

SELF-DETERMINATION THEORY AND
OKLAHOMA EQUESTRIANS: A MOTIVATION
STUDY

By

SHELLEY ELIZABETH MITCHELL

Bachelor of Science in Biological Science
Oklahoma State University
Stillwater, Oklahoma
1995

Master of Science in Environmental Science
Oklahoma State University
Stillwater, Oklahoma
2007

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
December, 2013

SELF-DETERMINATION THEORY AND
OKLAHOMA EQUESTRIANS: A MOTIVATION
STUDY

Dissertation Approved:

Dr. Lowell Caneday

Dissertation Adviser

Dr. Tyler Tapps

Dr. Donna Lindenmeier

Dr. Mark Payton

ACKNOWLEDGEMENTS

This study was about Oklahoma equestrians and their motivation to ride. The writer would like to express her appreciation to all of the equestrians that took the time to respond to the survey. Without their input, this study could not have been completed.

The writer would also like to express her appreciation to all of the people who gave advice and support in the creation and distribution of the survey and analysis of the data, namely: Donna Dollins, Dr. Janice Miller, Brian Mitchell (my husband), Jane Talkington, Diane Tipling, and Karen Williams. Appreciation is also expressed to the members of my committee for their guidance, advice, and encouragement for several years, in addition to helping me navigate this dissertation: Dr. Lowell Caneday, for mentoring me through the PhD (in addition to my MS!), reading my work (over and over), and offering support and helpful suggestions; Dr. Mark Payton, for helping me navigate the new world of non-parametric statistics and showing me that it's just as good as parametric statistics; Dr. Tyler Tapps, for making sure I was thinking clearly while crunching numbers, and helping me keep things in perspective; and Dr. Donna Lindenmeier, for being supportive of my survey instrument choice and showing enthusiasm for my study when I wasn't sure it was worthwhile.

A special thank you goes to my husband, Brian, who picked up a lot of slack in the housekeeping and parenting departments while I pursued this opportunity, and my daughter, Bethany, for sharing the computer when she would have rather not!

Name: SHELLEY ELIZABETH MITCHELL

Date of Degree: DECEMBER, 2013

Title of Study: SELF-DETERMINATION THEORY AND OKLAHOMA
EQUESTRIANS: A MOTIVATION STUDY

Major Field: HEALTH, LEISURE, AND HUMAN PERFORMANCE (LEISURE
STUDIES)

Abstract: The purpose of this study was to determine the characteristics of Oklahoma equestrians and their motivation(s) for leisure riding, as well as compare equivalent-form reliability between the Sport Motivation Scale (SMS) and the revised Sport Motivation Scale (SMS-II). Self-determination theory (SDT) was the basis of the study and the survey instruments. An online survey available from February through August of 2013 was completed by 195 riders, with 186 usable surveys. Nonparametric statistics were used to analyze responses, as assumptions for parametric statistics were not met. Responding Oklahoma equestrians were primarily female, ride mainly for fun, and have been riding horses for over 21 years. A third of the respondents were aged 50 to 59 years. Eighty percent ride Western style; two-thirds of the respondents have families involved with horses and two-thirds of the respondents also ride once or twice a week. Half of the responding equestrians came from households earning \$25,001 to \$75,000 a year before taxes. Responding Oklahoma equestrians ride primarily for fun and accomplishment, with few riding primarily to gain more knowledge of the activity. Riders in this study were primarily intrinsically motivated, followed by extrinsically motivated at the identified level, based on the autonomy continuum as described by SDT. In general, overall motivation (as measured by an overall SDT score) increases as frequency of riding increases. The SMS and SMS-II are significantly different in all subscales measured on both instruments. The original SMS does not measure the integrated level of extrinsic motivation and also gives more weight to the measure of intrinsic motivation, because it measures three separate levels of it. The revised SMS (SMS-II) not only adds a measure for integrated regulation, but also measures intrinsic motivation in general, giving intrinsic motivation a more appropriate degree of influence on the overall SDT score. The SMS-II is the instrument recommended for further studies, although the three separate measures of intrinsic motivation from the original SMS are still useful in determining what kinds of intrinsic motivation are at play within an individual.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Statement of the Problem.....	2
Purpose of the Study	2
Research Hypotheses	2
Justification for the Study	5
Definition of Terms.....	7
Scope of the Study	10
Limitations	10
Logical Assumptions	11
II. REVIEW OF LITERATURE.....	13
Motivation.....	13
Theoretical Framework: Self-Determination Theory	15
Basic Needs.....	16
Autonomy	17
Competence.....	19
Relatedness	19
Types of Motivation.....	19
Intrinsic Motivation	20
Extrinsic Motivation	24
Amotivation	28
Outcomes and Consequences of Motivation.....	29
Flow	30
Self-Determination Theory and Sports	31
Horses in Recreation and Sport.....	33
III. METHODOLOGY	38
Measuring Motivation.....	38
The Sport Motivation Scale	39
Disadvantages of the Sport Motivation Scale	42
Additional Evaluations of Sport Motivation.....	42
The Revised Sport Motivation Scale, SMS-II	43

Chapter	Page
Instruments.....	45
Participants and Procedures	45
Data Analysis	46
IV. FINDINGS.....	49
Introduction.....	49
Findings of the Study	50
Demographics of the Included Respondents.....	51
Research Hypothesis 1	52
Research Hypothesis 2.....	56
Research Hypothesis 3.....	62
Research Hypothesis 4.....	67
Research Hypothesis 5.....	71
Research Hypothesis 6.....	75
Research Hypothesis 7.....	80
Research Hypothesis 8.....	86
Research Hypothesis 9.....	90
V. CONCLUSION.....	95
Demographic Patterns Among Responding Oklahoma Equestrians	95
Types of Intrinsic Motivation Exhibited by Responding Oklahoma Equestrians.....	95
Types of Motivation Exhibited Most by Responding Oklahoma Equestrians	97
Overall Self-Determination Scores for Responding Oklahoma Equestrians	98
Comparison of the SMS and the SMS-II	99
Recommendations.....	99
Recommendations for Additional Research	101
REFERENCES	102
APPENDICES	109
Appendix A – The Original Sport Motivation Scale	110
Appendix B – The Revised Sport Motivation Scale.....	113
Appendix C -- Survey	115
Appendix D – Consent Form	122
Appendix E – IRB Approval.....	124

LIST OF TABLES

Table	Page
1 Characteristics of Intrinsic and Extrinsic Motivation	20
2 Nutriments Present at Each Level of the Autonomy Continuum	29
3 Examples of Studies Involving Self-Determination Theory in Sports Settings.....	32
4 Locations of Survey Respondents Included in the Survey	50
5 Characteristics of Survey Respondents Included in the Survey	51
6 Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Males (N = 29) and Females (N = 157)	53
7 Frequency and Percentage of Types of Motivation with Highest Construct Average for Males (N = 29) and Females (N = 157).....	54
8 Overall SDT Mean and Median Scores for Males and Females.....	55
9 Analysis of Gender Differences Using a Mann-Whitney U Test - Ranks	56
10 Analysis of Gender Differences Using a Mann-Whitney U Test - Test Statistics	56
11 Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians with Various Reasons for Riding.....	58
12 Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians with Various Reasons for Riding	59
13 Overall SDT Mean and Median Scores for Different Primary Reasons for Riding	60

Table	Page
14 Analysis of Differences in Reasons for Riding Using a Kruskal-Wallis H Test - Ranks	60
15 Analysis of Differences in Reasons for Riding Using a Kruskal-Wallis H Test - Test Statistics	61
16 Sample Contrasts for Different Primary Reasons for Riding	62
17 Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians with Various Years of Riding Experience.....	64
18 Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians with Various Years of Riding Experience.....	65
19 Overall SDT Mean and Median Scores for Riders with Varying Years of Experience	66
20 Analysis of Differences in Years of Riding Using a Kruskal-Wallis H Test - Ranks	66
21 Analysis of Differences in Years of Riding Using a Kruskal-Wallis H Test - Test Statistics.....	67
22 Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians of Various Ages.....	68
23 Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians of Various Ages.....	69
24 Overall SDT Mean and Median Scores for Riders of Various Ages	70
25 Analysis of Differences in Ages of Riders Using a Kruskal-Wallis H Test - Ranks	70
26 Analysis of Differences in Ages of Riders Using a Kruskal-Wallis H Test - Test Statistics.....	71
27 Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for English (N = 38) and Western (N = 148) Riders	72

Table	Page
28 Frequency and Percentage of Types of Motivation with Highest Construct Average for English (N = 38) and Western (N = 148) Riders	73
29 Overall SDT Mean and Median Scores for English and Western Riders	74
30 Analysis of Riding Style Differences Using a Mann-Whitney U Test - Ranks	74
31 Analysis of Riding Style Differences Using a Mann-Whitney U Test - Test Statistics	75
32 Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians of Differing Income Levels	77
33 Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians with Different Levels of Income	78
34 Overall SDT Mean and Median Scores for Riders with Different Levels of Income	79
35 Analysis of Differences in Income of Riders Using a Kruskal-Wallis H Test - Ranks	80
36 Analysis of Differences in Income of Riders Using a Kruskal-Wallis H Test - Test Statistics	80
37 Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians of Various Riding Frequencies.....	82
38 Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians of Various Riding Frequencies	83
39 Overall SDT Mean and Median Scores for Different Riding Frequencies	84
40 Analysis of Differences in Riding Frequencies Using a Kruskal-Wallis H Test - Ranks	84
41 Analysis of Differences in Riding Frequencies Using a Kruskal-Wallis H Test - Test Statistics	85
42 Sample Contrasts for Different Riding Frequencies	86

Table	Page
43 Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Riders Whose Families are (N = 129) or are not (N = 57) Involved with Horses	87
44 Frequency and Percentage of Types of Motivation with Highest Construct Average for Riders Whose Families are (N = 129) or are not (N = 57) Involved with Horses	88
45 Overall SDT Mean and Median Scores for Riders Based on Family Involvement with Horses	89
46 Analysis of Family Involvement Differences Using a Mann-Whitney U Test - Test Statistics	89
47 Analysis of Family Involvement Differences Using a Mann-Whitney U Test - Test Statistics.....	90
48 Analysis of Construct Differences Between the SMS and SMS-II Using the Wilcoxon Signed Ranks Test -- Ranks.....	93
49 Analysis of Construct Differences Between the SMS and SMS-II Using the Wilcoxon Signed Ranks Test -- Test Statistics.....	94

CHAPTER I

INTRODUCTION

Oklahoma has had a reputation as a national center for the horse industry since the turn of the 21st century. National and world-level horse shows are held in Oklahoma, and many breed associations are located in the state. Breeding, training, boarding, horse sales, trail rides, feed and tack sales are just some of the commercial equine activities in Oklahoma, supporting over 31,600 jobs and with an economic impact of approximately \$1.2 billion in 2005 (American Horse Council Foundation, 2005).

Oklahoma currently ranks fourth in the nation in number of horses, and first in the nation in number of horses owned per capita (Freeman, 2009). State breed and horse sport associations have indicated rising numbers of riders interested in novice and amateur competitions, and these associations are increasingly promoting pleasure riding outside the arena, such as trail riding (Freeman, 2009).

This study centered on the motivations and characteristics of Oklahoma equestrians in both English and Western disciplines. By discovering the characteristics and motivations of Oklahoma equestrians, leisure service providers may be able to target their marketing to their most likely consumers as well as tailor their programs and facilities to best accommodate riders.

Statement of the problem

There are few scholarly studies regarding horseback riding outside of the medical (sports medicine and traumatic injuries) and therapeutic (mental and physical disabilities) contexts. As horses are a major industry in Oklahoma, and the state has more horses per capita than any other, understanding the characteristics and needs of Oklahoma equestrians is important, and can be justified for reasons of economic interest as well as improving quality of life in one of the least healthy states in the nation (Centers for Disease Control and Prevention, 2011).

Purpose of the study

The purpose of this study was to explore the facets of motivation in action when Oklahoma horseback riders choose to ride horses. Demographics were collected to allow comparison of riding motivation among riders varying in ages, experience in horseback riding, riding styles (English, Western) and level of participation (pleasure riding, competition), gender, frequency of riding, family involvement, and socioeconomic status. In addition, two different versions of the Sport Motivation Scale (the original SMS and the revised SMS/SMS-II) were compared to determine whether they demonstrated good equivalent-form reliability.

Research hypotheses

Research Hypothesis 1:

H_0 = There is no tendency for ranks of the self-determination index of motivation for leisure riding for one gender in Oklahoma to be significantly different from those of the other.

H_1 = The ranks of the self-determination index of motivation for leisure riding for one gender in Oklahoma are significantly different from those of the other.

Research Hypothesis 2:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any of the reasons that Oklahoma equestrians primarily ride.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for at least one reason for riding when compared to the other reasons that Oklahoma equestrians primarily ride.

Research Hypothesis 3:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any number of years of riding experience for Oklahoma equestrians.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for any number of years of riding experience when compared to the other numbers of years of riding experience for Oklahoma equestrians.

Research Hypothesis 4:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any age of Oklahoma equestrians.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for any age when compared to the other ages of Oklahoma equestrians.

Research Hypothesis 5:

H_0 = There is no tendency for ranks of the self-determination index of motivation for one style of leisure riding (English or Western) in Oklahoma to be significantly different from those of the other.

H_1 = The ranks of the self-determination index of motivation for one style of leisure riding (English or Western) in Oklahoma are significantly different from those of the other.

Research Hypothesis 6:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any socioeconomic status of Oklahoma equestrians.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for any socioeconomic status when compared to the other socioeconomic statuses of Oklahoma equestrians.

Research Hypothesis 7:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any riding frequency of Oklahoma equestrians.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for any riding frequency when compared to the other riding frequencies of Oklahoma equestrians.

Research Hypothesis 8:

H_0 = There is no tendency for ranks of the self-determination index of motivation for leisure riders in Oklahoma whose families are involved with horses to be significantly different from those whose families are not involved with horses.

H_1 = The ranks of the self-determination index of motivation for leisure riders in Oklahoma whose families are involved with horses are significantly different from those of the riders whose families are not involved with horses.

Research Hypothesis 9:

H_0 = The original and revised Sport Motivation Scales demonstrate good equivalent-form reliability.

H_1 = The original and revised Sport Motivation Scales do not demonstrate good equivalent-form reliability.

Justification for the study

Our ancestors lived more active lives, having to get up and move to build or find housing, interact with neighbors, and grow, gather, or hunt food. In modern society, work often entails hours spent sedentary in front of a computer screen, school recesses are being shortened or eliminated and replaced with more instructional time, and recreation (in the form of movies, video games, virtual interactive games on the internet) often involves minimal physical activity (Ryan, Williams, Patrick, & Deci, 2009). The goal of self-determination theory, the theory of motivation upon which this study was based, is to distinguish “those forces that cultivate human potential, development, integration, and welfare (Bryan & Solmon, 2007, p. 262).” Self-determination theory attempts to determine why people behave as they do, and this makes it important in understanding sports behavior, since “the behavioral regulation mechanism may influence the degree to which individuals are physically active (Bryan & Solmon, 2007, p. 262).” Physically active people often find that activity contributes to a feeling of personal wellness, and can be rewarding in

its own right due to increases in energy and happiness (Ryan, Williams, Patrick, & Deci, 2009).

Oklahoma is the state with the fourth most number of horses, behind Texas, California, and Florida, but ranks first in number of horses per capita (Freeman, 2009). According to the 2012 American Horse Publications Equine Industry Survey, the number of horses owned increases from the coasts of the United States and peaks in the center of the nation in zip code region 7 (corresponding to Arkansas, Oklahoma, Louisiana, and Texas) (Stowe, 2012). The American Horse Council estimates that almost 61,000 adult Oklahomans own horses (Freeman, 2009).

The personalities of those involved with horse activities, as well as their motivation to pursue activities involving horses, has not been sufficiently studied (Robinson, 1999). “The lack of good research into human-horse relationships necessitates a review of surveys. . .to give an indication of who rides and an indication of their attitudes” (Robinson, 1999, p. 45). Such information would be beneficial to many types of leisure service providers. Understanding riders’ motivations could help leisure service providers identify potential increases in demand for land or services (Robinson, 1999).

In addition to improving services allowing Oklahoma equestrians to participate in their sport to the fullest extent possible, knowing the characteristics of the Oklahoma horse industry better may help the state economically. Oklahoma hosts many horse events every year, including races, rodeos, breed and open shows, and trail rides. Many of the events bring people in from all over the country and even the world. Dr. David Freeman, of Oklahoma State University, estimates that fifteen of the national and world level horse

shows held annually in Oklahoma City bring more than \$100 million to the state (2009). A 2004 study by the American Horse Council determined that the gross domestic product produced by the horse industry in Oklahoma is about \$1.2 billion, with showing and recreation activities accounting for 65%, and racing activities accounting for 18% (other activities account for the remainder of the estimate) (AHCF, 2005). "Continued efforts are needed to gather information that would assist the economic growth and development of one of the largest industries in the state" (Freeman, 2009).

Definition of Terms

Amotivation – the lack of intention to act (Ryan, Williams, Patrick, & Deci, 2009)

Autonomy – "capacity for and desire to experience self-regulation and integrity"
(Deci & Ryan, 2012, p. 85)

Autonomous motivation – motivation in which a person is experiencing volition and choice, fully willing to engage in a behavior that is interesting and deeply valued by the person (Deci, 2012)

Basic Needs Theory – a subtheory of SDT (self-determination theory) that "examines relations between psychological needs, their origins, and behavior and salient outcomes"
(Hagger & Chatzisarantis, 2007, p. xi)

Causality Orientations Theory – a subtheory of SDT that "examines individual differences in personal tendencies to pursue and engage in self-determined behaviors"
(Hagger & Chatzisarantis, 2007, p. xi)

Controlled motivation – motivation brought about by pressuring, coercing, or otherwise seducing a person; associated with tension and anxiety, as well as negative consequences for performance and well-being (Deci, 2012)

English riding disciplines – Riding activities that take place in a lightweight saddle with no horn, in metal stirrups hung from narrow leather straps, and usually with one rein in each hand; examples include show jumping, dressage, polo, saddleseat, racing, huntseat, eventing (Normando, Meers, Samuels, Faustini, & Ödberg, 2011)

Equestrian – “of or relating to horseback riding or horseback riders” (Houghton Mifflin, 1993)

Exercise – “a subcategory of physical activity that is planned, structured, repetitive, and purposive” (Fortier & Kowal, 2007, p. 113)

Extrinsic motivation – “characterizes activities that are performed in order to obtain some separable outcome, whether that be a tangible reward, an avoidance of a punishment, or the attainment of recognition, or approval” (Ryan, Williams, Patrick, & Deci, 2009, p. 110)

Flow – a highly enjoyable, positive psychological state; “Flow denotes the wholistic (sic) sensation present when we act with total involvement” (Csikszentmihalyi, 1975, p. 43).

Gender – For this study, “gender” refers to whether a person is anatomically male or female.

Hierarchical Model of Intrinsic and Extrinsic Motivation (HMIEM) – A theoretical model that considers the interrelatedness amongst the three types of motivation (intrinsic motivation, extrinsic motivation, amotivation) at three levels within a person (situational,

contextual and global). In addition, the HMIEM looks at the social factors and their mediators (perceptions of competence, autonomy, and relatedness) that influence motivation, as well as the consequences of motivation at cognitive, affective, and behavioral levels (Vallerand, 2000).

