

THE INFLUENCE OF THERAPEUTIC RIDING AND HIPPO THERAPY ON
CHILDREN WITH SPASTIC CEREBRAL PALSY – PARENTS' PERCEPTIONS

A THESIS

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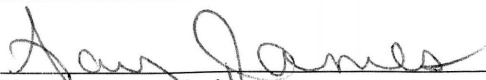
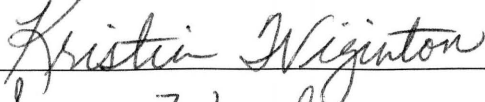
To the Dean of the Graduate School:

I am submitting herewith a thesis written by Celeste Brooke Becker entitled "The Influence of Therapeutic Riding and Hippotherapy on Children with Spastic Cerebral Palsy – Parents' Perceptions." I have examined this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science with a major in Health Studies.



Anna Love, Ph.D., Major Professor

We have read this thesis and recommend its acceptance:



Department Chair

Accepted:



Dean of the Graduate School

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Last but certainly not least, to my own horse Dante' and to all horses who serve us in this world: You are our angels with hooves instead of wings, but you will still teach us to fly...

ABSTRACT

CELESTE BECKER

THE INFLUENCE OF THERAPEUTIC RIDING AND HIPPO THERAPY ON CHILDREN WITH SPASTIC CEREBRAL PALSY – PARENTS' PERCEPTIONS

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Parent interviews were used to determine influences of therapeutic riding (TR) and hippotherapy on children with spastic cerebral palsy. Research on the influence of TR and hippotherapy will serve to inform parents of their choices in therapeutic modalities in regard to children with spastic cerebral palsy. Data were collected in the form of qualitative one-on-one interviews. Two parents with children participating in TR and three parents with children participating in hippotherapy were interviewed. Constant comparison method was used to derive meaning units from the first interview transcript and matched against subsequent interviews. Four themes emerged: (a) physical improvements, (b) developing independence, (c) overcoming fears, and (d) differences in barriers and motivations for TR and hippotherapy. Parents perceived that both TR and hippotherapy positively affected their children's psychological and physical aspects of wellbeing. The one apparent difference between the barriers for TR vs. hippotherapy was the cost associated with hippotherapy.

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CHAPTER I

INTRODUCTION

An increase of alternative therapies for children with physical disabilities has grabbed the attention of both the equine and therapy communities. The use of "the movement of the horse as a tool" by physical and occupational therapists has been termed "hippotherapy" by the American Hippotherapy Association [AHA] (2000). Hippotherapy comes from the Greek word for horse, "hippos" and is used for children with mild to severe neuromuscular dysfunctions to help them improve their motor functions. The ambulation of the horse is very similar to that of the human gait. The movement of the horse beneath a child with a disability provides an abundance of sensory-motor experiences and can advance functions off the horse. Some examples of increased functions are reciprocal weight bearing, motor coordination, and postural alignment. (Benjamin, 2000)

Therapeutic riding (TR) is another similar form of therapy and can provide the same increased functions through the ambulation of the horse. However a child participating in therapeutic riding will not be seen by a physical therapist, but rather a person certified to teach therapeutic riding. Therapeutic riding is more readily available and more affordable for children with cerebral palsy (CP) as it is not necessary to have a medical professional administer treatment; however, the lack of research in this area has

hindered the progression of both therapeutic riding and hippotherapy as a reasonable and useful therapeutic tool.

Purpose of the Study

Increases in research on the influence of therapeutic riding and hippotherapy will serve to inform parents of their choices in therapeutic modalities in regards to children with spastic CP. The purpose of this study was to explore how parents of children with spastic CP perceive the influence of therapeutic riding and hippotherapy.

Research Questions

The following research questions were addressed in this study:

1. What are the parents' perceptions regarding the physical efficacy of hippotherapy or therapeutic riding on children with spastic CP?
2. What are the parents' perceptions regarding the psychological efficacy of therapeutic riding on children with spastic CP?
3. What are the differences in perceived influences between the TR and Hippotherapy?

