SADDLE SORE: A CASE STUDY OF RIDEABLE'S EQUINE-ASSISTED PROGRAM'S EFFECT ON THE PERCEPTION OF CHRONIC PAIN

by

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A THESIS

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In Eugene, Oregon, an organization called RideAble provides lessons in horsemanship to individuals with disabilities in Lane County. RideAble participants are challenged to groom and tack their mounts. They learn to communicate with their horses on the ground, and on horseback with verbal and physical cues, and gain confidence in the saddle. They are pushed to be independent and focused. Animals have long been a source of comfort for the physically and mentally ill. Although RideAble is not Equine Therapy, their program seeks to improve the lives of a vulnerable population in need of treatment, recreation, and skill building exercises. This case study takes a small sample of this population to explore the question of whether horsemanship decreases pain in students who experience chronic pain. Through the process of transcribing, and coding interviews, I will be able to highlight the perceptions of four participants who have experienced both at RideAble. I will also sort through current paper files of individual students to create demographics of gender, age, disability, and current enrollment at RideAble. The elements of this qualitative, mixed method study will indicate what questions need to continue to be asked in future studies.

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Introduction

In the initial planning phase of my thesis, my goal was to conduct several small focus groups using clients from RideAble. The focus groups I was planning to hold were intended to help me develop a set of qualitative study questions for a future investigation into equine-assisted therapy. The questions would specifically revolve around clients with chronic pain, and the impact that their lessons had on this pain. However, after meeting with an advisor in the College of Education, I realized that I could perform a small case study in which I created a set of questions and interviewed clients one-on-one.

In considering what direction would yield the most information for RideAble regarding their horsemanship, I felt that this method would be more beneficial. While in my earlier plan I would create a study for them to carry out, in this new plan I could both design and produce data for them to use. This course also benefited me in that I gained experience carrying out qualitative research. In the process of interviewing, I simultaneously collected basic demographics information about RideAble's client base through their records to add context to my analysis. This new direction has allowed me to turn over some preliminary data to my agency for program evaluation as well as suggest paths for future inquiry.

RideAble

In 1995, two women came together to start a horsemanship program for people with disabilities. One of the women had experienced a Traumatic Brain Injury, and the other had a child with a disability. Both of their backgrounds moved them to bring RideAble to life. Although RideAble has faced a nomadic existence since its start, they have been settled in a permanent barn South of Eugene for several years now. This is the fourth location since the establishment of the organization.

RideAble is a non-profit organization whose mission is to provide "horsemanship instruction for the special needs community in a safe and interactive environment. Essential life skills for each individual are developed and improved through healthy recreational riding" (RideAble, 2015). The underlying intention of the agency is to facilitate the overall growth of their participants in a setting that is both enjoyable, and in which they can develop their independence.

Target Population

RideAble's serves a diverse target population. An individual does not have to meet a strict set of criteria or have a particular diagnosis to become a student at this organization. There are many groups within RideAble that could be characterized by a common symptom or experience. I chose to focus on individuals with chronic pain. RideAble's program director and lead instructor, Monica Liles, suggested to me that chronic pain was a trait shared by many individuals at RideAble, and that it would be a valuable experience to study further. Therefore the target population of this study consists of individuals with disabilities who have experienced chronic pain during their time as students at RideAble. For the purposes of this study, I group disabilities into three broad groups: Behavioral disabilities, developmental disabilities, and physical disabilities. Some students can be characterized as having a combination of these.

Rationale

Chronic Pain

RideAble's diverse population of students endure pain as either a correlate to their diagnosed disability, or as an added physical burden. Persistent or chronic pain is a challenge that one in five adults face on a global scale (Gureje, Von Korff, Simon, & Gater, 1998). Those experiencing it are four times more likely to have an anxiety or depressive disorder than those not experiencing the same levels of pain according to Gureje et al. (1998). When treatments fail to consistently reduce pain, there is an added risk of suicide as a means of escape (Tang & Crane, 2006). The personal experience of pain by the individual has also been shown to play a key role in their "beliefs about the meaning of symptoms, the patient's ability to control pain and the impact of pain on his or her life, and worry about the future" (Turk & Okifuji, 2002, p. 679). Therefore, my interview questions focus on the personal interpretation of clients' persistent pain, regardless of their disability, as well as how they feel their time at RideAble interacts with that pain.