Intrinsic motivation -- voluntary participation in an activity simply for the satisfaction derived from the participation (Ryan & Deci, 2007)

Motivation – the energy for an action (Deci, 2012); “an internal state that energizes and drives action or behavior and determines its direction and persistence” (Hagger & Chatzisarantis, 2007, p. xi)

Physical activity – “any bodily movement produced by skeletal muscles that results in energy expenditure” (Fortier & Kowal, 2007, p. 113)

Recreation – “leisure activity with social purposes and organization. . .always beneficial in intent” (Kelly, 1996, p. 26)

Self-Determination Theory (SDT) – “posits a specific human nature, one that thrives under conditions of support for competence, autonomy, and relatedness, and yet becomes defensive, reactive, and compliant under conditions of need deprivations or thwarts” (Ryan, 2012, p. 7)

Sport – “organized activity in which physical effort is related to that of others in some relative measurement of outcomes with accepted regularities and forms” (Kelly, 1996, p. 214)

Western riding disciplines – Riding activities that take place in a heavy saddle with a horn, in stirrups hung on wide straps, and usually with both reins carried in one hand;

examples include team roping, cutting, reining, barrel racing, trail riding (Normando, Meers, Samuels, Faustini, & Ödberg, 2011)

Scope of the Study

This study focused on adult amateur horseback riders who ride at least one time a year within the state of Oklahoma. Excluded were those riding for a profession (trainers, jockeys, instructors); those who use horses exclusively for driving, farm chores, or other non-riding purposes; and those who ride only within the confines of a therapeutic riding program. Horse ownership was not a requirement in this study; riders in lesson programs or who borrow or rent horses were also part of this study.

Limitations

While there are many theories of motivation, this study focused on Ryan and Deci's Self-Determination Theory. The instruments (the Sport Motivation Scale and the SMS-II) used in this study differentiate degrees of intrinsic motivation, extrinsic motivation, and amotivation, described in the Self-Determination Theory, as well as the trichotomy of intrinsic motivation (the Sport Motivation Scale) described by Vallerand in the Hierarchical Model of Intrinsic and Extrinsic Motivation.

This study made use of an online survey. This limited respondents to people who were able to use computers to access the internet as well as had access to such a computer. Since it was a voluntary survey, respondents and non-respondents may have differed in their motivations to answer the survey on their own time for no material reward. The volunteer respondents were part of a convenience sample and not part of a random sampling process, as respondents were made aware of the study by seeing flyers in feed

stores, tack stores, or riding stables; seeing online postings on horse-related pages on Facebook; or through contact by the researcher or other respondents. The self-selection process and convenience sampling introduce selection bias into the research.

Logical Assumptions

The Sport Motivation Scale and SMS-II, which were the instruments used in this study, collect Likert scale data. Likert scale items use multiple points (in the case of the Sport Motivation Scale and SMS-II, seven points) to indicate the degree to which a respondent agrees with a statement in a survey. There has been on-going debate without resolution between researchers as to how to analyze Likert scale data. One side argues that the intervals between the values on the scale are not equal and represent only ordinal data, so only nonparametric statistics should be used in analysis (Jamieson, 2004). The other side maintains that while it is true that Likert scale data are ordinal, in some situations it is valid to run parametric tests such as ANOVA (Carifio & Perla, 2007). This study used averages of Likert scale data to compare construct measurement between the two instruments, as well as a composite SDT score determined using weighted values of averages. Since each average represents three to four Likert scale scores per construct, and each survey respondent interpreted the Likert values differently, the data were considered ordinal data, and nonparametric statistics were used for analysis.

The metatheory of self-determination theory has two fundamental assumptions: 1) people are active organisms that initiate engagement with their surroundings (the energy for this is supplied by intrinsic motivation), and 2) people tend to internalize information

(knowledge, values) and integrate this information with their own personal drives and emotions (Deci & Ryan, 2012).

CHAPTER II

REVIEW OF LITERATURE

Motivation

Motivation is commonly misunderstood in the realm of physical activities, often equated with arousal (e.g., pep talks in locker rooms before games), positive thinking (being confident or having a winning attitude), or personality traits ('That athlete is motivated, just like his father.'). These assumptions oversimplify the complex concept of the process of motivation—indeed, there are over 30 distinct theories of motivation! True motivation theories go beyond the activity of setting goals, and include the impulsion for such actions (Roberts, 2001).

Many studies have treated motivation as a unitary concept, considering only the apparent amount of motivation associated with a behavior, and hypothesizing that if the amount of motivation is known, the coinciding behavior can be estimated. Deci and Ryan, however, state that it is the *quality* of a behavior, not the *quantity*, that matters. According to Deci, "you have to differentiate types of motivation (2012)," with the two main types being controlled (extrinsic) and autonomous (intrinsic) motivation.

According to Vallerand's Hierarchical Model of Intrinsic and Extrinsic Motivation (HMIEM), intrinsic motivation, extrinsic motivation, and amotivation must all be

included in any analysis of motivation, because together they explain a wide range of human behaviors, “represent essential aspects of human experience” (2007, p. 256), and produce a variety of consequences. Sport participation often necessitates at least some degree of extrinsic motivation at times, whether in long bouts of practice or extrinsic rewards from coaches, for example. Ryan and Deci (2007, p. 6) state that “any complete motivational theory of sport and exercise must address the nonintrinsically motivated aspects of those pursuits.”

Early in the 20th century, motivation theories were mechanistic, considering humans to be passive and impelled by ‘drives,’ such as meeting biological needs or reaching self-actualization. These theories are exemplified by researchers such as Skinner and Maslow. However, motivation involves far more than simply aiming to maintain homeostasis, and so cognitive theories began to emerge in motivation research as scholars recognized that humans are capable of initiating action, making their own decisions, and being personally responsible for their behaviors (Roberts, 2001).

Motivation is an intrapersonal process that is future oriented, and through which an individual decides how many personal resources to invest in order to reach a goal. Using motivation, a human being evaluates his progress toward his goal and alters his behavior to ensure success at his desired level, which may be self-referenced or involve the criteria of significant others (Roberts, 2001). Motivation provides the energy for action (Deci, 2012); it is “an internal state that energizes and drives action or behavior and determines its direction and persistence” (Hagger & Chatzisarantis, 2007, p. xi).

Motivation influences the behavior of athletes (persistence, learning and performance) and is affected by social influences in sports, such as competition and the behavior of coaches; as such, motivation is at the core of “sport’s most interesting problems” (Pelletier et al., 1995, p. 36).

Theoretical Framework: Self-Determination Theory

Originally developed by Edward Deci and Richard Ryan of the University of Rochester in the mid-1980s, self-determination theory is an attempt to determine why people choose to pursue certain goals. Self-determination theory has been applied in many different life contexts, including work, education, medicine, sport, and entertainment (Ryan, 2012). It “has relevance to physical activity pursuits in that the behavioral regulation mechanism may influence the degree to which individuals are physically active” (Bryan & Solmon, 2007, p. 262). The theory affirms that physical activities can be both intrinsically and extrinsically motivated (Ryan, Williams, Patrick, & Deci, 2009).

Self-Determination theory (SDT) is a metatheory of motivation with four subtheories:

1) Cognitive Evaluation Theory (CET) – outlines the environmental factors that work to support or hinder intrinsic motivation, which is considered the embodiment of autonomous motivation;

2) Organismic Integration Theory (OIT) – outlines how extrinsically motivated behaviors can be internalized and integrated, becoming tools to help a person achieve goals that satisfy their psychological needs;

3) Causality Orientations Theory -- examines the differences in motivation levels, from amotivation to intrinsic motivation, among people in a general sense (at the global level, according to Vallerand's hierarchical model); and

4) Basic Needs Theory – autonomy, competence, and relatedness are the three essential needs for personal well-being, whether or not they are valued or sought; needs that are not met will negatively affect motivation and wellness, while satisfied needs will enhance motivation and wellness (Hagger & Chatzisarantis, 2007; Ryan & Deci, 2007).

Self-determination theory builds upon the work of primatologist Harry Harlow, who first used the term 'intrinsic motivation' to describe the active, exploratory behavior of adult rhesus monkeys given access to a puzzle with no external rewards for solving it (Harlow, 1950), as well as the work of Robert White, who introduced the concept of 'effectance' — "the effectance urge represents what the neuromuscular system wants to do when it is otherwise unoccupied or is gently stimulated by the environment" (White, 1959, p. 321). The principles of self-determination theory oppose B. F. Skinner's (1953) argument that *environmental* reinforcers always control behavior, as well as Clark Hull's (1943) hypothesis that all behavior is related to basic *biological* drives and the satisfaction of those *physical* needs (Hagger & Chatzisarantis, 2007).

Basic Needs

Rather, Deci and Ryan's self-determination theory defines three specific basic and universal *psychological* needs essential for healthy human functioning — autonomy (self-determination) in their own behaviors, competence navigating their internal and

external environments, and feelings of relatedness with other people (Deci & Ryan, 2012, p.87). When these three needs are satisfied, people act autonomously and with volition (and are considered intrinsically motivated). However, if these needs are unmet, people feel controlled and lack ambition (therefore considered to be extrinsically motivated or amotivated) (Deci & Ryan, 2012; Hagger & Chatzisarantis, 2007). These three needs are considered “nutriments essential to growth, integrity, and well-being” (Ryan & Deci, 2007, p. 13), whether or not a person seeks or values them. The fact that all three nutrients are necessary to avoid negative functional effects has been well supported and tested through research by others; many studies have maintained that people (across cultures, ages, and socioeconomic levels) who experience greater satisfaction with these three needs also show greater psychological health (Deci & Ryan, 2012; Ryan & Deci, 2007).

The three basic needs of autonomy, competence, and relatedness are not limited to the research of Deci and Ryan. Kleiber (1999, p. 21) states that autonomy, competence, and social involvement (relatedness) direct “a significant amount of human behavior.” Fortier and Kowal (2007, p. 117) report that “perceptions of autonomy, competence, and relatedness are associated with flow,” and affirm that research has supported that statement.

Autonomy

Autonomy is a central force in human development; healthy people become more autonomous over their life span as they learn to manage their drives and emotions, internalizing and eventually integrating external regulations into their

personal behavior. Autonomous people are receptive to new ideas and exhibit engagement and creativity in their lives (Deci & Ryan, 2012). “When afforded autonomy, people are more apt to behave in ways that further their own capabilities and thriving” (Deci & Ryan, 2012, p. 90). Autonomous actions “have been consistently shown to be associated with psychological health and effective performance” (Deci & Ryan, 2012, p. 85), although social contexts, whether close (family) or more distant (culture), can affect people’s need satisfaction and type of motivation, thereby affecting their psychological health and effectiveness (Deci & Ryan, 2012).

While quantity of *general motivation* reveals little regarding personal behavior and goal pursuits, the amount of *autonomy* reveals much. Knowing where a person’s motivation lies along an autonomy continuum (from amotivation to extrinsic motivation to intrinsic motivation, in order from least autonomous to most autonomous) is important for predicting the quality of a person’s engagement, performance and well-being (Deci & Ryan, 2012). People live in a social world, with relationships both close (relatives, friends) and distant (cultural values), and social interactions can serve to hinder or sustain the implementation of autonomy (Deci & Ryan, 2012). “Self-direction does not operate independently of social forces. Indeed, the environment impinges on behavior in a wide variety of ways (Kleiber, 1999, p. 17).” “The extent to which individuals take action is thus regarded not only as a response to biological and social imperatives but also as a function of their own conception of alternatives (Kleiber, 1999, p. 19).”

Competence

Perceptions of competence can be met a variety of different ways, as long as the focus is on individual improvement and not on social factors. Competence is measured against task-referenced, self-referenced, and normative-referenced standards. An individual is aware of their abilities to complete a task, to improve in their performance at the task, and in comparison to the performance of others at the same task (Bae, 2010). High levels of perceived competence are positively correlated to increases in self-determination (Li, Lee, & Solmon, 2005).

Relatedness

Relatedness is important to the psychological well-being of an individual. It is a feeling of belonging among others considered significant to the individual, as well as feeling understood and finding worth in everyday activities (Bae, 2010). Research has shown higher levels of intrinsic motivation among students who felt they had an understanding and attentive teacher (Ryan & Grolnick, 1986), although according to Deci and Ryan (2000), it is possible for certain people to be intrinsically motivated while engaging in lone pursuits that do not require interactions with others.

Types of Motivation

There are three main types of motivation: intrinsic motivation, extrinsic motivation, and amotivation (lack of motivation). Intrinsic motivation and extrinsic motivation differ in three main ways (see Table 1): 1) a teleological (purposive) perspective, 2) a phenomenological (experience) perspective, and 3) the type of rewards sought (Vallerand, 2001).

Table 1

Characteristics of Intrinsic and Extrinsic Motivation

	Type of Motivation	
	Intrinsic	Extrinsic
Purpose of Participation	Enjoyment in the process itself	Benefits derived from participating
Emotions Experienced	Pleasant (enjoyment, freedom, relaxation)	Tension and pressure (social approval is not under their direct control)
Rewards	Affective rewards (enjoyment, pleasure)	Social or material rewards

Intrinsic Motivation

Living organisms have a tendency to manipulate and explore their surroundings, as well as challenge their abilities; this helps organisms become competent at survival skills. However, young organisms are not cognizant of the survival advantages of these activities, so such actions must be enjoyable to an organism; this enjoyment is what characterizes intrinsic motivation. “The main ‘reason’ people provide for engaging in active sport activities is that they find them interesting, challenging, and enjoyable (Ryan, Williams, Patrick, & Deci, 2009, p. 109).” Intrinsic motivation is rooted in the three nutriments of competence, autonomy, and relatedness; people are intrinsically motivated to participate in activities that allow them to fulfill these important and natural psychological needs (Pelletier et al., 1995). Research has discovered that there are a plethora of positive outcomes resulting from intrinsic motivation, such as “better

learning, greater effort and persistence, enhanced performance, and greater creativity (Carbonneau, Vallerand, & Lafrenière, 2012, p. 1148),” as well as “enhanced psychological well-being and quality of life (Bae, 2010, p. 11).”

Though there are many potential activities in which individuals could be intrinsically motivated to participate, social, environmental, and financial realities influence the specific activities in which people participate. The social environment surrounding an activity, including coaches, fellow participants, and parents, plays a large part in determining whether a participant will persist in that activity. Attitudes, expectations, and social experiences associated with that activity can facilitate or weaken intrinsic motivation for that activity or for a certain part of the activity (such as practice sessions or competitions) (Ryan, Williams, Patrick, & Deci, 2009). White (1959) suggested that intrinsically motivated behavior was energized by such psychological, and not mere biological, satisfactions (Ryan & Deci, 2007).

Many researchers treat intrinsic motivation as if it were one construct, broad and undifferentiated. Years ago, White (1959) and Deci (1975), suggested that there might be more than one dimension to intrinsic motivation, arguing that human infants actively explore their environments and appear to be interested in most everything new they find, while toddlers are more selective, preferring some activities over others (Carbonneau, Vallerand, & Lafrenière, 2012). Often considered a defining element of leisure, intrinsic motivation influences people’s perceptions of experiencing leisure (Carruthers, Platz, & Busser, 2006). Intrinsic motivation is also considered the “central contingenc[y] of sport continuance (Carron, 1984, p. 153).”

Vallerand and his colleagues suggest a trichotomy of intrinsic motivation (Vallerand, 2007; 2001). Research in education, leisure, sports, and physical activity provides support for this trichotomy, demonstrating that the three types of intrinsic motivation are unique enough to be assessed separately (Carbonneau, Vallerand, & Lafrenière, 2012). Vallerand differentiates three types of intrinsic motivation:

1) 'Intrinsic Motivation to Know' refers to participating in an activity for the pleasure of learning or exploring something new. Summed up by Bruner (1966), "The will to learn is an intrinsic motive, one that finds both its source and its reward in its own exercise" (Carbonneau, Vallerand, & Lafrenière, 2012, p. 1149). This type of intrinsic motivation relates to the constructs of exploration, intrinsic intellectuality, intrinsic motivation to learn, and intrinsic curiosity (Carbonneau, Vallerand, & Lafrenière, 2012; Vallerand, 2001). An example of this type of intrinsic motivation would be people watching The History Channel or The Discovery Channel on television because they enjoy learning new concepts.

2) 'Intrinsic Motivation Toward Accomplishments', also known as 'mastery motivation,' 'efficacy motivation,' and 'task-orientation' (Pelletier et al., 1995, p. 37) refers to participating in an activity because of the enjoyment experienced when attempting to accomplish or create, or attempting to surpass oneself. The focus is on the process, not the end result. This type of intrinsic motivation reflects the constructs of mastery motivation, effectance motivation, and intrinsic challenge (Carbonneau, Vallerand, & Lafrenière, 2012; Vallerand, 2001). An example of this type of intrinsic

motivation is someone enrolled in an arts class because they enjoy trying to become a better artist.

3) 'Intrinsic Motivation to Experience Stimulation' refers to engaging in an activity for the pleasant sensations experienced during the activity. This type of intrinsic motivation reflects the constructs of aesthetic experiences, sensation seeking, flow, and peak experiences (Carbonneau, Vallerand, & Lafrenière, 2012; Vallerand, 2001, p. 272). Examples of this type of intrinsic motivation are visitors to amusement parks that ride roller coasters, and coworkers who go out at lunch to enjoy talking to each other.

Cognitive evaluation theory (CET), a sub-theory of Self-Determination Theory, focuses on the conditions that lead to the adoption of a behavior, and the degree to which it is intrinsically motivated and autonomous (Ryan & Deci, 2007; Ryan, Williams, Patrick, & Deci, 2009), and argues that external factors that are felt to diminish an individual's experience of autonomy or competence (such as pressure, deadlines, evaluation, supervision, and competition) will decrease intrinsic motivation as well, though external factors that are perceived to enhance individual autonomy or competence (individual choice, perception that their beliefs are valued by others) will increase intrinsic motivation (Bae, 2010; Ryan, Williams, Patrick, & Deci, 2009). In cognitive evaluation theory, intrinsic motivation is the embodiment of self-determined motivation (Hagger & Chatzisarantis, 2007), but feelings of autonomy must be present—feelings of competence alone will not maintain or increase intrinsic motivation (Ryan, Williams, Patrick, & Deci, 2009).

“Both feelings of autonomy and competence are necessary conditions for intrinsically motivated behavior, [and] both... are readily affected by conditions in the social environment [relatedness] (Ryan, Williams, Patrick, & Deci, 2009, p. 110).” For instance, a coach who puts high pressure on a player, or a parent who is overly critical of their child’s performance, will undermine feelings of autonomy and competence, decreasing the intrinsic motivation of the athlete. Studies that have manipulated autonomy and competence for games and sport show the necessity of each and support the general principles of self-determination theory (Ryan, Williams, Patrick, & Deci, 2009). Relatedness is essential for intrinsic motivation to thrive (Ryan & Deci, 2007).