Operational Definitions

Bolster: a large tubular pillow that is connected to the (surcingle) used for children who cannot hold themselves upright

Hippotherapy: utilizing the horse as a tool for physical, occupational or speech therapy (AHA, 2000); sometimes a passive therapy with individual being placed into positions on the horse (McBride-Connor, 2004)

Horse handler: a person (usually a volunteer) whose only job is to lead the horse and assure the safety of the rider by avoiding things that would spook the horse, causing it to move unpredictably, putting the child in danger

Mounting ramp: large wheelchair ramp with a path in the center for the horse to stand while rider is placed upon the horse's back

Sidewalker: a person (usually a volunteer or parent) who walks beside the horse and has one hand just above the rider's knee to stabilize unbalanced riders and keep all riders safe

Surcingle: A leather band with two handles that straps around the horse and holds a fleece pad in place; rider sits on the fleece pad and holds the handles

Therapeutic riding: a less formal type of therapy that doesn't require a physical, occupational, or speech therapist; lessons are usually taught by a certified therapeutic riding instructor

Limitations

Limitations of the study are as follows:

1. Perceived effects might differ from actuality.
2. Time limitations in data collections due to parent's schedule.
3. Children participated in TR and hippotherapy for different lengths of time.
4. Differences in the severity of CP and affected part of the body make effects relevant to only the child as opposed to other participants.

Delimitations

The delimitations of the study include the following:

1. Only participants who meet the following criteria: (a) have a child with spastic CP between the ages of 2 and 18 that (b) has participated in at least 4 hours of TR or hippotherapy.
2. Participants will be recruited until data has reached saturation. All participants will have had at least four hours of TR or hippotherapy. Only three agencies will be used to recruit participants.

Assumptions

1. The participants who meet the criteria will be available.
2. The participants will be willing to share personal information about their child with a relative stranger.
3. The environment of individual therapy facilities or interview locations will be conducive to the qualitative one-on-one interview technique.
4. It is assumed that all participants will speak English.

Significance of Study

The American Hippotherapy Association (2003) clearly states in their philosophy that “research is needed to validate the efficacy” of hippotherapy and TR. It is a necessity that more research be conducted in this area so that appropriate steps can be taken to include TR and hippotherapy as a credible modality in therapy. With each piece

of research, the argument strengthens as to the importance of adding hippotherapy and TR to the list of effective therapies offered to children with spastic CP. These treatment modalities are one way of providing children with CP an opportunity to realize their full potential with the help of an equine partner.

CHAPTER II

REVIEW OF LITERATURE

Cerebral Palsy

Cerebral Palsy is a non-progressive disease characterized by impaired movement control in the first few years of life. “Cerebral” means having to do with the brain, and “palsy” is a weakness in how the body moves (Bachrach, 2003). Although the exact reasons that children acquire CP are not known, it always stems from an injury to the brain. Damaged areas of the brain that control motor function are what cause the disruption in the brain’s ability to effectively control the body’s movement and posture. The areas of the brain that are usually affected are the cerebral cortex, basal ganglia, and cerebellum (Cerebral Palsy, n.d.). The disorder may be present at birth or acquired over a few years after birth. A decrease in infant mortality rates and improved neonatal medical care has caused an increase in children surviving with CP. Some of the identified causes of CP are preventable or can at least be treated such as traumatic head injury, Rh incompatibility, rubella, and jaundice. Although there appears to be no cure at this time, proper medical management of symptoms can provide near-normal lives for some people living with CP (Cerebral Palsy: Hope Through Research, 2006).

According to the National Institute of Health (2006) “doctors diagnose CP by testing motor skills and reflexes, looking into medical history and employing a variety of specialized tests.” Although a physician may order x-rays and blood tests, these do not

determine a diagnosis of CP, but rather eliminate the possibility of other neurological diseases. The most common signal of CP is developmental delay in motor skill-based milestones. These milestones might include trouble with reaching for toys at 3-4 months, sitting at 6-7 months and walking at 10-14 months. A physician will also look for abnormal muscle tone, movement, or reflexes. Most children with CP will be diagnosed by 18 months.

