asked participants to provide an average, rather than an actual count of the number of injuries they have sustained. By doing this participants were limited to only provided responses, which did not allow for specific numbers to be obtained. The provided answers were ranges of the number of injuries, which further limited the data, making it difficult to analyze the data other than frequency distribution. This continued to create difficulty with the responses. Participants were only able to provide a range on the number of injuries they sustained, as well as an average on the length of recovery for the injuries. The participants were unable to give specific information regarding the type of injury, whether or not it was evaluated by a physician, and how many riding days they missed as a result of that injury. This was a common issue throughout the entire survey.

Due to the lack of nominal data, only frequency of response could be analyzed, which in many of the cases only provided a range of the possible number of injuries, recovery time etc. The questions to ask averages to be provided, which further limited the
information received. The same isse was found when looking at weight loss techniques, physician interaction post injury and prior to returning to ride for each injury. Participants were asked to average the number of missed riding days for all injuries, rather than providing individual answers for each injury that they ever sustained. By doing this, more accurate averages could have been made.

The length of the time the survey was open may have heavily affected the number of responses. The survey response time was limited to a four week period. The time was limited due to the complications that arose during the research approval process. Approval from the Jockey’s Guild took approximately six weeks to obtain due to the limited availability of the National Manager of the Jockeys’ Guild to review the request and provide consent to conduct the research. It would have been ideal to have another four to six weeks of response time in order to increase the opportunity for response. It is assumed that the month of April was a high volume time for jockeys, with racing meets either starting or ending, thus limiting the availability of jockeys to respond to the survey. Response may have been improved if the response window fell during the winter time when the number of tracks racing may have been limited, thus allowing jockeys to respond. As stated earlier, the jockeys may never have seen the email sent due to changing their contact information and not updating it with the Jockey’s Guild, and it could have been filtered through to their spam folder on their email account. Whether or not this was the case, it is definitely something to take into consideration for future research on this population.
It is difficult to understand why there was no response to the Spanish version of the survey. Both links were provided in the email that was sent to participants. The only possible suggestion to this would be that the subject line on the email to the members of the Jockeys Guild was in English. This may have resulted in Spanish speaking members to disregard the email. Although this may have helped to increase the response for the Spanish survey, the number of response to the English survey was still limited to only 17 responses.

**Future Directions**

In order to further expand on this study, collecting injury data from the Jockey Health Information System (JHIS) would be beneficial in order to provide accurate data regarding injuries. JHIS is newly incorporated module at racetracks within their own Race Track Operations (RTO) software, where injuries and other health information can be stored. This system allows for health personnel at racetracks to access a jockey’s health records in case of injury while riding in a different state or at a different racetrack. This would allow for injury information to be obtained and be more accurate than self-reported data, as was seen in this study. This would provide real numbers regarding injuries as well as other chronic health concerns.

As racetracks continue to implement this system, data could be collected from all major racetracks providing specific data on injuries. Information from injury reports or accident reports would provide the data that was attempted in this study. Number of injuries, body parts injured, type of injury, and the recovery time would be supplied.
through this system. To expand on the current study, this software would allow for information to be collected regarding how the injury occurred and where on the track. This would help with looking at not only the acute traumatic injuries that occur during a race, but also would be able to identify chronic injuries resulting from repetitive riding.

Being able to collect accurate data on injuries for jockeys would provide racetracks the privilege of being able to see what areas could be improved to ensure the safety of jockeys. Although all injuries can not be avoided, understanding how injuries to jockeys occur could help race track officials to find ways to prevent injuries. In addition, information may alert racetrack officials to the health care needed on site to provide care post injury.

**Conclusions**

The analysis of this study did not reveal any significant data due to the limited number of responses and the structure of the non validated survey. This study did provide a small sample of some of the injuries, the frequency, and body parts injured. In regards to weight loss practices, this study did provide a small sample of the methods used by jockeys. This study did find that physicians are available at racetracks during racing, but it is unclear how often a physician is available day to day following an injury. Further research is needed on a larger scale to provide more accurate numbers regarding injuries, weight loss practices, as well as detailed descriptions of physician or other health personnel interaction.
APPENDIX A

Survey Questions (English)

Jockey Health History Questionnaire

Questions

1. Please input your age.
2. Please input your gender.
   Male
   Female
3. How long have been riding professionally?
   less than a year
   1-3 years
   3-5 years
   5-10 years
   10+ years
4. What racetrack do you primarily ride at?
5. Where did you ride last racing meet?
6. How many days a week do you race?
   1 day
   2 days
   3 days
   4 days
   5 days
   6 days
   7 days
7. On average how many races do you have per day?
   1 race
   2 races
   3 races
4 races
5 races
6 races
7 races
8 races
9 races
10 races

8. Have you ever sustained an injury while riding?
   Yes
   No

9. What is your normal weight?

10. How much weight do you need to lose on a racing day?
   less than 1 pound
   1-3 pounds
   3-5 pounds
   5+ pounds

11. What methods do you use to lose weight?
   Laxatives
   Purging
   Sweat Rooms
   Excessive Exercise
   Limit drinking
   Limit eating
   Smoking tobacco

12. How often do you use these methods to lose weight in a week?
   Once a week
   1-3 times a week
   3-5 times a week
   Daily
13. Have you ever been_____?
   Dizzy or light headed from weight loss before a race?
   Fainted before a race?
   If so, did you still race? (Check for yes)

14. Have you been diagnosed with any eating disorders and or disordered eating?
   Yes
   No

15. Have you been diagnosed with osteoporosis?
   Yes
   No

If you sustained an injury please answer the below.