Extrinsic Motivation

Extrinsic motivation refers to behaviors done as a means to an end, for rewards received due to participation, and not merely for their own sake (Pelletier et al., 1995); the goal is separate from the actual activity (Deci & Ryan, 2012). Classic examples of extrinsic motivation are ‘carrots and sticks’ (rewards and punishments) and the operant conditioning used to train organisms (Skinner, 1953). Many physical activities, such as sport and exercise, are extrinsically motivated, at least to some extent. Long periods of practice and drills are necessary to learn new skills in sport in order to improve performance in competition, and these are often extrinsically motivated. Overall, exercise tends to be more extrinsically motivated than sport, with participants exercising to manage their weight or stay in shape for sports or other activities (Ryan, Williams, Patrick, & Deci, 2009).

Another sub-theory of Self-Determination Theory is Organismic Integration Theory (OIT), which describes a continuum of autonomy behind extrinsic motivations from highly controlling to highly autonomous (Ryan & Deci, 2007; Ryan, Williams, Patrick, & Deci, 2009). At the non-autonomous or controlled end of the *conceptual* continuum (it is not a developmental continuum— people of all ages can fall at any point of the continuum, mainly due to their social environment and the activity itself) delineated by Organismic Integration Theory is external regulation. As long as individuals experience *competence* in some amount, they are motivated to some degree (as opposed to amotivated). External regulation involves no feelings of relatedness or autonomy; in external regulation (exemplified by operant psychology, such as in Skinner's research), behavior is completely controlled and dependent upon external rewards and punishments; autonomy is thwarted. External regulation is not internalized by the person and therefore not maintained when the behavioral consequences are absent (Deci & Ryan, 2012; Pelletier et al., 1995; Ryan & Deci, 2007; Ryan, Williams, Patrick, & Deci, 2009).

Because people tend to naturally integrate information into their values and behaviors, behaviors that are valued by significant others may eventually become internalized and valued by the person themselves; there are different degrees of internalization resulting in different degrees of autonomy of behaviors (Deci & Ryan, 2012).

The least autonomous (and still considered controlled) form of internal regulation is introjected regulation, in which previously external regulation has been

superficially internalized so as to motivate via guilt or anxiety (Pelletier et al, 1995; Ryan, Williams, Patrick, & Deci, 2009; Vallerand, 2001). People do not feel fully autonomous when engaging in partially internalized behaviors, and so the behaviors are weakly related to long-term performance, if at all (Deci & Ryan, 2012). At this level of extrinsic motivation, in addition to competence, people must feel, or at least desire, relatedness to significant others -- this is what leads people to introject behaviors that might not fit within their own values (Ryan & Deci, 2007).

At higher levels of internal regulation, there must be at least some feeling of autonomy (Ryan & Deci, 2007). A more internalized form of external motivation, immediately above introjected regulation on the autonomy continuum, is identified regulation. People in identified regulation voluntarily engage in an activity because they identify with and value the activity. Activities are performed by choice even if they are not pleasant, but the person realizes that it will help them grow and develop as a person (Vallerand, 2001). Behaviors that are the most internalized will persist even in the absence of rewards because they are the most consistent with the person's other values (Pelletier et al, 1995; Ryan, Williams, Patrick, & Deci, 2009). Identified regulation is distinct from the less autonomous introjected regulation; research into religious behavior has shown that introjected regulation is negatively associated with well-being (individuals feel unworthy and disapproved of if they do not perform well), while identified regulation is positively associated with well-being (Deci & Ryan, 2012; Ryan, Rigby, & King, 1993).

The most autonomous form of external motivation, rivaling internal motivation in regards to the relative autonomy experienced during an activity, is integrated regulation. This occurs when identified regulations have become increasingly internalized to the point that they are most compatible with other personal behaviors, needs, and experiences (Deci & Ryan, 2012; Ryan, Williams, Patrick, & Deci, 2009; Vallerand, 2001). Both intrinsic motivation and integrated extrinsic motivation involve high degrees of autonomy, however intrinsic motivation refers to voluntary participation because of the inherent pleasure in performing the activity, while integrated regulation refers to participation because it is “important, valued, and meaningful for the person (Deci & Ryan, 2012, p. 89).” Studies have shown that those engrossed in an activity tend to be intrinsically motivated, however, people extrinsically motivated at the two more autonomous levels (identified and integrated regulation) tend to be the ones doing tasks that require more disciplined effort (Deci & Ryan, 2012).

Psychometric evidence supports the conceptual and empirical alignment of the continuum of relative autonomy discussed in organismic integration theory; the more autonomous an individual feels in an activity, the more likely the person will persevere through obstacles, perform better and have a positive experience (Ryan, Williams, Patrick, & Deci, 2009).

Most intentional actions involve some combination of both internal and external motivations—someone may enjoy an activity and participate in it for pleasure, while also taking part in that activity in order to stay healthy. In many studies, these varied

motives are weighted and then combined to reflect the overall level of relative autonomy experienced (Deci & Ryan, 2012).

Amotivation

To be motivated to any extent whatsoever, whether intrinsically or extrinsically, organismic integration theory states that an individual must experience some degree of competence (Ryan & Deci, 2007). Amotivated individuals may feel incompetent or lacking in control, or may not see a correlation between their actions and the outcomes of those actions. They are not motivated to start or continue to participate in certain activities (Ryan, Williams, Patrick, & Deci, 2009). They may not see any value or have any interest in the behavior, even if it is endorsed socially (Ryan & Deci, 2007).

Pelletier, Dion, Tuson, and Green-Demers (1998) proposed four major types of amotivation: 1) amotivation due to capacity-ability beliefs (an individual believes they have no ability to successfully perform an activity), 2) amotivation due to strategy-beliefs (an individual doubts that their current strategy will lead to success in the activity), 3) amotivation due to capacity-effort beliefs (an individual supposes it takes more effort than they are willing to expend to be successful at the activity), and 4) amotivation due to helplessness beliefs (an individual feels their efforts will not lead to success) (Conroy, Elliot, & Coatsworth, 2007; Vallerand, 2001). Amotivated athletes “play their sport without purpose, typically experience negative affect (e.g. apathy, helplessness, depression), and do not seek any goals—either affective, social, or material (Vallerand, 2001, p. 271).”

Table 2 summarizes the nutriments present at each level of the autonomy continuum, from non-autonomous (amotivation) to fully autonomous (intrinsic motivation).

Table 2

Nutriments Present at Each Level of the Autonomy Continuum

Type of Motivation	Subcategory	Nutriments Present*
Intrinsic Motivation	All	C, R, & A
Extrinsic Motivation	Integrated Regulation	C, R, & A; identified regulations most compatible with personal behaviors, needs and experiences
	Identified Regulation	C, R, & A
	Introjected Regulation	C & R
	External Regulation	C
Amotivation	All	No C, R, or A

* C = competence, R = relatedness, A = autonomy

Outcomes and Consequences of Motivation

Motivation leads to consequences in three different domains—cognition, affect, and behavior. Different types of motivation produce different types of outcomes: intrinsic motivation tends to lead to more positive outcomes, while less self-determined extrinsic motivation as well as amotivation lead to more negative outcomes. Consequences of motivation are at the same level of generality as the motivation

producing them; contextual motivation leads to contextual consequences, situational motivation leads to situational outcomes (Vallerand, 2007).

Flow

Flow is a concept that was first defined by psychologist Mihalyi Csikszentmihalyi as the satisfaction that can accompany participation in a familiar activity in which a person has mastery, and where the level of challenge of the activity matches the skills of the person. In such situations, concentration is on the act itself; self-consciousness is not felt and the sense of time becomes distorted (Godbey, 2008; Kelly, 1996). When either skill level or concentration is not adequate, flow does not occur. Challenges that are above the skill level of the participant lead to frustration; challenges that are below the skill level of the participant lead to boredom. "Flow is basically the making of meaning, and doing so requires giving oneself in a focused way (Godbey, 2008, p. 23-24)."

Nine characteristics of flow have been identified by Csikszentmihalyi, Jackson, and Marsh (Kowal & Fortier, 1999): 1) a perceived balance between individual skills and situational challenges, 2) a merging of action and awareness, 3) clear goals, 4) clear feedback, 5) concentration on situational challenges, 6) feelings of control over self and the environment, 7) loss of self-consciousness, 8) enjoyment of the experience, and 9) altered perception of time. Hence, to experience flow one must feel *competence* to handle the perceived challenge, although there is no specific mention for the need of feeling autonomous or relatedness. Therefore, flow should theoretically be able to be felt at all levels of extrinsic or intrinsic motivation (all levels of motivation requiring at least competence according to self-determination theory).

Indeed, in studies researching the interrelatedness of motivation and flow, positive relationships have been found between intrinsic motivation and the flow state, *and also* between extrinsic motivation and the flow state. A study of Canadian swimmers found that flow was more frequently experienced in swimmers with more self-determined motivation, although flow was also experienced, albeit in fewer instances, in swimmers with non-self-determined forms of motivation (Kowal & Fortier, 1999). Since flow does not appear to be limited to any one level of motivation, it was not explicitly researched in this study.

Self-Determination Theory and Sports

Sport and exercise epitomize motivation; the activities require energy, focus, and discipline. Self-determination theory is “the only major theory of human motivation that both acknowledges spontaneous, intrinsically motivated activity and pinpoints the factors that either enhance or debilitate it (Ryan & Deci, 2007, p. 1).” Many studies have looked at sports participation through the lens of self-determination theory. Examples of those studies are in Table 3.

Table 3

Examples of Studies Involving Self-Determination Theory in Sports Settings

Date of Study	Authors	Sport	Findings
1996	Beauchamp, Halliwell, Fournier, & Koestner	Novice golf	Participants in a cognitive-behavioral program displayed enhanced intrinsic motivation compared to control participants and those only getting physical skills intervention
1999	Markland	Aerobics	When self-determination is high, differences in perceived competence had no effect on intrinsic motivation
2001	Pelletier, Fortier, Vallerand, & Brière	Elite Swimming	More autonomous motivation = longer persistence in sport
2003	Gagné, Ryan, & Bargmann	Gymnastics	Perceptions of increased autonomy support from coaches and parents leads to more autonomously motivated gymnasts
2008	Boiché, Sarrazin, Grouzet, Pelletier & Chanal	High school physical education	More autonomous motivation = better performance in course activities
2009	Quested & Duda	Hip-hop dancing	Support of perceived competence in dance settings may encourage positive feelings and decrease negative feelings in hip-hop dancers
2011	Burtscher, Furtner, Sachse & Burtscher	Competitive mountain running	Older runners have a decrease of IM toward accomplishment; older female runners have a decrease in external regulation
2012	Pope & Wilson	University rugby	Coaches who provide feedback in a way perceived as caring and supportive of the athlete's sense of autonomy are likely to yield motivational benefit

Results of these studies and others have been similar to other studies involving self-determination in other contexts, such as education and religion, even home dental care—self-determined motivation for sports and exercise is linked to more positive outcomes (in behavior, cognition, and affect) than either controlled motivation or amotivation (Thøgersen-Ntoumani & Ntoumanis, 2006). A number of physical activity studies “have shown more behavioral effectiveness, conceptual understanding, intentional persistence, personal adjustment, positive coping, and overall enhanced well-being as one moves from amotivation to intrinsic motivation (Pelletier & Sarrazin, 2007, p. 143).”

Horses in Recreation and Sport

In the United States, horses are not a primary means of transportation or work for most of the population; most of the horses owned by people in this country are kept for recreational purposes (Freeman, 2004). A survey by American Horse Publications in 2012, which collected 10,539 usable responses, found that English disciplines (dressage, jumping, cross country) are more represented on the eastern half of the United States, while Western disciplines (reining, calf roping, barrel racing) are more represented on the western half of the United States (Stowe, 2012). Seventy three percent of respondents to the 2012 survey used their horses for pleasure riding at least some of the time; the second most popular activity with horses, with 26.3% of respondents reporting their participation, is dressage (Stowe, 2012).

“Riding a horse. . .arous(es) a sense of inferiority and envy in pedestrians” (Robinson, 1999, p. 43). Horseback riding has traditionally been associated with people

of higher socioeconomic status, and therefore power (Robinson, 1999). In the Middle Ages, noblewomen and prosperous merchants' wives used horses for transportation. Noblewomen were expected to be able to ride and hunt from horseback; 'common' women did not have enough money to own a horse, nor any image to uphold, and so did not ride (Almond, 2012). It is possible that the perception of an elevated status for riders, either real or imagined, by riders or pedestrians still arises from these historical links between riding and upper class families and is influenced by sociological factors (Robinson, 1999). Even the American cowboy "considered himself to be superior to the non-mounted farm workers" (Robinson, 1999, p. 43). Observing a crowd at a polo match, one veterinarian observed role-playing among players and fans alike, as Americans feigned British accents while exchanging compliments regarding the match, reflecting the common perception of polo as a sophisticated sport of aristocracy (Miller, 1989). However, this perceived status is useful in therapeutic riding for those with disabilities, as it makes them feel at least equal to their non-disabled peers (Robinson, 1999).

In 1993, the estimated annual costs of maintaining one horse for pleasure were \$2,000 (Freeman, 2009). High input costs restrict horse ownership, but one can ride without owning a horse. Whether through friends or riding stables, people desiring to ride a horse can often find an outlet for their recreational or leisure needs (Robinson, 1999). A mid-1990s survey in the United Kingdom found that less than half (44%) of those who rode horses were in the top three socio-economic classes (top 48% of the population) (Robinson, 1999, p. 44). In a 2005 survey of Oklahoma horse owners, the

American Horse Council Foundation found that 46% had an income under \$50,000 per year, while 51% earned over \$50,000 per year (3% non-response rate). Involvement with horses is not restricted according to level of income, even though the perception may still exist.

In days past, when horses were used for work, males associated more with the horses, “reflecting the horses’ role as a work tool and the traditional placing of power and power sources under the control of men” (Robinson, 1999, p. 44). Until the middle of the 20th century, males were overwhelmingly more involved in the horse world than were women (Miller, 1989). Hunts in the Middle Ages were at slow paces, and noblewomen were included; toward the end of the 18th century, the hunt pace got faster and obstacles got higher, excluding all women but those of ‘questionable virtue’ (Dworkin, 1996). Prior to the 1930s, ‘proper’ women rode one of three ways—pillion (sitting sideways on a cushion behind a man’s saddle), on-the-side (a cushion with a platform for both feet—usually the woman riding on-the-side was led by a male on foot), or side-saddle (Almond, 2012). Only female warriors were even portrayed riding astride like men, because it was believed that women who engaged in alpha-male activities like fighting were behaving like men (Almond, 2012). While women in places like Hawaii, Iceland, and Asia rode astride, in many places such women would have been arrested for indecent behavior. Evelyn Cameron, in 1895 Miles City, Wyoming, was threatened with arrest by the sheriff because she had ridden astride in a split riding skirt; in July 1913, Queen Mary of England banned women from riding astride in Hyde Park (O’Reilly, 2008). However, women’s equestrian options in America expanded

shortly after they were granted the right to vote in 1920. With more political freedom nationwide, and led by a few women who dared to ride astride in public, by the 1930s women riding astride no longer attracted negative attention (O'Reilly, 2008).

Ironically, a common stereotype of riding today is that it is a female activity. Other common stereotypes of riding and horse ownership include: riding is a phase children go through, riders enjoy domination and control, horse riders get sexual pleasure from riding (Dworkin, 1996; Robinson, 1999). "There are few data to support these ideas (Robinson, 1999, p. 44)." The real attraction of women to horses may be that of power—riding is one of the few ways women can exhibit power in a socially acceptable way. Riding is one of the few equal-opportunity sports in America, where women can directly compete with men, even at the Olympic level (Dworkin, 1996).

A study in the early 1980s found that riders could be divided into three main groups: 1) achievers, "mainly concerned with becoming accomplished riders", 2) relators, "more concerned with the personal relationship with their horse", and 3) those "more interested in riding as a sport" (Robinson, 1999, p. 44). The 2012 American Horse Publications Equine Industry Survey found that a little less than half of riders ride for pleasure; 34.9% compete with their horses (Stowe, 2012).

According to a 2005 survey by the American Horse Council Foundation (AHCf), of the 326,134 horses in Oklahoma, 71% of them were used in showing or recreation. Reasons for owning horses stated by Oklahomans include "pleasure and enjoyment, competition, youth development, and a variety of business uses" (Freeman, 2009). Respondents to the 2012 American Horse Publications Equine Industry Survey (10,539

usable responses) living in zip code 7 (corresponding to Arkansas, Oklahoma, Louisiana and Texas) reported competing more than respondents in any other location in the United States (Stowe, 2012). The American Horse Council Foundation (2005) also found that Oklahoma adult horse owners represented a variety of age groups: 24% are between ages 18-29, 32% are between the ages of 30 and 44, 40% are aged 45 to 59, and 4% are older than 60 years of age.

CHAPTER III

METHODOLOGY

Measuring Motivation

Scales that measure motivation at the global, contextual, and situational levels have been developed and used in research. The Global Motivation Scale assesses the three different types of intrinsic motivation, three of the four types of extrinsic motivation (not integrated regulation) and amotivation, and uses weights and subscales to arrive at one score along the self-determination continuum to determine a person's overall (global) motivational orientation (Vallerand, 2007). Research techniques to measure motivation at the situational level include letting participants use 'free-choice periods' in which they have the choice to engage in a number of different activities, with the assumption being that they will choose to engage voluntarily in activities that intrinsically motivate them. Another situational technique involves self-report measures that differentiate among intrinsic motivation, extrinsic motivation, and amotivation (Vallerand, 2007).

Since this study was focused on personal motivation as it relates to horseback riding, the instrument used assesses motivation at the contextual level. "People's motivational orientation may vary drastically from one context to another (Vallerand,

2001, p. 275);” therefore contextual motivation “is more likely to be useful in explaining and predicting changes in outcomes that may take place in specific contexts (Vallerand, 2001, p. 275)” such as horseback riding. Much research measuring motivation at the contextual level has been done with college students, who were asked to rank the importance of 21 life contexts. For both males and females, the three most important main life contexts are education, interpersonal relationships, and leisure (Vallerand, 2001). Consequently, the scales developed to measure motivation at the contextual level correspond with those life contexts, e.g. the Academic Motivation Scale, the Interpersonal Motivation Inventory, and the Leisure Motivation Scale (Vallerand, 2007). Because sport is an important part of leisure for many people, and constitutes a whole life context for athletes, a scale to assess sport motivation (the Sport Motivation Scale; SMS) was developed as well. All of the aforementioned scales measuring contextual motivation have “indices of reliability and validity. . . . [that are] more than adequate (Vallerand, 2007, p. 262).”

The Sport Motivation Scale

Self-determination theory is the conceptual foundation for the Sport Motivation Scale (SMS) (Carruthers, Platz, & Busser, 2006). The Sport Motivation Scale measures the three types of intrinsic motivation, three of the four types of extrinsic motivation (not integrated regulation), and amotivation that are outlined in Deci and Ryan’s theory of self-determination (Pelletier et al, 1995) and Vallerand’s Hierarchical Model of Intrinsic and Extrinsic Motivation (HMIEM) (Vallerand, 2007). The Sport Motivation Scale was “developed to assess the different types of regulatory processes proposed by SDT

[self-determination theory] in sport” and has 28 items (seven subscales of four items each) that assess amotivation, external regulation, introjected regulation and identified regulation, and internal motivation (to know, to accomplish, and to experience stimulation) (Pelletier & Sarrazin, 2007). Used with a variety of athletes, age groups, and cultures, as well as translated and validated in several languages, the Sport Motivation Scale “has been the most often used motivation measure in sport (Vallerand, Donahue, & Lafrenière, 2012, p. 283).”