Other neurological complications that can occur with CP are epilepsy, mental retardation, learning disabilities, and attention deficit-hyperactivity disorder. Some discrepancies in diagnosing CP happen when a child has suffered a brain injury causing many of the same symptoms. If it is not CP, these symptoms should gradually disappear. After a severe head injury, parents must wait and watch the symptoms closely before any diagnosis can be made (Cerebral Palsy Program, n.d.)

Types of Cerebral Palsy

There are three main types of CP. *Spastic CP* refers to when the affected extremities are in a constant state of contraction resulting in very stiff limbs. This is the more common type of CP and is associated with damage to the cortex part of the brain (Cerebral Palsy, n.d.). *Athenoid CP* refers to when the muscles contract and relax abnormally and uncontrollably causing flutter-like movements in the affected limbs (Bachrach, 2003). *Athenoid CP* is associated with the basal ganglia in the brain (Cerebral Palsy, n.d.). Lastly, *ataxic CP* refers to an overall lack of balance and coordination. This is the least common type of CP and is associated with damage to the cerebellum (Ataxic

Cerebral Palsy, n.d.). Depending on what area of the brain is injured, CP can further be specified by identifying the parts of body involved. These terms are usually used in conjunction with the type of CP (e.g. spastic diplegia). Hemiplegia involves the arm and the leg on the same side of the body, diplegia involves only the legs and quadriplegia involves all four extremities. Children with CP are generally categorized into these subgroups, but the severity of disease can vary greatly even within each subgroup (Cerebral Palsy Program, n.d.).

Treatment

There are several different treatments to help children with CP have near normal lives. Fortunately, once a child has CP, the disorder does not travel to other parts of the body, because the brain does not continue to be injured. However, the affected areas may worsen, or other problems such as hip dislocation or scoliosis might result from the disorder (Bachrach, 2003). Benda, McGibbon, and Grant (2003) state that, “physical growth in the face of long-term sensory and motor impairments combined with postural asymmetries often leads to increasingly severe disability.” The treatments that help children with CP stay functional include medications (both oral and injectable), surgery, and several different therapies such as physical and occupational therapy. These treatments will now be discussed in depth (Cerebral Palsy: Hope Through Research, 2006).

Medications

Oral medications such as diazepam, baclofen, and dantrolene are the most commonly given (especially after surgery) to help control spasticity. Diazepam is a general relaxant for the brain and body, whereas Baclofen hinders the signals from the spinal cord to the muscles, telling them to contract. Dantrolene also acts to hinder muscle contraction within the muscle unit. Patients with athetoid CP are most often prescribed anticholinergic drugs that reduce acetylcholine activity (Cerebral Palsy: New Hope Through Research, 2006).

According to the United Cerebral Palsy of New York City (2001) Injectable medicinal treatment for spastic CP is often in the form of Botox injections. Botox or Botulinum toxin type A is used to relax contracted muscles (Tilton, 2006). Taken from a bacteria that causes food poisoning, Botox inhibits the release of acetylcholine by binding to the receptor sites on neuromuscular terminals. Consequently, neuromuscular transmissions are blocked, preventing the nerve to tell the muscle to contract. Once injected with Botox, the muscles begin to relax and further physical therapy with manual stretching can help bend and straighten affected muscles. Botox has been effectively used for CP for ten years (United Cerebral Palsy of New York City,).

Surgery and Gait Analysis

Surgery may be suggested if the muscle contractions seriously impede movement. The surgery involves figuring out which specific muscle is affected and then surgically lengthening the muscle and/or tendon. However, it is difficult to know which

of over 30 muscles used to take two steps is being affected by the brain injury. Gait analysis can help determine affected muscles versus muscles misleading compensation in other muscles. Special force plates in the shoes, cameras to record the gait, and electromyography to record muscle contraction during each step. By utilizing gait analysis, surgeons are much better prepared to surgically lengthen the correct muscles. Gait analysis is also used after surgery to observe improvements (What is Cerebral Palsy, 2006).