Pain Management and Animal-Assisted Activities

Part of RideAble's mission is to be a resource for personal development as well as "healthy recreational riding" (RideAble, 2014); however, informal anecdotal evidence and instructor observations are the only means by which RideAble's staff has assessed the program's efficacy. While animal-assisted activities and therapies are emerging areas of alternative medicine, there are few studies linking the use of horses in interventions with peoples with disabilities. In the studies that exist, "animal-assisted activity (and therapy) programs have been associated with positive effects in many studies although poor designs and small sample sizes have limited conclusions" according to Nepps, Stewart, & Bruckno (2014, p. 212). The majority of significant research has centered around the use of dogs, linking them to decreased pain and decreased stress along with an increased sense of general well-being (Marcus et al., 2012; Marcus et al., 2013; Urbanski & Lazenby, 2012). The basis for animal-assisted activity, as a treatment for pain, exists. This case study brings together the concepts in the available research with the specific needs of RideAble as an organization.

Equine Therapy and Program Evaluation

As a small non-profit with a full schedule of clients, RideAble has limited staff and volunteer resources. During its hours of operation, students with a myriad of disabilities attend horseback riding lessons. Clients come as often as twice a week, and as occasionally as once a month, but they are all instructed and monitored by the same person. Between teaching classes, maintaining the site, and coordinating all her staff and volunteers, Monica Liles, the current RideAble Program Director and Head Instructor, has little time to expand and evaluate RideAble's current approach.

RideAble's program cannot be labeled as Equine Therapy or Hippotherapy, which are both terms describing licensed counselors, psychologists, and social workers providing prescribed interventions to individuals using horsemanship as a central counseling tool (Granados & Agís, 2011). While practices under these umbrella terms can range from physical therapies to psychotherapeutic techniques, the characteristic that sets them apart is their clinical relevance (Tseng, Chen, & Tam, 2013). This range of interventions share two important qualities aside from the presence of horses: firstly that they involve licensed specialists in a range of psychosocial disciplines, and secondly that these interventions are targeted at a very specific population.

Equine and Hippotherapy are most well researched in their use with individuals with cerebral palsy, and individuals on the autism spectrum (Granados & Agís, 2011; O'Haire, 2013; Tseng, Chen, & Tam, 2013). Studies involving individuals on the autism spectrum are marked by challenges regarding communication between those conducting the study and those participating in the study (O'Haire, 2013). However, the individuals with cerebral palsy showed a general improvement in physical strength and flexibility (Tseng, Chen, & Tam, 2013).

One challenge that RideAble faces, and that was particularly noted by its Program Director, is their lack or clinical relevance. Their program shares many methodological characteristics with Equine and Hippotherapy, including pushing students to gain greater independence in their riding, discussion with students about their emotions during and reactions to their classes, and attempting to instill greater confidence in students through their ability to communicate with their mount (Granados & Agís, 2011; O'Haire, 2013; Tseng, Chen, & Tam, 2013).

Each staff member at RideAble is evaluated, within the agency, on their skill as an instructor and service provider to individuals with disabilities, as well as their horsemanship. Still, qualifications of instructors are not related directly to therapy. This limits their ability to gain funding that is aimed at agencies with clinical credentials. This case study will provide a summary of RideAble's population, and some preliminary analysis of current clients' perspectives on the program's interaction with their chronic pain. Additionally, my systematic inquiry into RideAble's program may provide structure, momentum, and motivation for future inquiries into horsemanship programs as interventions.

Methods

Sampling Criteria

I used a purposeful sampling technique to recruit participants for this study. They were required to have self-identified chronic pain, and have the ability to clearly articulate their experiences at RideAble. Of the 74 students that RideAble served during their 2015 spring term, eight individuals were initially contacted based on recommendations and connections made by RideAble's program director Monica Liles. Though all agreed to be interviewed, two misunderstood the requirements for the study, and reported that they had not experienced any chronic pain while at RideAble.