In essence, the Sport Motivation Scale asks respondents “Why do you practice your sport?” and provides 28 different answers to that question that reflect seven different types and levels of motivation. The Sport Motivation Scale has satisfactory internal consistency in the subscales, adequate construct validity, and moderate-to-high indices of temporal stability over one month (Pelletier & Sarrazin, 2007; Vallerand, Donahue, & Lafrenière, 2012). The seven sets of questions (from amotivation to the three types of intrinsic motivation) correspond with the levels of motivation of self-determination theory (excepting the level of integrated regulation). Expectations in research are to find stronger positive correlations between adjacent levels (such as identified and integrated regulation) on the self-determination continuum than between those that are further apart (such as amotivation and integrated regulation); such patterns are referred to as simplex patterns. A meta-analysis of 21 studies using the Sport Motivation Scale has corroborated this simplex pattern proposed by the self-determination theory of motivation (Pelletier & Sarrazin, 2007; Rocchi, Pelletier, Vallerand, Deci, & Ryan, 2010; Vallerand, Donahue, & Lafrenière, 2012).

“There is overwhelming support for the construct validity of the SMS” (Vallerand, Donahue, & Lafrenière, 2012, p. 284). Construct validity has been assessed with the simplex pattern of correlations among the seven subscales, and also by correlating motivational factors with their determinants and consequences—the SMS has predicted specific outcomes such as burnout, flow, and performance in a manner consistent with self-determination theory, which provides strong support for construct validity of the Sport Motivation Scale. “The internal consistency of the SMS has systematically shown adequate values. . .very few instances of [Cronbach alpha] values below .60 have been obtained” (Vallerand, Donahue, & Lafrenière, 2012, p. 284), which is acceptable, since “the coefficient alpha underestimates the internal consistency of scales with a low number of items” (Vallerand, Donahue, & Lafrenière, 2012, p. 284).

The Sport Motivation Scale has been used to study sport for recreation purposes as well as sport in the traditional sense of the word, as “an activity involving physical exertion and skill, governed by rules or customs and often undertaken competitively” (Houghton Mifflin, 1993). A 2002 study in Thessaloniki, Greece, studied perceived constraints on *recreational sport* participation (Alexandris, Tsorbatzoudis, & Grouios, 2002) using the Sport Motivation Scale. In a gambling study, Carruthers, Platz, and Busser (2006) modified the original Sport Motivation Scale to create a Recreation Motivation Scale “by substituting the phrase ‘recreation activity’ for the phrase ‘sport activity’” (p. 172). The Recreation Motivation Scale was analyzed using Cronbach’s alpha to determine its reliability, and all six subscales had acceptable reliabilities ranging from .74 to .88 (p. 173).

Disadvantages of the Sport Motivation Scale

The Sport Motivation Scale has been the most utilized measurement for sport motivation since its development in 1995, used with a variety of respondents representing both recreational and elite sports, various age groups, and various cultures. Though it is based on the principles of self-determination theory, it does not measure integrated regulation, the most autonomous form of extrinsic motivation. The Sport Motivation Scale was developed and validated using adolescent and young adult athletes, and integrated regulation was not perceived to be present in the intended respondents (young adults) (Vallerand, 2007).

Additional Evaluations of Sport Motivation

According to Vallerand, Donahue, & Lafrenière (2012), the Sport-Motivation Scale-6 was developed in 2007 by Mallett, Kawabata, Newcombe, and Otero-Rorero in order to improve the original Sport Motivation Scale by including a measure of integrated regulation. The instrument measures four items on each of six subscales: amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation in general (not subdivided into three categories as in the original Sport Motivation Scale). Upon testing, the construct validity of the instrument was not supported (there was a weak simplex pattern); distinctions were not always clear amongst the two most autonomous extrinsic motivation levels and intrinsic motivation. Also, external regulation (the lowest of extrinsic motivations) correlated highly with intrinsic motivation ($r = .54$), while the correlation of intrinsic motivation and identified regulation ($r = .91$) was higher than that of intrinsic motivation and the most

autonomous extrinsic motivation level of integrated regulation ($r = .75$) (Vallerand, Donahue, & Lafrenière, 2012).

The Behavioral Regulation in Sport Questionnaire, developed by Lonsdale and colleagues in 2008, measures elite sport motivation using a completely new pool of items created by elite athletes as well as experts on self-determination theory. The Behavioral Regulation in Sport Questionnaire (BRSQ) is available in two formats, the BRSQ-6 and the BRSQ-8, depending upon whether a researcher desires to measure general intrinsic motivation (BRSQ-6) or the trichotomy of sublevels (BRSQ-8) of intrinsic motivation. The Behavioral Regulation in Sport Questionnaire measures integrated regulation, yet does not appear to be able to distinguish levels of motivation beyond the broad categories of self-determined motivation (intrinsic motivation, integrated regulation and identified regulation) and non-self-determined motivation (introjected regulation and external regulation) (Vallerand, Donahue, & Lafrenière, 2012).

The Revised Sport Motivation Scale, SMS-II

Because of the criticism of the original Sport Motivation Scale lacking an integrated regulation subscale, a Revised Sport Motivation Scale (SMS-II) was created and tested in February through April of 2010, with 292 athletes aged 16-70 years. Most participants were athletes actively training for an event in a variety of individual and team sports, including soccer, golf, figure skating, biking, hockey, running, triathlon, and volleyball, and the participants represented Canada (35% of valid responses), France (30%), and the United States and Western Europe (35%) (Rocchi, Pelletier, Vallerand, Deci, & Ryan, 2010).

The Revised Sport Motivation Scale also changed the measure of intrinsic motivation, from a trichotomy to one universal measure. If the three types of intrinsic motivation were measuring the same factor, then those 12 items were responsible for over half of the variance of the overall score of the original SMS; by reducing intrinsic motivation to one of six factors (rather than three of seven), the subscale represents less than 30% of the total variance for the SMS-II (Pelletier, Rocchi, Vallerand, Deci, & Ryan, 2013). This, combined with a rewording of some of the items identified as problematic by experts in self-determination theory and sport motivation (two of the three items for the identified regulation subscale and three for the external regulation subscale), shortened the original 28-item Sport Motivation Scale into an 18-item Revised Sport Motivation Scale, with hopes that it would aid future administration of the survey (Pelletier et al., 2013).

Results from the aforementioned study and several more recent ones showed that the new integrated regulation subscale did measure a concept that is distinctly different from the constructs of intrinsic motivation as well as identified regulation, and it fit into the expected simplex pattern, with adjacent subscales having higher positive correlations than subscales further apart along the autonomy continuum (Pelletier et al., 2013). In addition, the reliability of the new instrument did not change substantially from that of the original, in spite of the fact that three, instead of four, items represented each subscale, presumably due to the removal of the problematic items (Pelletier et al., 2013). Suggestions for future research included using participants from

different countries and sports in order to determine the stability of the instrument (Rocchi et al., 2010).

Instruments

Both the original Sport Motivation Scale (Appendix A) and the Revised Sport Motivation Scale (Appendix B) were used in this study, to compare items given for each construct across both instruments and determine if the results on each were similar per participant. In addition, though the trichotomy of intrinsic motivation present in the original Sport Motivation Scale was simplified into a universal measure for the Revised Sport Motivation Scale, it was interesting to ascertain the types of intrinsic motivation present in Oklahoma equestrians, and how they differed according to rider demographics. All participants were given both instruments to complete, although the items from each instrument (46 items) were randomly ordered to prevent respondent fatigue from affecting the same items repeatedly. Respondent fatigue is a problem brought on by many long questions (Warde, 1990). The original Sport Motivation Scale is widely available in multiple publications; the Revised Sport Motivation Scale was received in personal communication with Dr. Luc Pelletier (personal communication, November 6, 2012), who was part of the group that created it.

Participants and Procedures

Participants for the study were recruited from multiple sources using emails, flyers, and online communication. Participants were sought from Oklahoma State University clubs involving horses (polo team, rodeo team, horseman's association); feed and tack stores across the state; Facebook groups such as the Oklahoma Equestrian Trail

Riders Association, Horses for Sale in Oklahoma, and Oklahoma Hunter-Jumper Exhibitors of Oklahoma; and riding stables listed in the Oklahoma Agritourism directory. Communications had a web address (https://okstatecoe.qualtrics.com/SE/?SID=SV_6L3dzRwIElaGAnP&q_sm=Facebook) to the location of the survey on Qualtrics (2013), web-based survey software, and also a QR code (quick response code) for those with Smartphone capabilities.

The survey (Appendix C) was conducted after approval was received from the Institutional Review Board of Oklahoma State University (Appendix E), and was prefaced with a consent form (Appendix D) informing the potential respondents of the purpose of the survey, as well as guaranteeing respondent confidentiality and anonymity.

Data Analysis

Using weighted averages of participant responses on the Likert scale for each construct (intrinsic motivation, 4 types of extrinsic motivation, and amotivation) on the revised Sport Motivation Scale (SMS-II), the self-determination index was calculated for each participant. The self-determination index is the integration of all types of motivation at one specific level (the contextual level of horseback riding in this study) into a single number representing the level of autonomous motivation in that context for each individual. Positive scores indicate more autonomous motivation than negative scores. The self-determination index was calculated by weighting items in each subscale according to the degree of autonomy represented at that subscale, and then averaging each subscale's weighted score across all questions represented at that level of autonomy. Weights for each subscale vary according to the instrument used (whether a

measure of integrated regulation is included). Less self-determined forms of motivation are assigned the lower weights; more self-determined forms of motivation are assigned higher weights. In the revised Sport Motivation Scale (integrated regulation measured), weights are valued at -3 for amotivation, -2 for external regulation, -1 for introjected regulation, +1 for identified regulation, +2 for integrated regulation, and +3 for intrinsic motivation.

In the original Sport Motivation Scale, with three types of intrinsic motivation measured, the total for the three types of intrinsic motivation is divided by three to make the score comparable to the scores for the other scales. When integrated regulation is not part of the instrument, intrinsic motivation and identified regulation are weighted at +2 and +1 respectively, and amotivation is weighted at -2. Introjected and external regulation are added, averaged, and weighted at -1. Research by different authors using this method has shown high levels of reliability and validity (Vallerand, 2007).

Appropriate nonparametric methods, including the Mann-Whitney U test statistic for comparing two independent samples, or the Kruskal-Wallis H test for comparing three or more independent samples (Corder & Foreman, 2009) allowed comparisons of contextual autonomy in horseback riding among groups of different horseback riders in Oklahoma---English versus Western riders, older and younger riders, those with more experience and those with lesser experience, etc. Nonparametric statistics were chosen because participants in the survey were not randomly drawn from a population with normal distribution, averages of Likert scale values (representing

different values to each respondent) were used to compute overall autonomy scores for each participant (and are considered ordinal), and total number of participants were not of the size necessary to use parametric statistical methods (Corder & Foreman, 2009).

For this study, it was more important to avoid Type 1 errors (erroneously rejecting the null hypothesis) than Type 2 errors (failing to reject a null hypothesis when it should be rejected). It is better to miss something potentially important than to proclaim something important that is not, especially if administrators are spending money based on findings of the study. For this study, alpha was set at 0.05. Rejection of the null hypothesis ($\alpha = 0.05$) in a few cases showed that there are significant differences in the means of autonomy scores among different groups of riders; the next step was to determine where the differences appeared. To determine which means were different, contrasts (post-hoc tests) were used. When comparing each respondent's mean responses for each of the two instruments, the Wilcoxon signed ranks test was used, as it is recommended when comparing two related groups (Corder & Foreman, 2009).

Data were also analyzed using descriptive statistics. Descriptive statistics including mean, median, frequencies and percentages were calculated for participant demographic information such as gender, age, riding style preferred, and level of experience. This allowed the researcher to get an overall picture of the average Oklahoma horseback rider.

CHAPTER IV

FINDINGS

Introduction

The purpose of this chapter is to identify demographic commonalities among responding Oklahoma equestrians and analyze the differences between the self-determination index among different groups of responding Oklahoma equestrians, then compare the results per subscale of the two survey instruments, the original Sport Motivation Scale (SMS) and the revised Sport Motivation Scale (SMS-II). Comparisons among different equestrians are made using the self-determination index of the SMS-II, since “the SMS-II performs as well, if not better, than the original scale” (Pelletier et al., 2013, p. 336). The population of this study was all Oklahoma equestrians who ride a horse at least once a year within the state of Oklahoma.

An online survey was conducted from February 2013 through August 2013. One hundred ninety five surveys were completed. Eight surveys were completed by respondents living in Illinois, Kansas, Texas, and Arkansas. Riders in bordering states often trailer their horses into Oklahoma to ride for fun or to compete, so the surveys completed by equestrians in Kansas, Texas, and Arkansas were retained as appropriate

members of the desired population. Illinois is not a border state, so that one survey was not included in the results (although we do get riders from distant states, this survey was meant to provide information on those who ride in Oklahoma most frequently).

Eight of the remaining 194 surveys had more than one missing answer for any given construct on one or both survey instruments. These eight surveys were considered incomplete and removed from the study. A further nine surveys had only one missing answer on any given construct for one (seven cases) or both (two cases) instruments. Averages for each construct were used to compute the self-determination index, therefore one missing answer was considered acceptable and these nine surveys were kept. From the initial 195 surveys submitted, the usable surveys totaled 186.

Findings of the Study

Included survey respondents (Table 4) represent Oklahoma (with 47 of the 77 Oklahoma counties represented), Kansas, Texas, and Arkansas.

Table 4

Locations of Survey Respondents Included in the Survey

State	Number of Included Surveys	Percent of Total
Oklahoma	179	96.2
Kansas	3	1.6
Texas	2	1.1
Arkansas	2	1.1
Total	186	100.0

Demographics of the Included Respondents

Survey respondents represented a wide range of ages, riding frequency, income, family involvement with horses, reason(s) for riding, style of riding, and years of involvement with riding, in addition to including both males and females (Table 5).

Table 5

Characteristics of Survey Respondents Included in the Survey

Characteristic	Number	Percent of Total
Gender		
Male	29	15.6
Female	157	84.4
Total	186	100.0
Reason for Riding		
Fun only	108	58.1
Competition only	55	29.6
Work only	9	4.8
2 or more reasons	14	7.5
Total	186	100.0
Number of Years Riding Horses		
< 5 years	7	3.8
5 - 10 years	21	11.3
11 - 15 years	20	10.8
16 - 20 years	21	11.3
21 + years	117	62.9
Total	186	100.1
Age		
18 - 19 years	4	2.2
20 - 29 years	33	17.7
30 - 39 years	19	10.2
40 - 49 years	37	19.9
50 - 59 years	62	33.3
60 - 69 years	30	16.1
70 - 79 years	1	0.5
80 - 89 years	0	0.0
Total	186	99.9

Characteristic	Number	Percent of Total
Primary Style of Riding		
English	38	20.4
Western	148	79.6
Total	186	100.0
Frequency of Riding		
Two or more times/week	86	46.2
Once a week	31	16.7
Two or more times/month	27	14.5
Once a month	7	3.8
One or more times/year	35	18.8
Total	186	100.0
Family Involvement with Horses		
Yes	129	69.4
No	57	30.6
Total	186	100.0
Household Income Before Taxes		
< \$25,000/year	12	6.5
\$25,001-\$50,000/year	56	30.1
\$50,001-\$75,000/year	36	19.4
\$75,001-\$100,000/year	35	18.8
\$100,001-\$125,000/year	19	10.2
\$125,001+ /year	24	12.9
No Response	4	2.2
Total	186	100.1

Research Hypothesis 1:

H_0 = There is no tendency for ranks of the self-determination index of motivation for leisure riding for one gender in Oklahoma to be significantly different from those of the other.

H_1 = The ranks of the self-determination index of motivation for leisure riding for one gender in Oklahoma are significantly different from those of the other.

Male (N = 29) and female (N = 157) survey respondents completed both the original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II). The mean Likert score for each construct for each respondent was calculated for both instruments, and the construct(s) with the highest mean for each respondent on each instrument was noted. For the original Sport Motivation Scale, only when the highest means occurred in a form of intrinsic motivation were they noted and included in the table (Table 6).

The authors of the original and revised Sport Motivation Scales state that while one generic form of intrinsic motivation may be more practical to measure, the questions on the original scale that measure the three different types of intrinsic motivation are still beneficial for those interested in the roles the different types play in the regulation of sport behavior (Pelletier et al., 2013).

Table 6

Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Males (N = 29) and Females (N = 157)

Type of IM	Frequency of Highest Average (Percentage of Gender Represented)	
	Males	Females
To Know	9 (31.0%)	29 (18.5%)
To Accomplish	17 (58.6%)	55 (35.0%)
To Experience Stimulation	10 (34.5%)	92 (58.6%)

It is interesting to note that the males in this study had higher scores in the intrinsic motivation category “to accomplish”, while females in this study had higher scores in the intrinsic motivation category “to experience stimulation.” Both genders had the fewest numbers of respondents with intrinsic motivation “to know” as their highest scoring subscale.

From the revised Sport Motivation Scale, any constructs with the highest mean were noted and included in the table (Table 7). In the case of ties, all tied scores were included. No respondents had extrinsic motivation-external regulation as their highest construct score, so that category was excluded from the table. Both males and females had their highest scores in intrinsic motivation (55.2% and 50.3%, respectively), followed by extrinsic motivation-identified (37.9% and 38.9%, respectively).

Table 7

Frequency and Percentage of Types of Motivation with Highest Construct Average for Males (N = 29) and Females (N = 157)

Motivation Type	Frequency of Highest Average (Percentage of Gender Represented)			
	Males		Females	
Intrinsic	16	(55.2%)	79	(50.3%)
Extrinsic-Integrated	4	(13.8%)	38	(24.2%)
Extrinsic-Identified	11	(37.9%)	61	(38.9%)
Extrinsic-Introjected	1	(3.4%)	22	(14.0%)
Amotivation	0	(0.0%)	5	(3.2%)

To determine overall motivation for riding horses for leisure for each respondent, the self-determination index (SDT score) was calculated for each

respondent. In order to make comparisons between the overall motivation for male and female respondents, the means and medians of the overall motivation score were calculated for each gender (Table 8). The highest score possible on the SMS-II, assuming all positively-valued constructs had a Likert score of 7 on average, and all negatively-ranked constructs had a Likert score of 1 on average, is 36. Analyzing the ranked SDT scores using a Mann-Whitney-U test on the Statistical Package for Social Sciences (SPSS), Version 21 (IBM, 2012) (Tables 9 and 10), the overall SDT scores were not statistically significant between males (median = 12.67) and females (median = 15.00), $U = 1970.000$, $z = -1.151$, $p = .250$. Therefore, there is no statistically significant difference between the overall SDT scores (and therefore motivation to ride) between males and females, and the null hypothesis failed to be rejected.