Selective dorsal root rhizotomy is another surgical procedure that limits the stimulation from the nerves to the legs resulting in less spasticity. The effectiveness of the procedure is still being studied (Tilton, 2006).

Physical and Occupational Therapy

Physical therapy is an integral part of the treatment process. A physical therapist (PT) works with the child to create an exercise and manual stretching regimen that will hopefully prevent muscle atrophy or deterioration. Also, the exercise regimen works to lessen contractions and stiffness in the muscles. Normally, a child will stretch the muscles and ligaments in the extremities daily therefore helping the muscles stretch as the bone grows. Since a child with CP is not normally walking as much, the PT must help the child's muscles stretch to keep up with the growing bone underneath. Physical therapy combined with special braces or orthotic devices can help manage the constant contraction of the muscles (Cerebral Palsy: Hope Through Research, 2006).

There are also two different approaches to PT in regards to motor movement. The *Bobath Approach* works the muscle against its natural reflexes. For example, if the child's arm is usually in the flexed position, the PT will continually extend the arm. The second approach is called the *patterning*. This approach is based on the theory that children should learn their basic motor skills in the order that able-bodied children naturally learn them no matter how old they are. For instance, a 6-year-old child might be taught how to crawl before he is taught how to walk. There are still some discrepancies on the value and effectiveness of this approach (Cerebral Palsy: Hope Through Research, 2006).

As the child grows older, physical and occupational therapies are used to assist in functional goals. While the physical therapist helps the child with sitting upright or moving about independently or in a wheelchair, the occupational therapist (OT) helps the child learn to control smaller muscles such as those in the hands, fingers, face, feet and toes. The OT will help the child with acts of daily living such as feeding, dressing and using the restroom. Mastering tasks that help the child become more independent increases self-efficacy as well reducing the high demands on caregivers (Occupational Therapy for Cerebral Palsy, n.d.). A speech therapist works with the child to improve communication. This is done through speaking exercises, communication boards, or computers. For instance, if a child has only movement above his shoulders, a laser light might be attached to his head and he would use a special computer with a light sensor to communicate. A communication board might just be a board with faces portraying

several different emotions to which the child learns how to point to the “emotion” he is feeling. A nice complement to physical, occupational and speech therapy is behavioral therapy, which works through positive reinforcement to control habits such as hair pulling or biting (Cerebral Palsy: Hope Through Research, 2006).

Complementary and Alternative Therapies

Non-traditional therapies are also gaining recognition for helping children with CP. In a study by Hurvitz et al. (2003) 56% of children with CP used one or more complementary or alternative therapies. Other predictors of parents who utilize non-traditional therapies for their children are those with younger children, children who cannot walk, and parents who have utilized alternative therapies themselves. Complementary and alternative therapies that exist for children with CP include hyperbaric oxygen, the Adeli suit, electrical stimulation, conductive education, craniosacral therapy, Feldenkrais, acupuncture, therapeutic riding, and hippotherapy.

Hyperbaric Oxygen

Hyperbaric oxygen uses the theory that high levels of oxygen “wake up” inactive areas in the brain and also provides an “ideal internal environment” to promote new brain tissue growth. Oxygen is delivered in a 100% concentration for about 1 hour, one to two times per day (Frequently Asked Questions About Hyperbaric Oxygen Therapy, 2001). The efficacy of hyperbaric oxygen cannot yet be determined. Uncontrolled studies showed an improvement in the treated children, however, a controlled study showed improvements in both the treated children and the control group. Adverse affects to child

mainly include damage to the ear caused by pressure changes as well as fire hazards (Liptak, 2005).

Adeli Suit

Originally used for astronauts to combat muscle atrophy in the weightless atmosphere, the Adeli suit uses constant resistance against elastic bands attached to a wide belt placed around the waist. The corresponding ends of the bands are then placed on the child's legs or arms. The tension in the elastic cords theoretically develops muscle. Treatments vary from one half hour to two hours per day 5-6 days per week. Adverse affects include the discomfort of the suit and high price. There is no conclusive evidence of positive or negative affects of the Adeli suit (Liptak, 2005).