Another participant was too young to fully articulate her experiences, and while her mother agreed to share her observations, she was excluded on the basis that all other interviews would be in a first-person format and third-person observations would be too inconsistent at this time. The fourth participant who was eliminated was under the age of 18, and was excluded because of difficulties in gaining an interview in a timely manner where a guardian would be present to oversee the interview. Therefore, four participants were ultimately interviewed.

Three adult women and one adult man agreed to interviews. For the purpose of this study, they will be referred to by the pseudonyms of Andrea, Leann, Megan, and Dylan. Figures B1-4 show individual summaries of their ages, disability categorization, as well as notes about key insights they shared about their chronic pain and RideAble experiences. All participants had physical disabilities. Further, the distribution of genders at RideAble is relatively even, while this case study has a majority of women. The small sample size in combination with gender and disability limitations echo the conclusion of Nepps et al. (2014) that current studies of animal-assisted activities are not representative or generalizable.

However, the inherent limitations of the community of individuals with disabilities makes it much more difficult to examine chronic pain through an observational lens. According to the data presented in Figure A3, the majority of students at RideAble have developmental disabilities, and while some students are considered high functioning, many are unable to articulate themselves either verbally or in a written format. Chronic pain is a personal experience, and while instructors and staff at RideAble can speculate about clients' level of pain, they cannot speak to the direct experience of inarticulate students.

Demographic Data Collection

RideAble does not have any digital records of their students' information. Currently, all information on students who are enrolled in classes, or who have been in the recent past, is kept in paper files on site. Part of my choice to broadly categorize disability between the areas of behavioral, developmental, and physical disability was for the sake of the confidentiality of each student. Likewise, once I had the information from these files, I compressed it into Figures A1-5. It is impossible to identify any individual from these figures, as they combine the date from many into several broader categories. To create a basic description of RideAble's client population, I went through each student file to determine their gender, age, and their disability within the three categories of behavioral, developmental, and physical disabilities. Figures A1-3 give an overview of these findings. Gender is evenly distributed, and the age groups with the majority of students are between the ages of 10 and 19. Two groups, ages 6 through 9 and ages 40 through 73 are both tied for the second-largest age groups, and they are also the groups with the youngest and oldest students respectively. While I used all available client files to create these first three figures, not all of the files are for current students. Figures A4 and A5 depict the lesson length and frequency of students enrolled in classes for the 2015 spring quarter. Because of their lack of technological resources, RideAble does not have a comprehensive record of when students have taken classes in the past. However, students often take a term off from RideAble and return later in the year. Financial status, transportation issues, and fluctuations in clients' health influence these changes heavily. RideAble holds their records for them, and they keep their scheduling flexible since this population is particularly vulnerable to the above issues. Therefore, it is appropriate to gather gender, age, and disability demographics from the entirety of RideAble's current files, even if not all records are attached to a current student.

Interview Process and Analysis

While survey data helped create a quantitative context for RideAble's population, I took a qualitative approach to gathering information about the topics of chronic pain and horsemanship classes. Qualitative research lends itself well to RideAble's small client base, the preliminary and exploratory nature of this case study, and the self-reported nature of chronic pain. Andrea, Leann, Megan, and Dylan were contacted individually and asked to choose a date, time, and setting in which they would be comfortable being interviewed. Three interviews were conducted on site at RideAble, and one interview was conducted at the Eugene Public Library according to the request of each individual.

Figure C shows the consent form that each participant signed to agree to the digital recordings made of their interviews. To maintain a consistent process, I also created an interview protocol (Figures D1-2), which I followed during each interview. While the five "stem" questions served as the major topics of discussion, follow-up probe questions were attached to facilitate further reflection and a deeper sense of the client's perceptions.

In order to be transparent and thorough in the process of interpreting the qualitative aspect of this case study, I created an audit trail of my analysis. The audit trail includes a) my list of codes (See Figure E), b) individual summaries for each participant, and c) a table of cross-case analysis data (See Table F).

The audio from the interviews was recorded using GarageBand on my personal laptop. Each lasted approximately 20 to 30 minutes, and from these recordings, I transcribed the interviews. Using Dedoose, an online qualitative research program, I selected several important concepts to analyze across the four interviews. These codes included "chronic pain," "perceived benefits," and "riding over time." There were also some child codes couched under "chronic pain" and "riding over time" that tracked limitations, outside coping methods for the chronic pain, as well as past, and current riding experiences. My next step was to develop individual summaries, followed by a cross-case analysis depicted in Table F. During the Cross-Case Analysis process, I sorted through the ideas that came up most often throughout the interviews by each individual, and underlined recurring ideas. These commonalities are presented further in Table 1.