Table 8

Overall SDT Mean and Median Scores for Males and Females

Gender	Mean	Median	N
Male	13.1036	12.67	29
Female	14.7430	15.00	157
Total	14.4873	15.00	186

Table 9

Analysis of Gender Differences Using a Mann-Whitney U Test - Ranks

	Gender	N	Mean Rank	Sum of Ranks
Overall SDT Score	Male	29	82.93	2405.00
	Female	157	95.45	14986.00
	Total	186		

Table 10

Analysis of Gender Differences Using a Mann-Whitney U Test – Test Statistics

	Overall SDT Score
Mann-Whitney U	1970.000
Wilcoxon W	2405.000
Z	-1.151
Asymptotic significance (2-tailed)	.250

Research Hypothesis 2:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any of the reasons that Oklahoma equestrians primarily ride.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for at least one reason for riding when compared to the other reasons that Oklahoma equestrians primarily ride.

Oklahoma equestrians who ride primarily for fun (N = 108), competition (N = 55), work (N = 9), or two or more of these reasons (N = 14) completed both the original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II). The mean Likert score for each construct for each respondent was calculated for both instruments, and the construct(s) with the highest mean for each respondent on each instrument was noted. For the original Sport Motivation Scale, when a form of intrinsic motivation had the highest construct(s), it was noted and included in the table (Table 11).

Overall, Oklahoma equestrians ride to experience stimulation (54.8%), with fewer riding to accomplish (38.7%) or to know (20.4%). Riders primarily riding for fun had more positive responses on questions measuring intrinsic motivation to experience stimulation (60.2%) than on questions measuring intrinsic motivation to accomplish (32.4%) or to know (13.9%). Those riders primarily riding for work had higher scores on the subset of intrinsic motivation “to accomplish” (66.7%) than for the subset “to experience stimulation” (44.4%) or “to know” (33.3%). Riders riding mainly to compete scored similarly in intrinsic motivation to experience stimulation (49.1%) and to accomplish (45.5%), but not as high in intrinsic motivation to know (29.1%). These results suggest that riders correctly identified their primary reasons for riding, and that Vallerand’s trichotomy of intrinsic motivation (Vallerand, 2000) appears valid with respect to Oklahoma equestrians.

From the revised Sport Motivation Scale, any constructs with the highest mean were noted and included in the table (Table 12). In the case of ties, all tied scores were

included. No respondents had extrinsic motivation-external regulation as their highest construct score, so that category was excluded from the table.

Overall, responding Oklahoma equestrians ride primarily due to intrinsic motivation (55.1%), followed by extrinsic motivation at the ‘identified’ (38.7%) and ‘integrated’ levels (22.6%). These three types of motivation all have the nutriment ‘autonomy’ as a component; therefore, in general, Oklahoma equestrians are choosing to ride horses for leisure.

Table 11

Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians with Various Reasons for Riding

Type of IM	Primary Reason for Riding	Fun (N = 108)	Competition (N = 55)	Work (N = 9)	2+ Reasons (N = 14)	Total (N = 186)
To Know – Frequency (Percentage of Reason Represented)		15 (13.9%)	16 (29.1%)	3 (33.3%)	4 (28.6%)	38 (20.4%)
To Accomplish		35 (32.4%)	25 (45.5%)	6 (66.7%)	6 (42.9%)	72 (38.7%)
To Experience Stimulation		65 (60.2%)	27 (49.1%)	4 (44.4%)	6 (42.9%)	102 (54.8%)

Table 12

Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians with Various Reasons for Riding

Primary Reason for Riding	Fun (N = 108)	Competition (N = 55)	Work (N = 9)	2+ Reasons (N = 14)	Total (N = 186)
Type of Motivation					
Intrinsic – Frequency (Percentage of Reason Represented)	40 (37.0%)	40 (72.7%)	5 (55.6%)	10 (71.4%)	95 (51.1%)
Extrinsic - Integrated	24 (22.2%)	13 (23.6%)	2 (22.2%)	3 (21.4%)	42 (22.6%)
Extrinsic - Identified	52 (48.1%)	10 (18.2%)	4 (44.4%)	6 (42.9%)	72 (38.7%)
Extrinsic – Introjected	16 (14.8%)	5 (9.1%)	1 (11.1%)	1 (7.1%)	23 (12.4%)
Amotivation	4 (3.7%)	0 (0.0%)	0 (0.0%)	1 (7.1%)	5 (2.7%)

To determine overall motivation for riding horses for leisure for each respondent, the self-determination index (SDT score) was calculated for each respondent. In order to make comparisons between the overall motivation of equestrians riding primarily for fun, competition, work, or for two or more reasons, the means and medians of the overall motivation score were calculated for each primary reason for riding (Table 13). Analyzing the ranked SDT scores using a Kruskal-Wallis H test on the Statistical Package for Social Sciences (SPSS), Version 21 (IBM, 2012) (Tables 14 and 15), the Kruskal-Wallis H test was significant ($H = 15.056$, $p = .002$). Therefore

there is a statistically significant difference between the overall SDT scores based on the primary reason(s) for riding; the null hypothesis is rejected.

Table 13

Overall SDT Mean and Median Scores for Different Primary Reasons for Riding

Primary Reason for Riding	Mean	Median	N
Fun	12.9968	13.1650	108
Competition	16.8724	18.0000	55
Work	11.5567	8.6700	9
2 or More Reasons	18.5002	20.6700	14
Total	14.4873	15.0000	186

Table 14

Analysis of Differences in Reasons for Riding Using a Kruskal-Wallis H Test - Ranks

	Reason for Riding	N	Mean Rank
Overall SDT Score	Fun	108	83.16
	Competition	55	110.82
	Work	9	69.44
	2 or More Reasons	14	120.71
	Total	186	

Table 15

Analysis of Differences in Reasons for Riding Using a Kruskal-Wallis H Test-Test Statistics

	Overall SDT Score
Chi-Square (H statistic)	15.056
df	3
Asymptotic significance	.002

To determine where the significant differences were among the groups, sample contrasts were made, using the Mann-Whitney U test to compare two groups at one time. To compensate for inflated Type 1 error rate when using several Mann-Whitney U tests, the Bonferroni procedure ($\alpha_B = \alpha/k = 0.05/6 = 0.008$) provided an adjusted level of risk (Corder & Foreman, 2009, p. 105). The group comparisons for the different reasons for riding are shown in Table 16. Using $\alpha_B = 0.008$, the only group comparison that is statistically significant is the Fun – Competition comparison, with a significance of .002. Therefore the differences in the overall SDT scores for the riders who ride mainly for fun versus the riders who ride primarily for competition were statistically significant, and competitors show higher rates of intrinsic motivation for riding than those riding for fun. While there are other group comparisons with statistical significances less than .05, only the fun versus competition group is less than the adjusted level of risk of .008. The differences between the other group comparisons were not statistically significant.

Table 16

Sample Contrasts for Different Primary Reasons for Riding

Group Comparison	Mann-Whitney U Statistic	Rank Sum Difference	Significance
Fun - 2+ Reasons	459.00	6345.0 - 1158.0 = 5187.0	.017
Fun – Competition	2074.500	7960.5 – 5405.5 = 2555.0	.002
Fun – Work	410.500	6447.5 – 455.5 = 5992.0	.440
2+ Reasons – Competition	332.500	1872.5 – 1872.5 = 1330.0	.433
2+ Reasons – Work	31.500	199.5 – 76.5 = 123.0	.046 ¹
Competition – Work	138.000	1897.0 – 183.0 = 1714.0	.034

¹ = exact significance, rather than asymptotic significance

Research Hypothesis 3:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any number of years of riding experience for Oklahoma equestrians.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for any number of years of riding experience when compared to the other numbers of years of riding experience for Oklahoma equestrians.

Oklahoma equestrians with varying years of riding experience, whether less than five years (N = 7), five to ten years (N = 21), eleven to fifteen years (N = 20), sixteen to twenty years (N = 21), or twenty one or more years (N = 117), completed both the

original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II). The mean Likert score for each construct for each respondent was calculated for both instruments, and the construct(s) with the highest mean for each respondent on each instrument was noted. For the original Sport Motivation Scale, when a form of intrinsic motivation had the highest construct(s), it was noted and included in the table (Table 17).

Overall, for the intrinsic motivation subset 'to know', riders score higher the longer they have ridden, with 24.8% of those having ridden the longest (21 or more years) scoring highest on the subscale, and those with lesser experience scoring lower on the subscale (zero to 15%). Riders with eleven to fifteen years of experience scored highest on the 'to accomplish' subset of intrinsic motivation, with 65% of the respondents in this category scoring highest on the subset. Riders with five to ten years of experience scored highest on the 'to experience stimulation' subset of intrinsic motivation (71.4%), although 47.6% to 71.4% of all riders who have ridden at least five years appear to ride primarily to experience stimulation.

From the revised Sport Motivation Scale, any constructs with the highest mean were noted and included in the table (Table 18). In the case of ties, all tied scores were included. No respondents had extrinsic motivation-external regulation as their highest construct score, so that category was excluded from the table.

Table 17

Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians with Various Years of Riding Experience

Type of IM	Years of Riding Experience	< 5 years (N = 7)	5 – 10 years (N = 21)	11 – 15 years (N = 20)	16 – 20 years (N = 21)	21+ years (N=117)
To Know – Frequency (Percentage of Experience Level Represented)		0 (0.0%)	3 (14.3%)	3 (15.0%)	3 (14.3%)	29 (24.8%)
To Accomplish		2 (28.6%)	7 (33.3%)	13 (65.0%)	5 (23.8%)	45 (38.5%)
To Experience Stimulation		2 (28.6%)	15 (71.4%)	12 (60.0%)	10 (47.6%)	63 (53.8%)

Table 18

Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians with Various Years of Riding Experience

Type of Motivation	Years of Riding Experience	< 5 years (N = 7)	5 – 10 years (N = 21)	11 – 15 years (N = 20)	16 – 20 years (N = 21)	21+ years (N = 117)
Intrinsic – Frequency (Percentage of Experience Level Represented)		2 (28.6%)	8 (38.1%)	12 (60.0%)	10 (47.6%)	63 (53.8%)
Extrinsic - Integrated		0 (0.0%)	3 (14.3%)	3 (15.0%)	7 (33.3%)	29 (24.8%)
Extrinsic - Identified		5 (71.4%)	10 (47.6%)	7 (35.0%)	9 (42.9%)	41 (35.0%)
Extrinsic – Introjected		0 (0.0%)	1 (4.8%)	4 (20.0%)	1 (4.8%)	17 (14.5%)
Amotivation		0 (0.0%)	1 (4.8%)	0 (0.0%)	1 (4.8%)	3 (2.6%)

To determine overall motivation for riding horses for leisure for each respondent, the self-determination index (SDT score) was calculated for each respondent. In order to make comparisons between the overall motivation of equestrians with varying years of riding experience, the means and medians of the overall motivation score were calculated for each category of years of riding (Table 19). Analyzing the ranked SDT scores using a Kruskal-Wallis H test on the Statistical Package for Social Sciences (SPSS), Version 21 (IBM, 2012) (Tables 20 and 21), the Kruskal-Wallis H test was not significant ($H = 3.457$, $p = 0.484$). Therefore, there is no statistically significant difference between the overall SDT scores (and therefore motivation to ride)

between riders with any numbers of years of riding experience, and the null hypothesis fails to be rejected.

Table 19

Overall SDT Mean and Median Scores for Riders with Varying Years of Experience

Years of Riding Experience	Mean	Median	N
< 5 years	11.6686	13.67	7
5 – 10 years	11.7938	10.67	21
11 – 15 years	15.2995	16.00	20
16 – 20 years	14.3651	13.00	21
21 or more years	15.0226	15.33	117
Total	14.4873	15.00	186

Table 20

Analysis of Differences in Years of Riding Using a Kruskal-Wallis H Test - Ranks

	Years of Experience	N	Mean Rank
Overall SDT Score	< 5 years	7	76.57
	5 – 10 years	21	76.62
	11 – 15 years	20	99.33
	16 – 20 years	21	91.93
	21 or more years	117	96.83
	Total	186	

Table 21

Analysis of Differences in Years of Riding Using a Kruskal-Wallis H Test-Test Statistics

	Overall SDT Score
Chi-Square (H statistic)	3.457
df	4
Asymptotic significance	.484

Research Hypothesis 4:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any age of Oklahoma equestrians.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for any age when compared to the other ages of Oklahoma equestrians.

Oklahoma equestrians of varying ages, between 18 to 29 years of age ($N = 37$), 30 to 39 years of age ($N = 19$), 40 to 49 years of age ($N = 37$), 50 to 59 years of age ($N = 62$), or sixty years or older ($N = 31$), completed both the original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II). The mean Likert score for each construct for each respondent was calculated for both instruments, and the construct(s) with the highest mean for each respondent on each instrument was noted. For the original Sport Motivation Scale, when a form of intrinsic motivation had the highest construct(s), it was noted and included in the table (Table 22).

In all age groups, intrinsic motivation to experience stimulation was most frequently the highest scoring subset in intrinsic motivation, followed in all cases by intrinsic motivation to accomplish, and finally, in all cases, by intrinsic motivation to know. No matter the age, responding Oklahoma equestrians ride primarily for the pleasant sensations they get while riding.

From the revised Sport Motivation Scale, any constructs with the highest mean were noted and included in the table (Table 23). In the case of ties, all tied scores were included. No respondents had extrinsic motivation-external regulation as their highest construct score, so that category was excluded from the table.

Table 22

Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians of Various Ages

Type of IM	Age of Rider 18 – 29 years (N = 37)	30 – 39 years (N = 19)	40 – 49 years (N = 37)	50 – 59 years (N = 62)	60 + years (N=31)
To Know – Frequency (Percentage of Age Group Represented)	6 (16.2%)	3 (15.8%)	10 (27.0%)	12 (19.4%)	7 (22.6%)
To Accomplish	16 (43.2%)	6 (31.6%)	11 (29.7%)	26 (41.9%)	13 (41.9%)
To Experience Stimulation	24 (64.9%)	12 (63.2%)	19 (51.4%)	28 (45.2%)	19 (61.3%)

Table 23

Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians of Various Ages

Type of Motivation	Age of Rider 18 - 29 years (N = 37)	30 - 39 years (N = 19)	40 - 49 years (N = 37)	50 - 59 years (N = 62)	60 + years (N = 31)
Intrinsic – Frequency (Percentage of Age Group Represented)	21 (56.8%)	10 (52.6%)	21 (56.8%)	31 (50.0%)	12 (38.7%)
Extrinsic - Integrated	9 (24.3%)	3 (15.8%)	7 (18.9%)	14 (22.6%)	9 (29.0%)
Extrinsic - Identified	11 (29.7%)	8 (42.1%)	17 (45.9%)	28 (45.2%)	8 (25.8%)
Extrinsic – Introjected	5 (13.5%)	2 (10.5%)	3 (8.1%)	5 (8.1%)	8 (25.8%)
Amotivation	2 (5.4%)	0 (0.0%)	1 (2.7%)	0 (0.0%)	2 (6.5%)

To determine overall motivation for riding horses for leisure for each respondent, the self-determination index (SDT score) was calculated for each respondent. In order to make comparisons between the overall motivation of equestrians of varying ages, the means and medians of the overall motivation score were calculated for each category of age (Table 24). Analyzing the ranked SDT scores using a Kruskal-Wallis H test on the Statistical Package for Social Sciences (SPSS), Version 21 (IBM, 2012) (Tables 25 and 26), the Kruskal-Wallis H test was not significant ($H = 4.484, p = 0.344$). Therefore, there is no statistically significant difference between the

overall SDT scores (and therefore motivation to ride) between any ages of riders, and the null hypothesis cannot be rejected.

Table 24

Overall SDT Mean and Median Scores for Riders of Various Ages

Age Range	Mean	Median	N
18-29 years	15.1076	15.33	37
30-39 years	15.0002	15.00	19
40-49 years	14.0813	13.67	37
50-59 years	15.5162	15.00	62
60 or more years	11.8597	11.00	31
Total	14.4873	15.00	186

Table 25

Analysis of Differences in Ages of Riders Using a Kruskal-Wallis H Test - Ranks

	Age Range	N	Mean Rank
Overall SDT Score	18-29 years	37	99.54
	30-39 years	19	96.13
	40-49 years	37	90.22
	50-59 years	62	99.51
	60 or more years	31	76.58
	Total	186	

Table 26

Analysis of Differences in Ages of Riders Using a Kruskal-Wallis H Test-Test Statistics

	Overall SDT Score
Chi-Square (H statistic)	4.484
df	4
Asymptotic significance	.344

Research Hypothesis 5:

H_0 = There is no tendency for ranks of the self-determination index of motivation for one style of leisure riding (English or Western) in Oklahoma to be significantly different from those of the other.

H_1 = The ranks of the self-determination index of motivation for one style of leisure riding (English or Western) in Oklahoma are significantly different from those of the other.

Riders who prefer English (N = 38) or Western (N = 148) styles of riding completed both the original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II). The mean Likert score for each construct for each respondent was calculated for both instruments, and the construct(s) with the highest mean for each respondent on each instrument was noted. For the original Sport Motivation Scale, when a form of intrinsic motivation had the highest construct(s), it was noted and included in the table (Table 27).

Table 27

Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for English (N = 38) and Western (N = 148) Riders

Type of IM	Frequency of Highest Average (Percentage of Style Represented)	
	English	Western
To Know	9 (23.7%)	29 (19.6%)
To Accomplish	14 (36.8%)	58 (39.2%)
To Experience Stimulation	19 (50.0%)	83 (56.1%)

Intrinsic motivation to experience stimulation had the highest mean (50 percent of English, 56.1 percent of Western) for both English and Western riders, followed by intrinsic motivation to accomplish (36.8 percent and 39.2 percent) and then intrinsic motivation to know (23.7 percent and 19.6 percent). Regardless of riding style, most Oklahoma equestrians ride for fun and then accomplishment.

From the revised Sport Motivation Scale, any constructs with the highest mean were noted and included in the table (Table 28). In the case of ties, all tied scores were included. No respondents had extrinsic motivation-external regulation as their highest construct score, so that category was excluded from the table.

Table 28

Frequency and Percentage of Types of Motivation with Highest Construct Average for English (N = 38) and Western (N = 148) Riders

Motivation Type	Frequency of Highest Average (Percentage of Style Represented)	
	English	Western
Intrinsic	20 (52.6%)	75 (50.7%)
Extrinsic-Integrated	10 (26.3%)	32 (21.6%)
Extrinsic-Identified	12 (31.6%)	60 (40.5%)
Extrinsic-Introjected	5 (13.2%)	18 (12.2%)
Amotivation	1 (2.6%)	4 (2.7%)

To determine overall motivation for riding horses for leisure for each respondent, the self-determination index (SDT score) was calculated for each respondent. In order to make comparisons between the overall motivation for English and Western riders, the means and medians of the overall motivation score were calculated for each style of riding (Table 29). Analyzing the ranked SDT scores using a Mann-Whitney-U test on the Statistical Package for Social Sciences (SPSS), Version 21 (IBM, 2012) (Tables 30 and 31), the overall SDT scores were not statistically significant between English riders (median = 15.00) and Western riders (median = 14.84), $U = 2478.500$, $z = -1.127$, $p = .260$. Therefore, there is no statistically significant difference

between the overall SDT scores (and therefore motivation to ride) between riders of English and Western disciplines, and the null hypothesis cannot be rejected.