Electrical Stimulation

There are two different kinds of electrical stimulation used as passive therapy with CP. *Threshold electrical stimulation* is a low amount of stimulation sent to the muscles that does not elicit a contraction. However, this low level of stimulation does increase blood flow, which may increase muscle bulk. This therapy is often administered while the child is sleeping. *Functional neuromuscular stimulation* elicits a contraction of the muscle at the appropriate time during an activity such as walking. Both therapies are somewhat expensive, and evidence suggests a stronger positive effect for functional neuromuscular stimulation rather than threshold electrical stimulation (Liptak, 2005).

Conductive Education

Invented by Adreas Peto to assist children with normal societal functioning, conductive education helps children avoid learned helplessness. The teacher and therapists promote independent functioning through verbalization and repetition by the child. Adaptive equipment like walkers and splints are discouraged. Uncontrolled trials showed some benefit, but controlled trials were mixed. (Liptak, 2005)

Craniosacral Therapy

Craniosacral therapy consists of light pressure and touch to the craniosacral axis by a practitioner to “remove impediments to the flow of cerebrospinal fluid within the cranium and spinal cord” (Liptak, 2005). Removing impediments from the nervous system theoretically promotes more normal functioning. The foundations of this technique are lacking in peer-reviewed articles or scientific research (Liptak, 2005).

Feldenkrais Method

The Feldenkrais Method was created by a Russian physicist, judo expert, mechanical engineer and educator. It is based on the principles of physics, biomechanics and an understanding of human conditioning. Through gentle directioning and movement, the child should increase range of motion, flexibility, and functioning (FEFNA, 2004). Although there seem to be no adverse affects, there are no studies to prove benefits either (Liptak, 2005).

Acupuncture

Considered a “classic complementary and alternative medicine” (Liptak, 2005). acupuncture is a therapy designed to maintain an uninterrupted flow of energy by placing fine needles in specific places on the body. It has been used to treat CP patient for more than 20 years. According to comparison research by Liptak (2005), some studies claim that the benefits include increased bowel function, a decrease in painful spasms and some improvement in the use of extremities. Several uncontrolled and two controlled trials have showed improvements (Liptak).

Animals in Therapy

Animals have helped patients physically, emotionally and socially since the early 18th century in Europe. (Pugh, 2004) In 1792, the York Center in Great Britain used animals to help patients “care for other living creatures.” (Janssen, 1998) However, due to the advancement of medicine, it wasn’t until the mid-1970’s that the use of animals in therapy really took hold in the United States. (Pugh, 2004) Dogs, cats, birds, ferrets, and even pigs are currently being used in hospital, nursing home and mental institutional settings. According to the Delta Society (1996), the most renowned Animal Assisted Therapy group, the definition of AAT is:

“A goal directed intervention in which an animal meeting specific criteria is an integral part of the treatment process. AAT is delivered and/or directed by a health or human service provider working within the scope of his/her profession. AAT is designed to promote improvement in human physical, social, emotional, and/or cognitive

functioning. AAT is provided in a variety of settings and may be group or individual in nature.” (Delta Society)

An example of AAT would be helping a stroke patient with standing and ambulation by having the dog on a table for her to brush and then walk the dog around the room or facility, with the help of a physical therapist or other health professional. The use of the dog gives the patient extrinsic motivation to finish the task at hand (Introduction to Animal Assisted Activities and Therapy, 2005).

The horse has also been used in AAT. In her 2001 thesis, Susan Martin Taylor discusses Equine Facilitated Psychotherapy. Clients interact with the horses on a very natural level, not even getting on their back. The psychotherapist is close by, sometimes asking questions, or simply letting the client to a few tasks with the horse. By asking the client what they think the horse is feeling, transference of feelings is often observed. Although this new psychotherapy is still under research, practitioners who are willing to “experiment” have found the interaction and bond from horse to human very positive. (Taylor) .