Results

Survey Data

Through RideAble's files on all their students, I was able to gain a better understanding of the community that is accessing its services. Not including the field trips that RideAble hosts regularly in the spring, they had 144 students in their system. Roughly half of these students take lessons currently (Figure A4), with a little under 50% of these students taking hourly classes. Additionally, 69% of all students have a class every week (Figure A6). Three instructors, one of who is also the program director, teach all classes. They are assisted by anywhere from one to six volunteers.

In terms of disabilities, individuals with development disabilities are the majority population, followed by physical disabilities, followed closely by individuals experiencing both developmental and physical issues (Figure A3). In selecting the category in which I placed each individual, I did not put an individual in more than one category unless they had an additional physical diagnosis that could be categorized as a disability on its own. One area of disability that I failed to recognize prior to collecting my survey data was the realm of psychological disability. One individual is listed under the category "behav/other" in Figure A1. This person was diagnosed with Post Traumatic Stress Disorder as well as depression. After discussing where they might fall within my three broad groupings with an advisor, I realized that it would have been more accurate to add the category of psychological disability as well. Although I was unable to correct this in my own study, I would suggest that any future investigation into RideAble's population include this group.

Interview Themes

The four consistencies that were shared by at least three participants were their experiences of decreased pain during and after their ride, as well the improvement they felt in their posture and balance, and their tendency to "opt out" of leisure and household activities in the face of severe chronic pain. While the decrease in pain was consistent with my hypothesis, the improved balance was a benefit that I, as an individual who has not experienced chronic pain, did not expect to see across multiple participants.

Quote	
٠	"You know, most of the time, by the time I've reached
	midway through the lesson, my pain decreases." -
	Leann
٠	"You know, I forget all about it. I forget about it. It's just
	not there while I'm here, no pain." – Dylan
•	"It is very helpful. It's like bliss." – Andrea
•	"It was just like heaven." – Andrea
•	"I usually get at least two, three, sometimes if it's a
	really good, like solid ride, sometimes I'll get even a
	fourth day" – Megan
٠	"I'm usually good until a day or two before the next
	lesson." – Leann
٠	"Sore, but you know, a lot better than I was." – Andrea
•	"You know, it seems like my balance is better. Just when
	I'm walking." – Dylan
•	"I'm able to sit better and straighter and all that." –
	Megan
•	"But Bleu's pretty good and she really wants my posture
	to be good She's giving instantaneous feedback, which is good!" – Andrea
•	"My spine started getting back into alignment" –
•	Andrea
	Quote

Prone to opt out of other •	"Oh yeah, I will completely opt out. Like to the point of,
activities	it's bad enough that I'm not even getting dressed.
	There's no getting dressed. There is melding with the
	furniture." – Megan
•	"If I have a long day, I'm just done. I can't push through
	it When it's bad, I tend to opt out, and just you know,
	stay at home, because I don't have the energy. And, or I
	won't go for as long. Or I won't have a good time
	because I'll tweak my neck out and then I'll won't have
	anymore fun." – Leann
•	"Can't work. I can't stand." – Dylan

Table 1. Interview Themes

Megan, Leann, and Dennis explicitly shared that in the wake of chronic pain, they were often debilitated to the point of needing to rest. However, all four participants shared a common feeling that, as Megan put it, "I don't skip. I don't skip, and I hate off weeks," since a break from their riding routine left a space in their schedule in which they were not able to decrease their pain (personal communication, April 20, 2015). Not only did they express a feeling of displeasure at having to miss a week of riding, but it appears that although they feel they have to skip activities in their lives consistently because of pain, they feel an opposing need to be consistent in attending classes on a weekly basis.

Therapeutic Qualities of RideAble

RideAble is a member of the Certified Horsemanship Association (CHA), which is a national organization with trainings, certifications, and standards regarding horsemanship education. This is the only certification RideAble possesses. What they teach is not regarded as Equine Therapy, which is an alternative area of practice that has been, and continues to be, researched in the context of therapy. However, RideAble clients often struggle to have these lessons paid for by health insurance companies because they cannot prove that the services they are receiving are genuinely a form of therapy for them.