Table 29

Overall SDT Mean and Median Scores for English and Western Riders

Riding Style	Mean	Median	N
English	15.7362	15.00	38
Western	14.1667	14.84	148
Total	14.4873	15.00	186

Table 30

Analysis of Riding Style Differences Using a Mann-Whitney U Test - Ranks

	Riding Style	N	Mean Rank	Sum of Ranks
Overall SDT Score	English	38	102.28	3886.50
	Western	148	91.25	13504.50
	Total	186		

Table 31

Analysis of Riding Style Differences Using a Mann-Whitney U Test – Test Statistics

	Overall SDT Score
Mann-Whitney U	2478.500
Wilcoxon W	13504.500
Z	-1.127
Asymptotic significance (2-tailed)	.260

Research Hypothesis 6:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any socioeconomic status of Oklahoma equestrians.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for any socioeconomic status when compared to the other socioeconomic statuses of Oklahoma equestrians.

Oklahoma equestrians of various incomes, earning less than \$25,000 a year (N = 12), \$25,001 to \$50,000 a year (N = 56), \$50,001 to \$75,000 a year (N = 36), \$75,001 to \$100,000 a year (N = 35), \$100,001 to \$125,000 a year (N = 19), or \$125,001 or more a year (N = 24) completed both the original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II). The mean Likert score for each construct for each respondent was calculated for both instruments, and the construct(s) with the highest mean for each respondent on each instrument was noted. For the original Sport Motivation Scale, when a form of intrinsic motivation had the highest construct(s), it was noted and

included in the table (Table 32). Four survey respondents skipped this question, so the results are for 182 of the 186 respondents.

Riders with household incomes between \$25,001 and \$75,000 a year, as well as those making \$100,000 a year or more have more intrinsic motivation to experience stimulation, followed by intrinsic motivation to accomplish and intrinsic motivation to know. Riders whose household income is less than \$25,000 a year have more intrinsic motivation to accomplish (58.3 percent) than to experience stimulation (41.7 percent). This is also found with riders from households making \$75,001 to \$100,000 a year, with intrinsic motivation to accomplish (48.6 percent) ranking higher than intrinsic motivation to experience stimulation (34.3 percent).

From the revised Sport Motivation Scale, any constructs with the highest mean were noted and included in the table (Table 33). In the case of ties, all tied scores were included. No respondents had extrinsic motivation-external regulation as their highest construct score, so that category was excluded from the table.

Table 32

Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians of Differing Income Levels

Type of IM	Income Range < \$25k/year (N = 12)	\$25,001-\$50k/year (N = 56)	\$50,001-\$75k/year (N = 36)	\$75,001-\$100k/year (N = 35)	\$100,001-\$125k/year (N = 19)	\$125,001+k/year (N = 24)
To Know – Frequency (Percentage of Income Range Represented)	2 (16.7%)	13 (23.2%)	7 (19.4%)	7 (20.0%)	6 (31.6%)	2 (8.3%)
To Accomplish	7 (58.3%)	20 (35.7%)	10 (27.8%)	17 (48.6%)	5 (26.3%)	12 (50.0%)
To Experience Stimulation	5 (41.7%)	36 (64.3%)	22 (61.1%)	12 (34.3%)	12 (63.2%)	14 (58.3%)

Table 33

Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians with Different Levels of Income

Type of Motivation	Income Range < \$25k/year (N = 12)	\$25,001-\$50k/year (N = 56)	\$50,001-\$75k/year (N = 36)	\$75,001-\$100k/year (N = 35)	\$100,001-\$125k/year (N = 19)	\$125+ k/year (N = 24)
Intrinsic – Frequency (Percentage of Income Range Represented)	8 (66.7%)	28 (50.0%)	15 (41.7%)	18 (51.4%)	10 (52.6%)	15 (62.5%)
Extrinsic - Integrated	2 (16.7%)	11 (19.6%)	13 (36.1%)	7 (20.0%)	5 (26.3%)	4 (16.7%)
Extrinsic - Identified	5 (41.7%)	26 (46.4%)	11 (30.6%)	10 (28.6%)	8 (42.1%)	9 (37.5%)
Extrinsic – Introjected	1 (8.3%)	7 (12.5%)	7 (19.4%)	7 (20.0%)	0 (0.0%)	1 (4.2%)
Amotivation	0 (0.0%)	1 (1.8%)	1 (2.8%)	3 (8.6%)	0 (0.0%)	0 (0.0%)

To determine overall motivation for riding horses for leisure for each respondent, the self-determination index (SDT score) was calculated for each respondent. In order to make comparisons between the overall motivation of equestrians of varying ages, the means and medians of the overall motivation score were calculated for each category of age (Table 34). Analyzing the ranked SDT scores using a Kruskal-Wallis H test on the Statistical Package for Social Sciences (SPSS), Version 21 (IBM, 2012) (Tables 35 and 36), the Kruskal-Wallis H test was not significant ($H = 5.770, p = .329$). Therefore, there is no statistically significant difference between the

overall SDT scores (and therefore motivation to ride) between riders of any income range, and the null hypothesis cannot be rejected.

Table 34

Overall SDT Mean and Median Scores for Riders with Different Levels of Income

Income Range	Mean	Median	N
< \$25k per year	16.8611	16.500	12
\$25,001-\$50k/year	15.1250	15.165	56
\$50,001-\$75k/year	13.2592	13.330	36
\$75,001-\$100k/year	12.6955	12.330	35
\$100,001-\$125k/year	16.4026	16.670	19
\$125,001 + per year	15.1383	16.665	24
Total	14.5383	15.000	182

Table 35

Analysis of Differences in Income of Riders Using a Kruskal-Wallis H Test – Ranks

	Income Range	N	Mean Rank
Overall SDT Score	< \$25k per year	12	106.46
	\$25,001-\$50k/year	56	94.77
	\$50,001-\$75k/year	36	82.92
	\$75,001-\$100k/year	35	78.53
	\$100,001-\$125k/year	19	104.47
	\$125,001 + per year	24	97.92
	Total	182	

Table 36

Analysis of Differences in Income of Riders Using a Kruskal-Wallis H Test-Test Statistics

	Overall SDT Score
Chi-Square (H statistic)	5.770
df	5
Asymptotic significance	.329

Research Hypothesis 7:

H_0 = There is no tendency for the self-determination index of motivation for leisure riding to rank significantly different for any riding frequency of Oklahoma equestrians.

H_1 = There is a tendency for the self-determination index of motivation for leisure riding to rank significantly different for any riding frequency when compared to the other riding frequencies of Oklahoma equestrians.

Oklahoma equestrians with different frequencies of riding, whether once a year ($N = 35$), once a month ($N = 7$), twice a month ($N = 27$), once a week ($N = 31$), or twice a week ($N = 86$), completed both the original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II). The mean Likert score for each construct for each respondent was calculated for both instruments, and the construct(s) with the highest mean for each respondent on each instrument was noted. For the original Sport Motivation Scale, when a form of intrinsic motivation had the highest construct(s), it was noted and included in the table (Table 37).

For all riding frequencies, intrinsic motivation to experience stimulation was the subset with the highest mean. Riders who ride once a month also ranked intrinsic motivation to know just as highly, but with only seven respondents in that category it may not be generalizable to the rest of the riders who ride once a month.

From the revised Sport Motivation Scale, any constructs with the highest mean were noted and included in the table (Table 38). In the case of ties, all tied scores were included. No respondents had extrinsic motivation-external regulation as their highest construct score, so that category was excluded from the table.

Table 37

Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Oklahoma Equestrians of Various Riding Frequencies

Type of IM	Riding Frequency Once/year (N = 35)	Once/month (N = 7)	Twice/month (N = 27)	Once/week (N = 31)	Twice/week (N = 86)
To Know – Frequency (Percentage of Riding Frequency Represented)	1 (2.9%)	4 (57.1%)	5 (18.5%)	7 (22.6%)	21 (24.4%)
To Accomplish	8 (22.9%)	3 (42.9%)	9 (33.3%)	11 (35.5%)	41 (47.7%)
To Experience Stimulation	24 (68.6%)	4 (57.1%)	16 (59.3%)	15 (48.4%)	43 (50.0%)

Table 38

Frequency and Percentage of Types of Motivation with Highest Construct Average for Oklahoma Equestrians of Various Riding Frequencies

Type of Motivation	Riding Frequency Once/year (N = 35)	Once/month (N = 7)	Twice/month (N = 27)	Once/week (N = 31)	Twice/week (N = 86)
Intrinsic – Frequency (Percentage of Riding Frequency Represented)	13 (37.1%)	5 (71.4%)	12 (44.4%)	14 (45.2%)	51 (59.3%)
Extrinsic - Integrated	5 (14.3%)	1 (14.3%)	8 (29.6%)	11 (35.5%)	17 (19.8%)
Extrinsic - Identified	17 (48.6%)	3 (42.9%)	15 (55.6%)	9 (29.0%)	28 (32.6%)
Extrinsic – Introjected	4 (11.4%)	0 (0.0%)	2 (7.4%)	4 (12.9%)	13 (15.1%)
Amotivation	2 (5.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (3.5%)

To determine overall motivation for riding horses for leisure for each respondent, the self-determination index (SDT score) was calculated for each respondent. In order to make comparisons between the overall motivation of equestrians of varying ages, the means and medians of the overall motivation score were calculated for each category of age (Table 39). Analyzing the ranked SDT scores using a Kruskal-Wallis H test on the Statistical Package for Social Sciences (SPSS), Version 21 (IBM, 2012) (Tables 40 and 41), the Kruskal-Wallis H test was statistically significant ($H = 33.545, p < .001$). Therefore there is a statistically significant difference between

the overall SDT scores based on riding frequency, and the null hypothesis can be rejected.

Table 39

Overall SDT Mean and Median Scores for Different Riding Frequencies

Riding Frequency	Mean	Median	N
Once a year	8.4276	8.33	35
Once a month	18.7143	18.33	7
Twice a month	14.0744	14.67	27
Once a week	14.0755	13.67	31
Twice a week	16.8876	18.00	86
Total	14.4873	15.00	186

Table 40

Analysis of Differences in Riding Frequencies Using a Kruskal-Wallis H Test - Ranks

	Riding Frequency	N	Mean Rank
Overall SDT Score	Once a year	35	51.13
	Once a month	7	124.93
	Twice a month	27	89.76
	Once a week	31	88.89
	Twice a week	86	111.02
	Total	186	

Table 41

Analysis of Differences in Riding Frequencies Using a Kruskal-Wallis H Test-Test Statistics

	Overall SDT Score
Chi-Square (H statistic)	33.545
df	4
Asymptotic significance	< .001

To determine where the significant differences were among the groups, sample contrasts were made, using the Mann-Whitney U test to compare two groups at one time. To compensate for inflated Type 1 error rate when using several Mann-Whitney U tests, the Bonferroni procedure ($\alpha_B = \alpha/k = 0.05/10 = 0.005$) provided an adjusted level of risk (Corder & Foreman, 2009, p. 105). The group comparisons for the different reasons for riding are shown in Table 42. Using $\alpha_B = 0.005$, the only group comparisons that are statistically significant are the Once a year-Once a month comparison, with a significance of $p < .001$, the Once a year-Twice a month comparison, with a significance of $p < .001$, and the Once a year-Twice a week comparison, with a significance of $p < .001$. Therefore there is a significant difference in overall SDT score between riders who ride once a year and riders who ride once a month, twice a month, or twice a week, with those riding once a year having less overall self-determination than those riding more frequently (once a month, twice a month, or twice a week).

Table 42

Sample Contrasts for Different Riding Frequencies

Group Comparison	Mann-Whitney U Statistic	Rank Sum Difference	Significance
Once/year-Once/month	22.000	652.00-251.00=401.00	< .001 ¹
Once/year-Twice/month	193.500	1129.50-823.50=306.00	< .001
Once/year-Once/week	333.000	1248.00-963.00=285.00	.007
Once/year-Twice/week	611.000	6140.00-1241.00=4899.00	< .001
Once/month-Twice/month	44.500	422.50-172.50=250.00	.031 ¹
Once/month-Once/week	68.000	564.00-177.00=387.00	.134 ¹
Once/month-Twice/week	272.000	4013.00-358.00=3655.00	.673
Twice/month-Once/week	409.000	905.00-806.00=99.00	.882
Twice/month-Twice/week	821.500	5241.50-1199.50=4042.00	.022
Once/week-Twice/week	1030.500	5376.50-1526.50=3850.00	.062

¹ = exact significance, rather than asymptotic significance

Research Hypothesis 8:

H_0 = There is no tendency for ranks of the self-determination index of motivation for leisure riders in Oklahoma whose families are involved with horses to be significantly different from those whose families are not involved with horses.

H_1 = The ranks of the self-determination index of motivation for leisure riders in Oklahoma whose families are involved with horses are significantly different from those of the riders whose families are not involved with horses.

Riders whose families are involved with horses (N = 129) or are not involved with horses (N = 57) completed both the original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II). The mean Likert score for each construct for each respondent was calculated for both instruments, and the construct(s) with the highest mean for each respondent on each instrument was noted. For the original Sport Motivation Scale, when a form of intrinsic motivation had the highest construct(s), it was noted and included in the table (Table 43).

As with other categories, respondents with and without families involved with horses both had highest scores on intrinsic motivation to experience stimulation, followed by intrinsic stimulation to accomplish and finally intrinsic motivation to know.

Table 43

Frequency and Percentage of Types of Intrinsic Motivation with Highest Construct Average for Riders Whose Families are (N = 129) or are not (N = 57) Involved with Horses

Type of IM	Frequency of Highest Average (Percentage of Riders Represented)			
	Families Involved		Families Not Involved	
To Know	29	(22.5%)	9	(15.8%)
To Accomplish	50	(38.8%)	22	(38.6%)
To Experience Stimulation	69	(53.5%)	33	(57.9%)

From the revised Sport Motivation Scale, any constructs with the highest mean were noted and included in the table (Table 44). In the case of ties, all tied scores were

included. No respondents had extrinsic motivation-external regulation as their highest construct score, so that category was excluded from the table.

Table 44

Frequency and Percentage of Types of Motivation with Highest Construct Average for Riders Whose Families are (N = 129) or are not (N = 57) Involved with Horses

Motivation Type	Frequency of Highest Average (Percentage of Style Represented)	
	Families Involved	Families Not Involved
Intrinsic	70 (54.3%)	25 (43.9%)
Extrinsic-Integrated	27 (20.9%)	15 (26.3%)
Extrinsic-Identified	53 (41.1%)	21 (36.8%)
Extrinsic-Introjected	14 (10.9%)	9 (15.8%)
Amotivation	3 (2.3%)	2 (3.5%)

To determine overall motivation for riding horses for leisure for each respondent, the self-determination index (SDT score) was calculated for each respondent. In order to make comparisons between the overall motivation for riders whose families are involved with horses and also those who have families that are not involved with horses, the means and medians of the overall motivation score were calculated for each type of rider (Table 45). Analyzing the ranked SDT scores using a Mann-Whitney-U test on the Statistical Package for Social Sciences (SPSS), Version 21 (IBM, 2012) (Tables 46 and 47), the overall SDT scores were not statistically significant

between those whose families are involved with horses (median = 15.00) and those whose families are not involved with horses (median = 13.67), $U = 3353.500$, $z = -.954$, $p = .340$. Therefore, there is no statistically significant difference between the overall SDT scores (and therefore motivation to ride) between riders whose families are or are not involved with horses, and the null hypothesis cannot be rejected.

Table 45

Overall SDT Mean and Median Scores for Riders Based on Family Involvement with Horses

Families Involved with Horses	Mean	Median	N
Yes	14.8683	15.00	129
No	13.6251	13.67	57
Total	14.4873	15.00	186

Table 46

Analysis of Family Involvement Differences Using a Mann-Whitney U Test - Ranks

	Family Involvement	N	Mean Rank	Sum of Ranks
Overall SDT Score	Yes	129	96.00	12384.50
	No	57	87.83	5006.50
	Total	186		

Table 47

Analysis of Family Involvement Differences Using a Mann-Whitney U Test – Test Statistics

	Overall SDT Score
Mann-Whitney U	3353.500
Wilcoxon W	5006.500
Z	-.954
Asymptotic significance (2-tailed)	.340

Research Hypothesis 9:

H_0 = The original and revised Sport Motivation Scales demonstrate good equivalent-form reliability.

H_1 = The original and revised Sport Motivation Scales do not demonstrate good equivalent-form reliability.

All survey respondents completed both the original Sport Motivation Scale and the revised Sport Motivation Scale (SMS-II) at the same time, with questions from both randomly presented to each participant. This resulted in two sets of scores per participant per construct for extrinsic motivation-identified regulation, extrinsic motivation-introjected regulation, extrinsic motivation-external regulation, and amotivation. The measurement for extrinsic motivation-integrated regulation was only performed on the SMS-II, making a comparison on that construct between the two instruments impossible. Comparisons between the intrinsic motivation measurements for each instrument were similarly difficult, since the original SMS measures intrinsic

motivation on three different levels (to know, to accomplish, and to experience stimulation), while the revised SMS simply measures general intrinsic motivation.

To determine whether the original and revised Sport Motivation Scales demonstrated equivalent-forms reliability, that is, whether scores on each subscale were consistent between instruments for each participant (Gay, Mills, & Airasian, 2006), the means for each construct on each instrument were computed for each participant and then analyzed using the Wilcoxon signed ranks test. The Wilcoxon signed ranks test allows comparisons between two samples that are paired, such as two test scores for each respondent. It is the nonparametric equivalent to a paired t-test (Corder & Foreman, 2009). The results of the Wilcoxon signed ranks test for each of the four constructs measured on both instruments are listed in Tables 48 and 49.

The Wilcoxon signed ranks test had statistical significance of $p < .001$ for extrinsic motivation in the form of identified regulation; the null hypothesis that both forms of the Sport Motivation Scale (original and revised) exhibit good equivalent-form reliability can be rejected. The revised Sport Motivation Scale is significantly different from the original in extrinsic motivation-identified regulation.

The Wilcoxon signed ranks test had statistical significance of $p < .001$ for extrinsic motivation in the form of introjected regulation; the null hypothesis that both forms of the Sport Motivation Scale (original and revised) exhibit good equivalent-form reliability can be rejected. The revised Sport Motivation Scale is significantly different from the original in the extrinsic motivation-introjected regulation.

The Wilcoxon signed ranks test had statistical significance of $p < .001$ for extrinsic motivation in the form of external regulation; the null hypothesis that both forms of the Sport Motivation Scale (original and revised) exhibit good equivalent-form reliability can be rejected. The revised Sport Motivation Scale is significantly different from the original in the extrinsic motivation-external regulation.

The Wilcoxon signed ranks test had a statistical significance of $p = .048$ for amotivation; the null hypothesis that both forms of the Sport Motivation Scale (original and revised) exhibit good equivalent-form reliability cannot be rejected. The revised Sport Motivation Scale is not significantly different from the original in amotivation.