History of Therapeutic Riding

The benefits of horses and riding have been acknowledged as early as ancient Greece. Philosophers often spoke of the healthy benefits that accompany riding. Physicians such as Tissot and Chaddigne, both from France, prescribed riding for a number of neuromuscular and orthopedic disorders (Bain, 1965; Mathys, 1987). Wounded British soldiers in World War I as well as amputees of the Vietnam War in the

U.S. have both benefited from recreational riding. During the Vietnam War, the North American Handicapped Riding Association (NARHA) was founded, and is currently the nation's leading therapeutic riding organization (McBride-Conner, 2004).

Therapeutic Riding vs. Hippotherapy

Interchangeable use of the terms *therapeutic riding*, and *hippotherapy* has caused much misunderstanding. The word “therapeutic” is loosely defined as “providing or assisting in a cure,” (Merriam-Webster, 2005) so it is challenging to separate the therapeutic riding from other forms of riding, such as..., that also produce benefits that assist in a cure. To eliminate confusion, in this paper, the term *therapeutic riding* will be used to describe the discipline of riding for therapeutic purposes. “Hippotherapy” is a *form* of therapeutic riding that utilizes medical professionals. However, not all therapeutic riding is hippotherapy. AHA (2000) describes hippotherapy as the “use of the horse as a tool by physical therapists, occupational therapists, and speech-language pathologists to address impairments, functional limitations, and disabilities in patients with neuromusculoskeletal dysfunction.” This definition is a more accurate approach to the active and involved modalities that are performed in hippotherapy today. In the last 30 years, “hippotherapy” has emerged as the one term that signifies a more medical approach in treatment of disabilities. This is due to the fact that in order to become Hippotherapy Clinical Specialist (HPCS), one must first be certified in one of several health care fields. Most often, this includes a licensed physical therapist (PT) or physical therapist assistant (PTA), a licensed occupational therapist (OT) or certified

occupational therapy assistant (COTA), or a speech-language pathologist. Also, because hippotherapy is administered by a licensed health care professional, some therapies can be charged to the participant's insurance company per the facility's fee schedule (AHA,2003).

Perceptions of Adult Riders With a Disability.

In a dissertation by Amy McBride-Conner (2004) adult riders with a physical disability were interviewed about their recreational riding at the 2003 International Festival of Champions in Gladstone, New Jersey. The festival included riders with a disability competing in dressage by classification of disability. McBride –Conner interviewed 8 participants to find the personal meaning that riding held for each of them. Four themes emerged from her interviews: (a) constructing equestrian identity, (b) engaging in NDSA dressage, (c) becoming one with the horse, and (d) deriving meaning. Although McBride did not exclusively look at the perceived physical affects of riding, she found many participants citing the feeling of accomplishment, an identity other than one of disability, and a need to return to some form of competitive sport or activity after their disability. Many of the participants began riding for therapy purposes in a therapeutic riding center, and then moved to an able bodied stable to be able to compete more actively. McBride-Conner's research as well as research by Wheeler et al. (1999) found that most riders with a disability had risen above society's stereotypes of people with disabilities being passive and dependent on caregivers.

Parent's perceptions

Researching a parent's perception of children with disabilities is the most common source of measurement especially when a child has communication difficulties. In one study by Ryandak and Downing (1996), parents were interviewed about their perceptions of the educational settings and services in which their child participated. Through these interviews, researchers sought to understand what resources parents seek when choosing an educational setting or service (Ryandak and Downing, 1996). Parents' perceptions of the professionals that work with their children were researched by Cameron and Orr (1991). Because parents with children that have developmental disabilities must consider many obstacles, they often rely heavily upon professionals to provide a sundry of services. In this study, parents were interviewed and a content analysis of data revealed several different themes. Parents were straightforward about the importance of communication between the parent and the professional. Emphasis was especially given on respect for the parent's knowledge about the disability as well as how the professionals view the parents and children (Cameron and Orr, 1991). Parents interviewed about how dynamic ankle-foot orthoses (DAFO) affected their children with CP (Naslund, 2003). The interviews contained open ended questions regarding the child's overall quality of life. Questions included, "Please tell me how you perceive that the DAFO influences your child?" and "How to you think the DAFO affects your child in sitting/ in standing/ in activities of daily living?" The parents described physical affects, new functions and activities, the orthosis as part of the treatment, opportunities for

independence and play and problems with the DAFO's. (Naslund, 2003) The parents identified their perception of stability, security, agility and speed as the most important affects of the DAFOs. Other positive consequences of the DAFOs included improved balance and posture as well as enhanced activities of daily living. Some parents stated psychosocial affects, such as increasing the opportunity for independence and play, as one of the "great advantages of DAFOs" (Naslund, 2003).