Potential Themes Quote

The evidence of this preliminary study suggests that from the perspective of RideAble students with physical disabilities, this is a therapeutic activity. It increases their general wellbeing, while providing them social and recreational activity. They consider it a treatment for their chronic pain. Although the exact reason for their decreased pain and motivation to consistently attend classes is not entirely clear, they feel that what they are doing benefits their life inside and outside of RideAble.

Several themes stood out that were not held by all participants, but were supported by two of the four interviewed. Andrea and Megan both shared their feeling that their time at RideAble reduced or eliminated their need to medicate their chronic pain. They also spoke to the physical benefits associated with the mechanics of riding. While Andrea and Megan could both be characterized as having physical disabilities, their actual diagnoses were not parallel at all. Andrea in particular had shoulder, hip, and back pain that were unrelated to her physical disability, but were a strong influence for her to go to RideAble. Megan, however, was in constant, full-body pain as a direct result of her disability. Although they fall under the same category of disability, and although the reported similar benefits in their riding, they represent two ends of the physical disability spectrum.

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Alternative to medication	 "I'm not on any meds anymore. And they all dropped off by the end of the third month. They were completely gone. Now I can, I'll take aspirin a couple of times a week, but I don't even keep the prescription for the muscle relaxer." – Megan "If you take too many pills, you don't feel I don't like it. I'd rather have less." – Andrea
Increased core strength	• "I think one of the things that really helped my chronic pain, since most of my chronic pain is core centered, is all the work that you have to do in riding centered around core strength." – Megan
Increased flexibility	 "Kind of the tightness, you know it's a tightness thing unstiffening the muscles." – Andrea "I use some of the muscles that are in a chronic pull, like in my inner thighs and my adductors, are looser." - Megan
Table 2. Potential Themes	

Limitations of This Study

Population Communication Ability

The ability to communicate chronic pain was a necessity for me in this case study. Time limits, and my own inexperience in carrying out a study, made it unethical for me to even attempt to interpret the perspective of less-communicative RideAble participants. The participants that were most available and able to communicate their chronic pain turned out to be only those within the category of physical disability. This was not a conscious choice, but it speaks to the prevalent challenge in being able to interpret and treat chronic pain individuals without the ability to explicitly state where and how they are feeling pain.

Personal Agency Relationships

I have been an intern at RideAble for over a year, and as such have built a rapport with many of the students. I had met and talked with all of my participants, including those who were not interviewed, before I planned this study. That rapport facilitated these interviews to an extent. However, there is a possibility that some participants expressed certain viewpoints through the lens of what they knew would be more socially desirable. While I did what I could to make all questions as open-ended as possible, my relationship with each participant previous to this study could certainly be a barrier to more accurate findings.

Project Shifts and Inexperience

This case study was not my initial thesis topic. In discovering that I could carry out this study rather than hosting focus groups, I decided to change my direction on the basis that the benefit to RideAble would be more substantial. The arc of my schedule changed with my focus. Additionally, my inexperience played a role in some of the basic mistakes I made in acquiring and recording my data. The small sample size in this case study is largely due to the lack of time that I had in the wake of shifting focus. With several more weeks, or even a term, I would have been able to carry out at least twice as many interviews while delving more deeply into qualitative study methods. In the absence of a fuller understanding of this kind of research, I relied heavily on the guidance of advisors. With more input from clients and a more comprehensive process, my final product would be more generalizable, and contribute more toward future study.

Future Use

Program Evaluation

As a form of program evaluation, RideAble staff could easily repeat the basic structure of this case study. Currently, RideAble has been vetted as an organization through positive anecdotal evidence. More empirical evidence, and consistent evaluation of their program, would likely increase their status as a therapeutic program. Additionally, future evaluations through observational and third-person reports would be helpful in gauging benefits for non-communicative clients.