Table 48

Analysis of Construct Differences Between the SMS and SMS-II Using the Wilcoxon Signed Ranks Test -- Ranks

Comparison	Ranks	N	Mean Rank	Sum of Ranks
Extrinsic Motivation: Identified Regulation SMS-II and SMS	Negative	38 ¹	59.86	2274.50
	Positive	132 ²	92.88	12260.50
	Ties	16 ³		
	Total	186		
Extrinsic Motivation: Introjected Regulation SMS-II and SMS	Negative	36 ¹	63.29	2278.50
	Positive	133 ²	90.88	12086.50
	Ties	17 ³		
	Total	186		
Extrinsic Motivation: External Regulation SMS-II and SMS	Negative	123 ¹	72.83	8957.50
	Positive	15 ²	42.23	633.50
	Ties	48 ³		
	Total	186		
Amotivation: SMS-II and SMS	Negative	56 ¹	49.19	2754.50
	Positive	38 ²	45.01	1710.50
	Ties	92 ³		
	Total	186		

¹ = Construct score on SMS-II < Construct score on SMS

² = Construct score on SMS-II > Construct score on SMS

³ = Construct score on SMS-II = Construct score on SMS

Table 49

Analysis of Construct Differences between the SMS and SMS-II Using the Wilcoxon Signed Ranks Test -- Test Statistics

Constructs Compared	Z	Asymptotic Significance (2-tailed)
Extrinsic motivation: identified regulation (SMS II-SMS)	-7.771	< .001
Extrinsic motivation: introjected regulation (SMS II-SMS)	-7.770	< .001
Extrinsic motivation: external regulation (SMS II-SMS)	-8.851	< .001
Amotivation (SMS II-SMS)	-1.974	.048

CHAPTER V

CONCLUSION

The analysis of data by the researcher was the basis of the following conclusions:

Demographic Patterns Among Responding Oklahoma Equestrians

Responding Oklahoma equestrians were primarily female, rode mainly for fun, and had ridden horses for over 21 years. A third of responding Oklahoma equestrians were aged 50 to 59 years. Eighty percent of responding Oklahoma equestrians rode Western style. Roughly two-thirds of responding Oklahoma equestrians rode once or twice a week. About two-thirds of the responding Oklahoma equestrians had families that were involved with horses to some extent. Half of responding Oklahoma equestrians came from households earning \$25,001 to \$75,000 a year before taxes.

Types of Intrinsic Motivation Exhibited by Responding Oklahoma Equestrians

Males rode primarily "to accomplish"; females rode primarily "to experience stimulation." This would suggest that Oklahoma equestrians ride to have fun and learn how to master their riding technique more than they ride to learn new techniques. This is further strengthened when considering the voluntary comments sent to the researcher by some respondents: "I will go on a trail ride with people I know for pleasure," "I ride because it is therapy (mental), and a lot cheaper and better than a

shrink. When I ride for leisure I can totally relax and have a clear mind,” “While I would not consider myself to be an expert horseman by any stretch, my motivation is primarily learning how to apply new techniques and the reward is in both the horse and me. The side benefits I get from that are that I do have a lot of friends, and we have quality time together because of this activity,” “One of the main reasons that I ride and work with horses is because it is the most enjoyable form of physical activity that I can perform,” and “I don’t care what others think, I ride for FUN! [I] have ‘competed’ some just to enjoy the evaluation.”

Riders who ride primarily for fun scored highest on the "to experience stimulation" subset of intrinsic motivation, as did riders who ride primarily for competition. Riders of all ages and all years of riding experience overwhelmingly ride "to experience stimulation" and "to accomplish", with the subset "to know" having the lowest score for all ages and all years of riding experience. Riders in both Western and English disciplines ride primarily "to experience stimulation", and "to accomplish," with "to know" being the weakest subset of intrinsic motivation. Riders from families earning less than \$25,000 a year and from families earning between \$75,001 and \$100,000 a year ride primarily "to accomplish". Riders from families of all other income ranges ride primarily "to experience stimulation." Regardless of riding frequency, responding Oklahoma equestrians ride primarily "to experience stimulation." Riders with or without horse-involved families ride primarily "to experience stimulation," then "to accomplish", and finally "to know."

Types of Motivation Exhibited Most by Responding Oklahoma Equestrians

Both male and female riders were primarily intrinsically motivated, followed by extrinsically motivated at the identified level. Riders who rode primarily for fun exhibited extrinsic motivation at the identified level; those riding primarily for competition, work, or two or more reasons exhibited primarily intrinsic motivation. Riders with less than 10 years' experience riding primarily exhibited motivation at the extrinsic motivation-identified level; riders with 11 or more years of riding experience were primarily intrinsically motivated. At least half of all riders up to 60 years of age rode primarily for intrinsic reasons.

Both English and Western style riders rode primarily for intrinsic reasons, followed by extrinsic motivation at the identified level. Riders of all income levels rode primarily for intrinsic reasons. Riders who rode infrequently (once a year or twice a month) were more likely to be extrinsically motivated at the identified level. Riders who rode more frequently (once or twice a week) were more likely to be intrinsically motivated. Whether or not their families were involved to any extent with horses, Oklahoma riders were more likely to be intrinsically motivated.

The majority of responding Oklahoma equestrians rode because they were motivated intrinsically, or they were motivated extrinsically at the identified level. In both cases, all three nutrients of competence, relatedness, and autonomy were present; therefore most riders in Oklahoma ride because they choose to ride horses of their own volition.

Overall Self-Determination Scores for Responding Oklahoma Equestrians

Female Oklahoma equestrians had higher mean and median scores on the revised Sport Motivation Scale. On the revised Sport Motivation Scale, responding Oklahoma equestrians riding for two or more reasons ranked higher on both the mean and median scores than those riding for competition. Responding Oklahoma equestrians riding for competition ranked higher than those riding for fun, and those riding for fun ranked higher than those riding primarily for work. The riders with eleven to fifteen years of riding experience had the highest mean and median scores on the revised Sport Motivation Scale, followed in both scores by the riders with twenty one or more years of experience. Riders with five to ten years of experience had the lowest mean and median scores.

Responding Oklahoma equestrians between 50 and 59 years of age had the highest mean score on the revised Sport Motivation Scale; riders aged eighteen to 29 had the highest median score. The lowest mean and median scores were for those riders ages 60 years and older. English riders scored higher on the mean and median scores than did the Western riders. The highest mean and median scores in the income levels were for the highest (over \$100,001 a year) and lowest (under \$25,000 a year) income riders. In general, mean and median scores went up with frequency of riding. Those riders with horse-involved families had higher mean and median scores when compared to riders who do not have families involved with horses.

Comparison of the SMS and the SMS-II

It appears that the revised Sport Motivation Scale (SMS-II) is significantly different from the original Sport Motivation Scale, at least for extrinsic motivation in the forms of identified, introjected, and external regulation. Regarding the subscale of amotivation, the statistical significance of $p = .048$ from the Wilcoxon signed ranks test is very close to the value (.05) that would allow rejection of the null, so it is difficult to determine how different the revised amotivation subscale is from the original, although it is technically statistically significant in its differences.

Since the revised scale includes the measure of integrated regulation, as well as gives less weight to the intrinsic motivation measures in the overall score, the SMS-II should be the one utilized when determining levels of sport motivation in individuals. However, the three separate measures of intrinsic motivation that occur in the original SMS are still useful in determining what kinds of intrinsic motivation are at play within an individual.

Recommendations

After interpreting the data and drawing the aforementioned conclusions, the following recommendations are made:

It is recommended that leisure service providers offer fun and competitive events, perhaps combining the two into open fun shows or gymkhanas, to draw in the riders that ride for fun and competition, or something unique, such as polo or vaulting or horseball, to draw in riders looking for something new and different to try. Since few responding Oklahoma equestrians ride “to know,” teaching clinics will likely be less of a

draw than events that let riders “accomplish” and “experience stimulation.”

It is recommended that leisure service providers market to potential clients up to and over 60 years of age. Half of the respondents in this survey were aged 50 years or older; possibly much older than many leisure service providers expect. It is also recommended that leisure service providers market to potential clients who make between \$25,000 and \$75,000, the range of income for half of the respondents to the survey.

It is recommended that leisure service providers actively recruit groups of enthusiasts, such as the Oklahoma Equestrian Trail Riders Association, Inc., and others, which are formed to promote equestrian activities around the state and often have ‘work weekends’ to clean up and maintain trails and equestrian camping areas as well as create new trails on public land around the state. Many equestrians welcome the opportunity to help take care of land they are allowed to access.

It is recommended that leisure service providers actively market online. This online survey was possible because many people are online now, and horse-related organizations are taking advantage of the Internet. For example, the American Horse Council, which has a goal of keeping opportunities open for horse enthusiasts, just recently (May 2013) launched a new site (TimetoRide.com) geared toward recruiting more interested people into the horse industry as riders, students, owners, and supporters. Programs like Oklahoma Agritourism have online directories of stables, rental horse availability, rodeos, horse shows and other equine-related attractions. In addition, many sites have newsletters and blogs that are sent directly to interested

individuals' email accounts or social media pages. Online advertising is often a fraction of the cost of traditional advertising, with widespread coverage.

Recommendations for Additional Research

The researcher makes the following recommendations in regard to additional research, based on concluding the study and summarizing the findings.

It is recommended that Oklahoma equestrians be surveyed to determine what their specific needs and preferences are in regards to equine activities and venues. If the actual needs and preferences are known, leisure service providers can cater to potential customers in a more direct way.

It is recommended that Oklahoma equestrians be surveyed to determine how much money they spend on equine-related expenses, what they purchase, and where they spend their money. In addition, determining how much time Oklahoma equestrians are involved with horses would allow for a more complete picture of the financial and time investments of those riding horses in Oklahoma.

It is recommended that Oklahoma equestrians be surveyed to determine how far they are willing to travel with their horses or to ride the horses of others for leisure, so that leisure service providers have a better picture of where they need to advertise to best utilize their marketing dollars.

It is recommended that Oklahoma horse owners be surveyed to determine how horse ownership relates to income as well as motivation, and whether actual ownership of a horse is the primary means for riding for leisure.

REFERENCES

- Alexandris, K., Tsorbatzoudis, C., & Grouios, G. (2002). Perceived constraints on recreational sport participation: Investigating their relationship with intrinsic motivation, extrinsic motivation and Amotivation. *Journal of Leisure Research*, 34(3), 233-252.
- Almond, R. (2012). The way the ladies ride. *History Today*, 62(2), 36-39.
- American Horse Council Foundation. (2005). *The economic impact of the Oklahoma horse industry*. New York: Deloitte.
- Bae, W. (2010). *Using self-determination theory to understand golf consumption behaviors: An examination of Korean college student golfers in the United States*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3409745).
- Beauchamp, P.H., Halliwell, W.R., Fournier, J.F., & Koestner, R. (1996). Effects of cognitive-behavioral psychological skills training on the motivation, preparation, and putting performance of novice golfers. *The Sports Psychologist*, 10, 157-170.
- Boiché, J.C., Sarrazin, P.G., Grouzet, F.M., Pelletier, L.G., & Chanal, J.P. (2008). Students' motivational profiles in physical education and achievement outcomes: A self-determination theory perspective. *Journal of Educational Psychology*, 100, 688-701.
- Bryan, C.L., & Solmon, M.A. (2007). Self-determination in physical education: Designing class environments to promote active lifestyles. *Journal of Teaching in Physical Education*, 26, 260-278.
- Burtscher, J., Furtner, M., Sachse, P., & Burtscher, M. (2011). Validation of a German version of the sport motivation scale (SMS28) and motivation analysis in competitive mountain runners. *Perceptual and Motor Skills*, 112(3), 807-820. doi: 10.2466/05.06.25.PMS.112.3.807-820
- Carbonneau, N., Vallerand, R.J., & Lafrenière, M.-A. K. (2012). Toward a tripartite model of intrinsic motivation. *Journal of Personality*, 80(5), 1147-1178. doi: 10.1111/j.1467-6494.2011.00757.x

- Carifio, J., & Perla, R. (2007). Ten common misunderstandings, misconceptions, persistent myths and urban legends about Likert scales and Likert response formats and their antidotes. *Journal of Social Sciences*, 3(3), 106-116. doi: 10.3844/jssp.2007.106.116
- Carron, A.V. (1984). *Motivation: Implications for coaching and teaching*. London, Ontario: Sports Dynamics.
- Carruthers, C., Platz, L., & Busser, J. (2006). Gambling motivation of individuals who gamble pathologically. *Therapeutic Recreation Journal*, 40(3), 165-181.
- Centers for Disease Control and Prevention. (2011). *Self-reported obesity among U.S. adults in 2011*. Retrieved from <http://www.cdc.gov/obesity/downloads/DNPAO-State-Obesity-Prevalence-Map-2011.pptx>.
- Conroy, D.E., Elliot, A.J., & Coatsworth, J.D. (2007). Competence motivation in sport and exercise. In M.S. Hagger & N.L.D. Chatzisarantis (Eds.), *Intrinsic Motivation and Self-Determination in Exercise and Sport* (pp. 181-192). Champaign, IL: Human Kinetics.
- Corder, G.W., & Foreman, D.I. (2009). *Nonparametric statistics for non-statisticians*. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Csikszentmihalyi, M. (1975). Play and intrinsic rewards. *Journal of Humanistic Psychology*, 15, 41-63.
- Deci, E. (2012, June 9). Promoting motivation, health, and excellence: Ed Deci at TEDxFlourCity [Video file]. Retrieved from <http://www.youtube.com/watch?v=VGrcets0E6I>
- Deci, E.L., & Ryan, R.M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- Deci, E.L., & Ryan, R.M. (2012). Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In R.M. Ryan (Ed.), *The Oxford Handbook of Human Motivation* (pp. 85-107). New York: Oxford University Press, Inc.
- Dworkin, N. (1996). Equestrian equality: What is it about women and horses? *On the Issues*, 5(4), 36. Retrieved from http://www.ontheissuesmagazine.com/1996fall/f96_DWORKIN.php
- Freeman, D. W. (2004). *“First time” horse ownership: Selecting horses and budgeting horse interests* (Publication ANSI-4004). Retrieved from Cooperative Extension

Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State University, Stillwater, Oklahoma website: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2083/ANSI-4004web.pdf>

Freeman, D.W. (2009). *Oklahoma horse industry trends* (Publication CR-3987). Retrieved from Cooperative Extension Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State University, Stillwater, Oklahoma website: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2087/CR-3987web.pdf>

Fortier, M., & Kowal, J. (2007). The flow state and physical activity behavior change as motivational outcomes. In M.S. Hagger & N.L.D. Chatzisarantis (Eds.), *Intrinsic Motivation and Self-Determination in Exercise and Sport* (pp. 113-125). Champaign, IL: Human Kinetics.

Gagné, M., Ryan, R.M., & Bargmann, K. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology*, 15, 372-390.

Gay, L.R., Mills, G.E., & Airasian, P. (2006). *Educational research: Competencies for analysis and applications* (8th ed.). New Jersey: Pearson Education, Inc.

Godbey, G. (2008). *Leisure in your life: New perspectives*. State College, PA: Venture Publishing, Inc.

Hagger, M.S., & Chatzisarantis, N. (Eds.) (2007). *Intrinsic motivation and self-determination in exercise and sport*. Champaign, IL: Human Kinetics.

Harlow, H.F. (1950). Learning and satiation of response in intrinsically motivated complex puzzle performance by monkeys. *Journal of Comparative and Physiological Psychology*, 43(4), 289-294.

Houghton Mifflin Company. (1993). Equestrian. In *The American heritage college dictionary* (3rd ed.).

Houghton Mifflin Company. (1993). Sport. In *The American heritage college dictionary* (3rd ed.).

Hull, C.L. (1943). *Principles of behavior: An introduction to behavior theory*. New York: Appleton-Century-Crofts.

IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.

- Jamieson, S. (2004). Likert scales: How to (ab)use them. *Medical Education*, 38, 1212-1218.
- Kelly, J. R. (1996). *Leisure* (3rd ed.). Needham Heights, MA: Allyn & Bacon.
- Kleiber, D. (1999). *Leisure experience and human development*. New York: Basic Books.
- Kowal, J., & Fortier, M. S. (1999). Motivational determinants of flow: contributions from self-determination theory. *The Journal of Social Psychology*, 139(3), 355-368.
- Li, W., Lee, A.M., & Solmon, M.A. (2005). Relationships among dispositional ability conceptions, intrinsic motivation, perceived competence, experience, persistence, and performance. *Journal of Teaching in Physical Education*, 24, 51-65.
- Markland, D. (1999). Self-determination moderates the effects of perceived competence on intrinsic motivation in an exercise setting. *Journal of Sport and Exercise Psychology*, 21, 351-361.
- Miller, R.M. (1989). Understanding the horse owner. *Journal of Equine Veterinary Science*, 9(6), 297-302. doi: 10.1016/S0737-0806(89)80060-7
- Normando, S., Meers, L., Samuels, W.E., Faustini, M., & Ödberg, F.O. (2011). Variables affecting the prevalence of behavioural problems in horses. Can riding style and other management factors be significant? *Applied Animal Behaviour Science*, 133, 186-198. doi: 10.1016/j.applanim.2011.06.012
- O'Reilly, C. (2008). Sidesaddles and suffragettes – the fight to ride and vote. Retrieved from The Long Riders Guild Academic Foundation website: http://www.lrgaf.org/articles/sidesaddles_and_suffragettes.htm
- Pelletier, L.G., Dion, S., Tuson, K., & Green-Demers, I. (1998). Why do people fail to adopt environmental behaviors? Towards a taxonomy of environmental amotivation. Unpublished manuscript, University of Ottawa.
- Pelletier, L.G., Fortier, M.S., Vallerand, R.J., & Briere, N.M. (2001). Associations among perceived autonomy support, forms of self-regulation, and persistence: A prospective study. *Motivation and Emotion*, 25(4), 279-306.
- Pelletier, L.G., Fortier, M.S., Vallerand, R.J., Tuson, K.M., Briere, N.M., & Blais, M.R. (1995). Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The sport motivation scale (SMS). *Journal of Sport and Exercise Psychology*, 17(1), 35-53.

- Pelletier, L.G., Rocchi, M.A., Vallerand, R.J., Deci, E.L., & Ryan, R.M. (2013). Validation of the revised sport motivation scale (SMS-II). *Psychology of Sport and Exercise*, 14, 329-341.
- Pelletier, L.G., & Sarrazin, P. (2007). Measurement issues in self-determination theory and sport. In M.S. Hagger & N.L.D. Chatzisarantis (Eds.), *Intrinsic Motivation and Self-Determination in Exercise and Sport* (pp. 143-152). Champaign, IL: Human Kinetics.
- Pope, J.P., & Wilson, P.M. (2012). Understanding motivational processes in university rugby players: A preliminary test of the hierarchical model of intrinsic and extrinsic motivation at the contextual level. *International Journal of Sports Science and Coaching*, 7(1), 89-107.
- Qualtrics Products. (2013). Qualtrics software, version 50769. Provo: UT. Qualtrics Products.
- Quested, E., & Duda, J.L. (2009). Perceptions of the motivational climate, need satisfaction, and indices of well- and ill-being among hip hop dancers. *Journal of Dance Medicine and Science*, 13(1), 10-19.
- Roberts, G.C. (2001). Understanding the dynamics of motivation in physical activity: The influence of achievement goals on motivational processes. In G.C. Roberts (Ed.), *Advances in Motivation in Sport and Exercise* (pp. 1-50). Champaign, IL: Human Kinetics.
- Robinson, I.H. (1999). The human-horse relationship: How much do we know? *Equine Veterinary Journal*, 31(S28), 42-45. doi: 10.1111/j.2042-3306.1999.tb05155.x
- Rocchi, M., Pelletier, L.G., Vallerand, R.J., Deci, E.L., & Ryan, R.M. (2010, May). *Validation of the Revised Sport Motivation Scale*. Paper presented at the Fourth International SDT Conference, Ghent University, Belgium.
- Ryan, R.M. (2012). Motivation and the organization of human behavior: Three reasons for the reemergence of a field. In R.M. Ryan (Ed.), *The Oxford Handbook of Human Motivation* (pp. 3-10). New York: Oxford University Press, Inc.
- Ryan, R.M., & Deci, E.L. (2007). Active human nature: Self-determination theory and the promotion and maintenance of sport, exercise, and health. In M.S. Hagger & N.L.D. Chatzisarantis (Eds.), *Intrinsic Motivation and Self-Determination in Exercise and Sport* (pp. 1-22). Champaign, IL: Human Kinetics.