CHAPTER III

METHODOLOGY

A guided phenomenological approach was taken with this study. This qualitative study elicited parents' perceptions and experiences of therapeutic riding or hippotherapy in relation to their child's overall wellness.

Recruitment

The five major therapeutic riding centers offering therapeutic riding in the north Texas area were solicited for participants. Three therapy facilities agreed to host the researcher's recruitment: SpiritHorse Therapeutic Riding Center, Reata Rehab and Equest. See Appendix A for facility approval letters. Recruitment flyers (Appendix B) that explained the study along with a cover letter (Appendix C) that introduced the researcher and outlined benefits and risks to the participants were posted inside the facilities. Some facilities offered to send the flyer and cover letter specifically to parents of children with CP. Interested participants were directed to contact the researcher via e-mail or phone. During initial contact, the researcher screened the participant for eligibility by asking initial screening questions (Appendix D). Participants who met the criteria were scheduled for an interview at the participants' convenience. This interview was either at the therapy facility or at another location of the participant's choosing. Contact numbers and e-mail addresses were shredded only after the interview had taken

place to ensure a way to contact the participant in case a rescheduled meeting was necessary.

Procedures

A full review application was submitted to the Internal Review Board (IRB) at Texas Woman's University and was approved to study human participants. Data collection was begun only after IRB approval (Appendix E). On the day of the interview, the researcher arrived at the agreed upon location approximately 10 minutes in advance to ensure privacy for the participant and to become familiar with the surroundings for the best recording quality. If the participant didn't feel comfortable in that setting, other arrangements were made to meet at another time and place. Once the participant arrived at the meeting place, he/she was informed of the objective of the research, as well as his/her right to refuse to participate, and was asked to sign a consent form (Appendix F) if he/she wished to continue. The researcher used audio tape recording as well as written notes to record the data offered by the participant. The data was then transcribed by the researcher. See Appendix G for full transcriptions. The tapes were then destroyed to protect the anonymity of the participants.

Instrument

Data collection was in the form of one-on-one qualitative interviews. Interviews are used most often when conducting qualitative research (Leedy & Ormrod, 2005). A semi-structured interview guide (Appendix H) that contained questions to be asked of every participant was utilized to maintain consistency. However, probing questions were

also used to help with the flow of the interview. Thirty to forty-five minutes was scheduled for each interview, however, most interviews fell short of this time frame.

Analysis

After collection of data from personal interviews, the data was transcribed and analyzed by the researcher using the constant comparison technique (Lincoln & Guba, 1985). Careful review of the interviews revealed key phrases that were color coded and sorted. Meaning units were clustered and labeled into common themes and grouped into appropriate subheadings. Data was compared against existing data from the literature review to either confirm or enter in a new theme. These meaning units were checked against the original data to confirm consistency. After careful reflection and analysis of the combined perceived effects from the interviewees, a summary was compiled to review the findings.

CHAPTER IV

RESULTS

The purpose of this research was to examine the influence of hippotherapy and therapeutic riding on children with CP as perceived by their parents. This chapter presents the results of the data collected by the researcher. The following topics will be discussed: (a) demographics of children, (b) setting of interviews, (c) research questions and resulting themes, (d) theme one: physical improvements, (e) theme two: developing independence, (f) theme three: overcoming fears, (g) theme four: differences in barriers and motivations for TR and hippotherapy, and (h) summary.

Demographics of Children

In order to understand the demographics of each participant's child, it is appropriate to describe each child separately. The imperative descriptive information is presented in Table 1, where gender, age, type of therapy, time in therapy and the affected areas of the body are profiled.