16. Number of injuries during your entire career
   1-3
   3-5
   5-7
   7 or more

17. Number of injuries during your last racing meet
   1-3
   3-5
   5-7
   7 or more

Types of injuries
   Fracture
   Dislocation
   Sprain
   Strain
   Internal Injury
   Other

Body parts injured
Head
Neck
Shoulder
Arm
Hand
Back
Hip
Leg
Foot

18. Where did the injury occur?
   In the paddock
   In the starting gate
   At the start of the race
   During the race
   After the race

19. On average, how many days did you miss for each injury?
   1-3 days
   3-5 days
   5-10 days
   10-15 days
   20-30 days
   1-2 months
   2-4 months
   4-6 months
   6+ months

20. Were you diagnosed by a doctor for any of the injuries?
   Yes
   No

21. Were you seen by a doctor at the race track?
22. Was there a treatment facility on site at the racetrack?
   Yes
   No

If you were diagnosed by a doctor
   23. Did you see them immediately after the injury?
       Yes
       No

   24. Did they clear you to return to ride?
       Yes
       No
APPENDIX B
Survey Questions (Spanish)
Historial de salud física Jockey

Preguntas
1. Por favor introduzca su edad.
2. Por favor introduzca su género.
   Masculino
   Hembra
3. ¿Por cuánto tiempo se han de montar profesionalmente?
   Menos de un año
   1-3 años
   3-5 años
   5-10 años
   10+ años
4. ¿Qué circuito no utiliza la bicicleta principalmente a?
5. ¿Dónde montar última de carreras se encuentran?
6. ¿Cuántos días a la semana que la carrera?
   1 día
   2 día
   3 día
   4 día
   5 día
   6 día
   7 día
7. ¿En promedio, el número de carreras tiene usted al día?
   1 raza
   2 carreras
   3 carreras
   4 carreras
5 carreras
6 carreras
7 carreras
8 carreras
9 carreras
10 carreras
11 carreras
12 carreras

8. ¿Alguna vez ha sufrido una lesión mientras se conduce?
   Sí
   No

9. ¿Cuál es su peso normal?

10. ¿Cuánto peso que necesita perder en un día de carreras?
    menos de 1 libra
    1-3 libras
    3-5 libras
    5+ libras

11. ¿Qué métodos se utilizan para bajar de peso?
    Laxantes
    La purga
    Las habitaciones del sudor
    El exceso de ejercicio
    Limite el consumo de
    Limite los alimentos
    El tabaco de fumar

12. ¿Con qué frecuencia utiliza estos métodos para bajar de peso en una semana?
    Una vez por semana
    1-3 veces a la semana
    3-5 veces a la semana
Diariamente

13. Alguna vez has estado_____?
   Mareo o aturdimiento de la pérdida de peso antes de una carrera?
   Se desmayó antes de una carrera?
   Si es así, ¿ sigue siendo la carrera? (Compruebe sí)

14. ¿Ha sido diagnosticado con cualquier trastornos de la alimentación y trastornos de la alimentación o?
   Sí
   No

15. ¿Ha sido diagnosticado con la osteoporosis?
   Sí
   No

Si usted sufrió una lesión por favor responda el siguiente.

16. Número de lesiones durante toda su carrera
   1-3
   3-5
   5-7
   7 o más

17. El número de lesiones durante el último de carreras se encuentran
   1-3
   3-5
   5-7
   7 o más

   Tipos de lesiones
   Fractura
   Dislocación
   Esguince
   Tensión
   Lesión interna
Otro

Partes del cuerpo lesionadas
Cabeza
Cuello
Hombro
Brazo
Mano
Espalda
Cadera
Pierna
Pie

18. ¿Dónde ocurrió la lesión?
   En el paddock
   En la puerta de salida
   Al inicio de la carrera
   Durante la carrera
   Después de la carrera

19. En promedio, ¿cuántos días se le pasa por cada lesión?
   1-3 días
   3-5 días
   5-10 días
   10-15 días
   20-30 días
   1-2 meses
   2-4 meses
   4-6 meses
   6+ meses

20. Fue diagnosticado por un médico para ninguna de las lesiones?
   Sí
21. ¿Había una planta de tratamiento en el lugar en el circuito?
   Sí
   No

22. ¿Había una planta de tratamiento en el lugar en el circuito?
   Sí
   No

Si usted fue diagnosticado por un médico

23. ¿Los ve inmediatamente después de la lesión?
   Sí
   No

24. ¿Le CLEAR para volver a montar?
   Sí
   No
APPENDIX C

Informed Consent Form

Identifying Injuries, Chronic Health Conditions and Current Medical Care for Professional Jockeys

My name is Ashley Pollard and I am a graduate student at California State University, Sacramento, Department of Kinesiology. You are invited to participate in an IRB approved research study.

Your participation in this project is voluntary. Even after you agree to participate, you may decide to leave the study at any time.

The purpose of this research is to identify the injuries and health issues that jockeys incur as a result of their profession, as well as the medical care that race tracks provide to jockeys. If you decide to participate, you will be asked to answer questions via survey regarding your injury history, weight loss practices, and any health care provided by race tracks. Your participation in this study will last approximately 20 minutes, depending on time it takes to complete the survey questions. If you have any questions about your rights as a participant in a research project please call the Office of Research Affairs, California State University, Sacramento, (916) 278-5674, or email irb@csus.edu.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Measures to insure your confidentiality are you will not be asked to provide your name, date of birth, social security number or other direct identifiable information. Collection of your responses will remain anonymous to the researcher through the survey program. All data will be stored in the survey program and will be protected by a username and password. Data that will be protected will include your age, place of employment, and reported injury history and all responses to survey questions. The data obtained will be maintained in a safe, locked location and will be destroyed after a period of six months after the study is completed.

By participating in the study you indicate that you have read and understand the information provided above.
References