- Ryan, R.M., & Grolnick, W.S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of individual differences in children's perceptions. *Journal of Personality and Social Psychology*, 50, 550-558.
- Ryan, R.M., Rigby, S., & King, K. (1993) Two types of religious internalization and their relations to religious orientations and mental health. *Journal of Personality and Social Psychology*, 65, 586-596.
- Ryan, R.M., Williams, G.C., Patrick, H., & Deci, E.L. (2009). Self-determination theory and physical activity: The dynamics of motivation in development and wellness. *Hellenic Journal of Psychology*, 6, 107-124. Retrieved from http://www.selfdeterminationtheory.org/SDT/documents/2009_RyanWilliamsPatrickDeci_HJOP.pdf
- Skinner, B. F. (1953). *Science and human behavior*. New York: Macmillan.
- Stowe, C.J. (2012). *Results from the 2012 AHP equine industry survey*. Retrieved from http://www.surebetracingnews.com/NEWS/Results_Industry_Survey-08232012.htm
- Thøgersen-Ntoumani, C., & Ntoumanis, N. (2006). The role of self-determined motivation in the understanding of exercise-related behaviours, cognitions and physical self-evaluations. *Journal of Sports Sciences*, 24(4), 393-404.
- Vallerand, R.J. (2000). Deci and Ryan's self-determination theory: A view from the hierarchical model of intrinsic and extrinsic motivation. *Psychological Inquiry*, 11(4), 312-318.
- Vallerand, R. J. (2001). A hierarchical model of intrinsic and extrinsic motivation in sport and exercise. In G.C. Roberts (Ed.), *Advances in Motivation in Sport and Exercise* (pp. 263-319). Champaign, IL: Human Kinetics.
- Vallerand, R.J. (2007). A hierarchical model of intrinsic and extrinsic motivation for sport and physical activity. In M.S. Hagger & N.L.D. Chatzisarantis (Eds.), *Intrinsic motivation and self-determination in exercise and sport* (pp.255-279). Champaign, IL: Human Kinetics.
- Vallerand, R.J., Donahue, E.G., & Lafrenière, M.-A. K. (2012). Intrinsic and extrinsic motivation in sport and exercise. In Tenenbaum, G., Eklund, R.C., & Kamata, A. (Eds.), *Measurement in Sport and Exercise Psychology* (pp.279-292). Champaign, IL: Human Kinetics.
- Warde, W.D. (1990). *Sampling methods*. Stillwater, OK.

White, R.W. (1959). Motivation reconsidered: The concept of competence.
Psychological Review, 66, 297-333.

APPENDICES

APPENDIX A

THE ORIGINAL SPORT MOTIVATION SCALE

THE SPORT MOTIVATION SCALE (SMS-28)

*Luc G. Pelletier, Michelle Fortier, Robert J. Vallerand,
Nathalie M. Brière, Kim M. Tuson and Marc R. Blais, 1995*

Journal of Sport & Exercise Psychology, 17, 35-53

WHY DO YOU PRACTICE YOUR SPORT ?

Using the scale below, please indicate to what extent each of the following items corresponds to one of the reasons for which you are presently practicing your sport.

Does not							
correspond	Corresponds	Corresponds	Corresponds	Corresponds	Corresponds		
at all	a little		moderately	a lot	exactly		
1	2	3	4	5	6	7	

WHY DO YOU PRACTICE YOUR SPORT ?

1. For the pleasure I feel in living exciting experiences.	1	2	3	4	5	6	7
2. For the pleasure it gives me to know more about the sport that I practice.	1	2	3	4	5	6	7
3. I used to have good reasons for doing sport, but now I am asking myself if I should continue doing it.	1	2	3	4	5	6	7
4. For the pleasure of discovering new training techniques.	1	2	3	4	5	6	7
5. I don't know anymore; I have the impression of being incapable of succeeding in this sport.	1	2	3	4	5	6	7
6. Because it allows me to be well regarded by people that I know.	1	2	3	4	5	6	7
7. Because, in my opinion, it is one of the best ways to meet people.	1	2	3	4	5	6	7
8. Because I feel a lot of personal satisfaction while mastering certain difficult training techniques.	1	2	3	4	5	6	7
9. Because it is absolutely necessary to do sports if one wants to be in shape.	1	2	3	4	5	6	7
10. For the prestige of being an athlete.	1	2	3	4	5	6	7
11. Because it is one of the best ways I have chosen to develop other aspects of myself.	1	2	3	4	5	6	7
12. For the pleasure I feel while improving some of my weak points.	1	2	3	4	5	6	7

13. For the excitement I feel when I am really involved in the activity.	1	2	3	4	5	6	7
14. Because I must do sports to feel good myself.	1	2	3	4	5	6	7
15. For the satisfaction I experience while I am perfecting my abilities.	1	2	3	4	5	6	7
16. Because people around me think it is important to be in shape.	1	2	3	4	5	6	7
17. Because it is a good way to learn lots of things which could be useful to me in other areas of my life.	1	2	3	4	5	6	7
18. For the intense emotions I feel doing a sport that I like.	1	2	3	4	5	6	7
19. It is not clear to me anymore; I don't really think my place is in sport.	1	2	3	4	5	6	7
20. For the pleasure that I feel while executing certain difficult movements.	1	2	3	4	5	6	7
21. Because I would feel bad if I was not taking time to do it.	1	2	3	4	5	6	7
22. To show others how good I am good at my sport.	1	2	3	4	5	6	7
23. For the pleasure that I feel while learning training techniques that I have never tried before.	1	2	3	4	5	6	7
24. Because it is one of the best ways to maintain good relationships with my friends.	1	2	3	4	5	6	7
25. Because I like the feeling of being totally immersed in the activity.	1	2	3	4	5	6	7
26. Because I must do sports regularly.	1	2	3	4	5	6	7
27. For the pleasure of discovering new performance strategies.	1	2	3	4	5	6	7
28. I often ask myself; I can't seem to achieve the goals that I set for myself.	1	2	3	4	5	6	7

© Luc G. Pelletier, Michelle Fortier, Robert J. Vallerand, Nathalie M. Brière, Kim M. Tuson and Marc R. Blais, 1995

KEY FOR SMS-28

-
- # 2, 4, 23, 27 Intrinsic motivation - to know
 - # 8, 12, 15, 20 Intrinsic motivation - to accomplish
 - # 1, 13, 18, 25 Intrinsic motivation - to experience stimulation
 - # 7, 11, 17, 24 Extrinsic motivation - identified
 - # 9, 14, 21, 26 Extrinsic motivation - introjected
 - # 6, 10, 16, 22 Extrinsic motivation - external regulation
 - # 3, 5, 19, 28 Amotivation
-

APPENDIX B

THE REVISED SPORT MOTIVATION SCALE

Why do you practice your sport?

Please think about why you practice your primary sport and respond to the questions below. Using the following scale, please indicate to what extent each of the following items corresponds to one of the reasons for which you are presently practicing your sport.

Does not correspond at all 1	Corresponds very little 2	Corresponds a little 3	Corresponds moderately 4	Corresponds quite a bit 5	Corresponds quite a lot 6	Corresponds completely 7		
1.	Because I would feel bad about myself if I did not take the time to do it.	1	2	3	4	5	6	7
2.	I used to have good reasons for doing sports, but now I am asking myself if I should continue.	1	2	3	4	5	6	7
3.	Because it is very interesting to learn how I can improve.	1	2	3	4	5	6	7
4.	Because practicing sports reflects the essence of whom I am.	1	2	3	4	5	6	7
5.	Because people I care about would be upset with me if I didn't.	1	2	3	4	5	6	7
6.	Because I found it is a good way to develop aspects of myself that I value.	1	2	3	4	5	6	7
7.	Because I would not feel worthwhile if I did not.	1	2	3	4	5	6	7
8.	Because I think others would disapprove of me if I did not.	1	2	3	4	5	6	7
9.	Because I find it enjoyable to discover new performance strategies.	1	2	3	4	5	6	7
10.	I don't know anymore; I have the impression that I am incapable of succeeding in this sport.	1	2	3	4	5	6	7
11.	Because participating in sport is an integral part of my life.	1	2	3	4	5	6	7
12.	Because I have chosen this sport as a way to develop myself.	1	2	3	4	5	6	7
13.	It is not clear to me anymore; I don't really think my place is in sport.	1	2	3	4	5	6	7
14.	Because through sport, I am living in line with my deepest principles.	1	2	3	4	5	6	7
15.	Because people around me reward me when I do.	1	2	3	4	5	6	7
16.	Because I feel better about myself when I do.	1	2	3	4	5	6	7
17.	Because it gives me pleasure to learn more about my sport.	1	2	3	4	5	6	7
18.	Because it is one of the best ways I have chosen to develop other aspects of myself.	1	2	3	4	5	6	7

Scoring:

Intrinsic Regulation: 3, 9, 17

Integrated Regulation: 4, 11, 14

Identified Regulation: 6, 12, 18

Introjected Regulation: 1, 7, 16

External Regulation: 5, 8, 15

Non Regulation: 2, 10, 13

APPENDIX C

SURVEY

Survey Questions (to be administered on Qualtrics)

1. What is your gender?

☐ Male

☐ Female

2. Do you primarily ride for:

☐ Fun/pleasure

☐ Competition/training for competition

☐ Other (please specify): _____

3. How many years have you been riding horses?

☐ < 5 years

☐ 5-10 years

☐ 11-15 years

☐ 16-20 years

☐ 21 or more years

4. What is your age?

☐ 18-19 years

☐ 20-29 years

☐ 30-39 years

☐ 40-49 years

☐ 50-59 years

☐ 60-69 years

☐ 70-79 years

☐ 80 or more years

5. Do you primarily ride:

☐ English (dressage, hunter/jumper, saddleseat, eventing, etc.)

☐ Western (barrel racing, trail riding, roping, cutting, etc.)

6. How often do you ride horses?

☐ Two or more times a week

☐ Once a week

☐ Two or more times a month

☐ Once a month

☐ One to ten rides a year

7. Is your family involved with horses (riding, owning, racing, breeding, boarding, etc.)?

☐ Yes

☐ No

8. What is your household income level (before taxes)?

☐ < \$25,000/year

☐ \$25,001 - \$50,000/year

☐ \$50,001 - \$75,000/year

☐ \$75,001 - \$100,000/year

☐ \$100,001 - \$125,000/year

☐ \$125,001 +/year

9. What is your residential zip code? _____

Using the scale below, please indicate to what extent each of the following items corresponds to one of the reasons for which you are presently riding horses.

Does not correspond at all 1	Corresponds very little 2	Corresponds a little 3	Corresponds moderately 4	Corresponds quite a bit 5	Corresponds quite a lot 6	Corresponds completely 7
--	--	-------------------------------------	---------------------------------------	--	--	---------------------------------------

“Why do you practice your sport (riding horses)?”

- | | | | | | | | |
|--|---|---|---|---|---|---|---|
| 9. For the pleasure I feel in living exciting experiences. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. For the pleasure it gives me to know more about the sport that I practice. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. I used to have good reasons for doing sport, but now I am asking myself if I should continue doing it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. For the pleasure of discovering new training techniques. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. I don't know anymore; I have the impression of being incapable of succeeding in this sport. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. Because it allows me to be well regarded by people that I know. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Because, in my opinion, it is one of the best ways to meet people. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. Because I feel a lot of personal satisfaction while mastering certain difficult training techniques. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. Because it is absolutely necessary to do sports if one wants to be in shape. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. For the prestige of being an athlete. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. Because it is one of the best ways I have chosen to develop other aspects of myself. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. For the pleasure I feel while improving some of my weak points. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. For the excitement I feel when I am really involved in the activity. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 22. Because I must do sports to feel good about myself. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. For the satisfaction I experience while I am perfecting my abilities. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. Because people around me think it is important to be in shape. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25. Because it is a good way to learn lots of things which could be useful to me in other areas of my life. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26. For the intense emotions I feel doing a sport that I like. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 27. It is not clear to me anymore: I don't really think my place is in sport. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 28. For the pleasure that I feel while executing certain difficult movements. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 29. Because I would feel bad if I was not taking time to do it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 30. To show others how good I am at my sport. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 31. For the pleasure that I feel while learning training techniques that I have never tried before. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 32. Because it is one of the best ways to maintain good relationships with my friends. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 33. Because I like the feeling of being totally immersed in the activity. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 34. Because I must do sports regularly. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 35. For the pleasure of discovering new performance strategies. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 36. I often ask myself; I can't seem to achieve the goals that I set for myself. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 37. Because I would feel bad about myself if I did not take the time to do it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 38. I used to have good reasons for doing sports, but now I am asking myself if I should continue. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 39. Because it is very interesting to learn how I can improve. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 40. Because practicing sports reflects the essence of whom I am. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- | | | | | | | | |
|--|---|---|---|---|---|---|---|
| 41. Because people I care about would be upset with me if I didn't. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 42. Because I found it is a good way to develop aspects of myself that I value. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 43. Because I would not feel worthwhile if I did not. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 44. Because I think others would disapprove of me if I did not. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 45. Because I find it enjoyable to discover new performance strategies. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 46. I don't know anymore; I have the impression that I am incapable of succeeding in this sport. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 47. Because participating in sport is an integral part of my life. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 48. Because I have chosen this sport as a way to develop myself. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 49. It is not clear to me anymore; I don't really think my place is in sport. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 50. Because through sport, I am living in line with my deepest principles. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 51. Because people around me reward me when I do. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 52. Because I feel better about myself when I do. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 53. Because it gives me pleasure to learn more about my sport. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 54. Because it is one of the best ways I have chosen to develop other aspects of myself. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Questions 9-36 are from the original Sport Motivation Scale

Questions 37-54 are from the revised Sport Motivation Scale

Questions 9-54 will be randomly presented to the participants.

Intrinsic motivation – to know	Questions:	10, 12, 31, 35
Intrinsic motivation – to accomplish		16, 20, 23, 28
Intrinsic motivation – to experience stimulation		9, 21, 26, 33
Intrinsic regulation (general intrinsic motivation)		39, 45, 53
Extrinsic motivation – integrated		40, 47, 50
Extrinsic motivation – identified		15, 19, 25, 32, 42, 48, 54
Extrinsic motivation – introjected		17, 22, 29, 34, 37, 43, 52
Extrinsic motivation – external regulation		14, 18, 24, 30, 41, 44, 51
Amotivation		11, 13, 27, 36, 38, 46, 49

APPENDIX D
CONSENT FORM

Participant Information, Oklahoma State University

Title: Self-Determination Theory and Oklahoma Equestrians: A Motivation Study

Investigator: Shelley Mitchell, MS, Oklahoma State University

Purpose: The purpose of the research study is to determine the reasons that Oklahoma horseback riders choose to ride for leisure. You must be 18 years or older to participate.

What to Expect: This research study is administered online. Participation in this research will involve completion of a questionnaire. The questionnaire will ask for basic demographic information at the beginning and then ask you to rank your level of agreement with statements about why you ride horses for leisure. It should take you about 10 minutes to complete.

Risks: There are no risks associated with this project which are expected to be greater than those ordinarily encountered in daily life.

Benefits: You may gain an appreciation and understanding of how research is conducted.

Compensation: You will receive no compensation for your participation.

Your Rights and Confidentiality: Your participation in this research is voluntary. There is no penalty for refusal to participate, and you are free to withdraw your consent and participation in this project at any time, without penalty.

Confidentiality: No attempt will be made to identify you. All information will be kept confidential and will only be used to tabulate data in group form. Research records will be stored securely online and only researchers and individuals responsible for research oversight will have access to the records. You will not be identified individually; we will be looking at the group as a whole.

Contacts: You may contact any of the researchers at the following addresses and phone numbers, should you desire to discuss your participation in the study and/or request information about the results of the study: Lowell Caneday, Ph.D., 184 Colvin Center, Dept. of Applied Health and Educational Psychology, Oklahoma State University, Stillwater, OK 74078, 405-744-5503; Shelley Mitchell, MS, 358 Agriculture Hall, Dept. of Horticulture and Landscape Architecture, Oklahoma State University, Stillwater, OK 74078, 405-744-5755. If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.

If you choose to participate: Please click NEXT if you choose to participate. By clicking NEXT, you are indicating that you freely and voluntarily agree to participate in this study, and you also acknowledge that you are at least 18 years of age. It is recommended that you print a copy of this consent page for your records before you begin the study by clicking below.

APPENDIX E
IRB APPROVAL

Oklahoma State University Institutional Review Board

Date: Wednesday, February 20, 2013
IRB Application No AG139
Proposal Title: Self-Determination Theory and Oklahoma Equestrians: A Motivation Study

Reviewed and Exempt
Processed as:

Status Recommended by Reviewer(s): Approved Protocol Expires: 2/19/2014

Principal
Investigator(s):

Shelley Elizabeth Mitchell	Lowell Caneday
358 Ag Hall	180 Colvin Center
Stillwater, OK 74078	Stillwater, OK 74075

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI, advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,



Shelia Kennison, Chair
Institutional Review Board

VITA

Shelley Elizabeth Mitchell

Candidate for the Degree of

Doctor of Philosophy

Thesis: SELF-DETERMINATION THEORY AND OKLAHOMA EQUESTRIANS: A
MOTIVATION STUDY

Major Field: Health, Leisure, and Human Performance (Leisure Studies)

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Health, Leisure, and Human Performance (Leisure Studies) at Oklahoma State University, Stillwater, Oklahoma in December, 2013.

Completed the requirements for the Master of Science in Environmental Science at Oklahoma State University, Stillwater, Oklahoma in 2007.

Completed the requirements for the Bachelor of Science in Biological Science at Oklahoma State University, Stillwater, Oklahoma in 1995.

Experience:

Extension Associate of 4H/Youth Programs in the Department of Horticulture and Landscape Architecture at Oklahoma State University, 2008-present
State Coordinator, Junior Master Gardener Program, 2008-present
Stillwater Parks and Recreation Advisory Board, 2009-present
Camp Director, Camp TURF (Tomorrow's Undergraduates Realizing the Future), for Oklahoma State Regents of Higher Education, 2010-present
National Board Certified Teacher in Adolescent/Young Adult Science at Stillwater High School, Stillwater, Oklahoma; taught classes in biology, anatomy, microbiology, and forensic science; 1999-2008

Professional Memberships:

National Recreation and Park Association
National Summer Learning Association
American Horticultural Society
Oklahoma Association of Environmental Educators