Further Research

This case study utilized a small sample to gain a footing for future studies into chronic pain and equine-assisted activities. The results of this case study corroborate some of the findings in Tseng, Chen, and Tam's (2013) overview of Hippotherapy for children with cerebral palsy, particularly in the common characteristic of increased flexibility in clients. However, I could not locate any articles linking animals with individuals reducing or tapering off their use of pain medications. Both the individuals in this case study that mentioned decreasing their use of pain medication perceived this reduction as a benefit. Both articulated their dislike of using pain medications despite how necessary these prescriptions were in the most intense experiences of their chronic pain.

In these themes, there is a potential for horseback riding to be both therapeutic and an alternative to pain medication. Research into the mechanics of this activity, in combination with the emotional and social benefits it might have, should be a future area of inquiry. Also, while many areas of this particular study need improvement and fine tuning, just a longitudinal approach with pre and post tests would vastly improve its design. To gain a greater understanding of participants' pain, it would be a valuable step to administer a scale before and after each class for a period of several lessons.

 Male
 71

 Female
 73

 0
 10
 20
 30
 40
 50
 60
 70
 80

Appendix A: Demographics Data for RideAble Clients

Figure A1. RideAble Participant Gender Distribution



Figure A2. RideAble Participant Age Distribution



Figure A3. RideAble Participant Disability Distribution

Note. Behav = Behavioral, Dev = Developmental, Phys = Physical



Figure A4. Lesson Length for Current Students.



Figure A5. Lesson Frequency for Current Students.

Note. Schedules are created for a weekly, bi-monthly, or monthly rotation for each student according to the weeks in the month. In the case of a fifth week, students are invited for either a make-up lesson, or an additional lesson for the month.

Appendix B: Individual Summaries

Gender	female		
Age	55		
Length of RideAble Partici	pation 3 years		
Lesson Frequency	weekly		
Lesson Length Disability	1 hour		
Chronic Pain:			
Site	right shoulder	hips	back
Duration	6 years	55 years (lifelong)	4 years
	10 lb lifting limit, does	squatting, kneeling	sitting for long
Limitation	not work, limited range of motion,		periods of time
	hot tub, infrared sauna,	46 35	66 55
Outside Coping Methods	TENS unit, icing,		
First RideAble Experience	clear expectations and c	ommunication, sore af	ter ride
Current Chanenges	back alignment, posture	decreased pain during	ride, decreased pai
Perceived Benefits	post ride, increased flex	ibility, exercise, deepe	r sleep
Student Goals	ability to go on 3-hour t	rail ride	
Student Goals	post ride, increased flex ability to go on 3-hour t	ibility, exercise, deepe rail ride	r sleep

Figure B1. Andrea's Individual Summary

Gender	male		
Age	66		
Length of RideAble Particip	pation 2 months		
Lesson Frequency	weekly		
Disability	1 nour physical		
Chronic Pain:			
Site	legs	left Arm	lower back
Duration	4 years	۰۰ ۲۶	ss 22
	standing, walking,		standing
Limitation	working, opt out of activities		
Outside Coping Methods	unknown		
Current Challenges	unknown		
Perceived Benefits	decreased pain during balance	ride, decreased pai	n post ride, improved
Student Goals	unknown		

Figure B2. Dylan's Individual Summary

Basic Information:	
Gender	female
Age	27
Length of RideAble Participation	3 years
Lesson Frequency	weekly
Lesson Length	1 hour
Disability	physical

Chronic Pain:

Site	eyes	neck/back	left shoulder
Duration	27 years (lifelong)	12 years	sc >>
Limitation	NA	bissing class/ inability to study, opt out of activities	limited range of motion, lifting limit
Outside Coping Methods	NA	physical therapy	cc >>

RideAble:

Pre-RideAble Experience	grew up riding
First RideA ble Experience	felt comfortable and happy w/staff, had instant connection with
First RideAble Experience	horse, fully enjoyed entire experience, happy to ride again
Current Challenges	missing class,
Perceived Benefits	decreased pain for several days, improved posture
Student Goals	improved posture

Figure B3. Leann's Individual Summary

Megan's Individual Summary

Basic Information:

Gender	female
Age	36
Length of RideAble Participation	3 years
Lesson Frequency	weekly
Lesson Length	1 hour
Disability	physical

Chronic Pain:

Site	entire body
Duration	36 years (lifelong)
Limitation	no leg use/non-weight bearing, poor balance, sometimes cannot get
	out of bed, opt out of activities
Outside Coping Methods	medication, physical therapy, swimming

RideAble:

Pre-RideAble Experience	None
First RideAble Experience	was physically and mentally exhausted
Current Challenges	missing a class (leads to increased pain and stiffness)
Perceived Benefits	ceased use of medication, reduced pain, improved strength, posture,
Tereer, eu Denemo	balance, increased flexibility, and circulation
Student Goals	increased balance, core strength, independent riding

Figure B4. Megan's Individual Summary

	Interview Consent and Digital Recording Release			
(Age)	(Gender)	(Time at RideAble)		
What is your	disability?			
1,		voluntarily agree to be digitally		
recorded durin that the record chronic pain, generate data being. I under analysis of thi will not be rel made, the reco	ng the interview being cond ding will be used to gather and RideAble's programs, regarding RideAble's impa- rstand that I will never be id is data. The recording will leased to the public. After to ordings will be destroyed.	information about my experiences with information about my experiences with and such information will be used to acts on chronic pain and general well dentified by name in the reporting and be kept for approximately 3 months and the data is collected and transcriptions are		
recorded durin that the record chronic pain, generate data being. I under analysis of thi will not be rel made, the reco	ng the interview being cond ding will be used to gather and RideAble's programs, regarding RideAble's impa rstand that I will never be id is data. The recording will leased to the public. After to ordings will be destroyed.	Date		

Appendix C: Digital Recording Release

Figure C. Digital Recording Release

Appendix D: Sample Interview Protocol

Project: Pilot Study and Program Evaluation for RideAble's Horse-Assisted Intervention and it interaction with Chronic Pain in clients. Date		Interview Protocol Form
Date	Project: Pilot Study and Pro interaction with Chronic Pa	ogram Evaluation for RideAble's Horse-Assisted Intervention and it in clients.
Time	Date	
Location	Time	
Interviewer Interviewee Consent form signed? Notes to interviewee: Thank you for your participation. Your input will be valuable to this research and in helping RideAble evaluate and develop future programs. Confidentiality of responses is guaranteed. We will not use your real name in any documents or reports. Approximate length of interview: 25-30 minutes, five major questions Purpose of research: For clients participating in horsemanship lessons at RideAble who experience chronic pain, how do the activities at RideAble interact with their chronic pain? i. What is their perception of their pain ii. How do they experience their pain on a daily basis iii. How do they experience their pain during and immediately after lessons	Location	
Interviewee Consent form signed? Notes to interviewee: Thank you for your participation. Your input will be valuable to this research and in helping RideAble evaluate and develop future programs. Confidentiality of responses is guaranteed. We will not use your real name in any documents or reports. Approximate length of interview: 25-30 minutes, five major questions Purpose of research: For clients participating in horsemanship lessons at RideAble who experience chronic pain, how do the activities at RideAble interact with their chronic pain? i. What is their perception of their pain ii. How do they experience their pain on a daily basis iii. How do they experience their pain during and immediately after lessons	Interviewer	
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	Confidentiality of re documents or report Approximate length Purpose of research: <i>For clients p</i> <i>chronic pain</i> i. ii. iii.	esponses is guaranteed. We will not use your real name in any s. of interview: 25-30 minutes, five major questions articipating in horsemanship lessons at RideAble who experience how do the activities at RideAble interact with their chronic pain? What is their perception of their pain How do they experience their pain on a daily basis How do they experience their pain during and immediately after lessons

Figure D1. Interview Protocol Introduction



Figure D2. Interview Protocol Questions

Appendix E: Codes and Descriptions



Figure E. Interview Codes and Descriptors

Appendix	F:	Cross-	Case	Anal	ysis
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	Andrea	Dylan	Leann	Megan
Perceived Benefits	 Back alignment Improved posture Decreased pain during ride Decreased pain post ride Increased flexibility Exercise Deeper sleep 	 <u>Decreased</u> pain <u>during</u> ride <u>Decreased</u> pain post ride <u>Improved</u> balance 	 <u>Decreased</u> pain during ride <u>Decreased</u> pain post ride <u>Improved</u> posture <u>Increased</u> core strength 	 Decreased pain during ride Decreased pain post ride Improved posture Increased flexibility Improved balance Increased circulation Increased core strength
Outside Coping	 Hot Tub Infrared Sauna TENS Unit Icing <u>Medication</u> <u>Swimming</u> 	• Unknown	• <u>Physical</u> <u>Therapy</u>	 <u>Medication</u> <u>Physical</u> <u>Therapy</u> <u>Swimming</u>
Limitations	 Squatting Kneeling <u>Lifting (left arm)</u> Sitting in unsupportive chairs 	 Standing <u>Walking</u> Working <u>Opt out of activities</u> <u>Balance</u> 	 <u>Opt out of activities</u> <u>Lifting (left arm)</u> 	 <u>Walking</u> <u>Balance</u> <u>Opt out of</u> <u>activities</u>
Lesson Length	<u>1 hour</u>	<u>1 hour</u>	<u>1 hour</u>	<u>1 hour</u>
Lesson Frequency	Weekly	Weekly	Weekly	Weekly

Table F. Cross-Case Analysis.

Note. Underlined bullets highlight common themes across participants

References

- Boer, M. J., Steinhagen, H. E., Versteegen, G. J., Struys, M. M. R. F., Sanderman, R. (2014). Mindfulness, Acceptance and Catastrophizing in Chronic Pain.
- Granados, A. C., & Agís, I. F. (2011). Why children with special needs feel better with hippotherapy sessions: A conceptual review. *Journal of Alternative and Complementary Medicine*, 17(3), 191-197. http://dx.doi.org/10.1089/acm.2009.0229
- Gureje, O., Von Korff, M., Simon, G. E. & Gater, R. (1998). Persistent pain and wellbeing: A World Health Organization study in primary care. *Journal of the American Medical Association*, 280, 147–151. http://dx.doi.org/10.1001/jama.280.2.147
- Marcus, D. A., Bernstein, C. D., Constantin, J. M., Kunkel, F. A., Breuer, P., & Hanlon, R. B. (2012). Animalassisted therapy at an outpatient pain management clinic. *Pain Medicine*, 13(1), 45-57. http://dx.doi.org/10.1111/j.1526-4637.2011.01294.x
- Marcus, D. A., Bernstein, C. D., Constantin, J. M., Kunkel, F. A., Breuer, P., & Hanlon, R. B. (2013). Impact of animal- assisted therapy for outpatients with fibromyalgia. *Pain Medicine*, 14(1), 43-51. http://dx.doi.org/10.1111/j.1526-4637.2012.01522.x
- Nepps, P., Stewart, C. N., & Bruckno, S. R. (2014). Animal-assisted activity: Effects of a complementary intervention program on psychological and physiological variables. *Journal of Evidence-Based Complementary & Alternative Medicine*, 19(3), 211-215. http://dx.doi.org/10.1177/2156587214533570
- O'Haire, M. E. (2013). Animal-assisted intervention for autism spectrum disorder: A systematic literature review. *Journal of Autism and Developmental Disorders*, 43(7), 1606-1622. http://dx.doi.org/10.1007/s10803-012-1707-5
- RideAble. (2014). RideAble's Mission. Retrieved from http://www.rideable.org/
- Tang, N. K. Y., & Crane, C. (2006). Suicidality in chronic pain: A review of the prevalence, risk factors and psychological links. *Psychological Medicine*, 36(5), 575-586. http://dx.doi.org/10.1017/S0033291705006859
- Tseng, S. H., Chen, H. C., & Tam, K. W. (2013). Systematic review and meta-analysis of the effect of equine assisted activities and therapies on gross motor outcome in children with cerebral palsy. *Disability and Rehabilitation: An International, Multidisciplinary Journal*, 35(2), 89-99. http://dx.doi.org/10.3109/09638288.2012.687033

- Turk, D. C., & Okifuji, A. (2002). Psychological factors in chronic pain: Evolution and revolution. *Journal of Consulting and Clinical Psychology*, *70*(3), 678-690. http://dx.doi.org/10.1037/0022-006X.70.3.678
- Urbanski, B. L., & Lazenby, M. (2012). Distress among hospitalized pediatric cancer patients modified by pet-therapy intervention to improve quality of life. *Journal* of Pediatric Oncology Nursing, 29(5), 272-282. http://dx.doi.org/10.1177/1043454212455697