Setting of Interviews

The research took place in the Dallas-Fort Worth (DFW) metroplex in North Texas. Three riding centers were used to recruit participants. Most of the interviews were conducted at these riding facilities with the exception of one conducted at the participant's home and another conducted at the child's physical therapy appointment, both at the request of the participant.

Table 1

Demographics and Descriptions of the Participants' Children with Spastic Cerebral Palsy

Parents	Child's Gender	Child's Age	Type /Time in Therapy	Affected Areas of Body
Jana/ Geoff	Male	7	TR/48 months	legs
Lisa	Male	2.5	Hippo/ 6 mo.	left side
Marie	Female	7	TR/ 25 mo.	left arm, right leg
Pam	Female	5	Hippo/ 9 mo.	entire body
Allie	Female	6	Hippo/ 36 mo.	entire body

EQUEST, a hippotherapy center in Wylie, is located on hilly rural back roads, far from the flurry of Dallas traffic. The center consists of several outdoor arenas, a large barn connected to the indoor arena and the office. The waiting room/communal area is usually bustling with volunteers, therapists and families waiting for their prospective therapy times. A therapy room with various physical therapy equipment is where most of the children begin their appointment with the therapist. Riders progressively move from the therapy room to the barn, where they will put their helmets on and help prepare the horses for the lesson. From the barn, the child mounts the horse (usually from a

mounting ramp) and then walks into the indoor arena. Friends and family can watch safely from the bleachers on the end of the arena.

The Reata Rehab facility, located outside of the small town of Ponder, just west of Denton, is similar to EQUEST. It consists of a therapy room, an office and an indoor arena with bleachers on one end. Often, the child does physical therapy, hippotherapy, and occupational therapy in a strenuous two hour session. Both of these hippotherapy centers were at one time NAHRA accredited, but Reata Rehab has since let their certification expire. This is due to discovering that some children are much more capable of improvement without the distraction of a helmet, which is mandated by NAHRA (B. Glasser, personal communication, May 26, 2006). Both of these centers bill clients as physical, occupational or speech therapy visits, and therefore can have some reimbursement from selected insurances. The bills vary depending on what modality is used during the therapy and for how long.

Spirithorse Therapeutic Riding, located in the suburban community of Corinth, is a bit different simply because it provides TR as opposed to hippotherapy and relies heavily on volunteers to be instructors, side walkers and office assistants. Having an all volunteer staff allows the services to be free; therefore their client base is an overwhelming 450 children with a waiting list of over 100. The center itself is a bit smaller compared to the hippotherapy locations. The office and barn connect to a brick patio which holds many pairs of cross tie posts for horses to be tied to while being groomed and saddled by the kids. A very organized color coded and cross referenced list

shows the kids' names, the time they ride, the horses they ride, the instructor and the exact saddle to use. Volunteers for instructing and sidewalking are abundant and purposeful while a few lead volunteers help keep things running efficiently. All of the facilities have a common service oriented theme and are completely consumed with the clients they serve.

Research Questions and Resulting Themes

There were three main research questions addressed in this study:

- 1) What are the parents' perceptions regarding the physical efficacy of hippotherapy or therapeutic riding on children with spastic CP?
- 2) What are the parents' perceptions regarding the psychological efficacy of therapeutic riding on children with spastic CP?
- 3) What are the differences in perceived influences between the TR and hippotherapy?

Using the constant comparison method, four themes emerged: physical improvements, developing independence, overcoming fears, and differences in barriers and motivations for TR versus hippotherapy. Each research question will be addressed first with regard to hippotherapy and then with regard to TR. Table 2 displays the perceived effects, most positive effects and barriers to therapy as told by each participant in the interview. All names used for participants and participants' children are pseudonyms to protect confidentiality.

Table 2

Effects and Barriers to TR and Hippotherapy as Described by Parents

Participants	TR/ Hippotherapy	Effects of Therapy	Most Positive Effect	Barriers to Therapy
Jana and Geoff	TR	Gait improvements Posture Focus Independence	Independence	Drive time Cold weather
Lisa	Hippotherapy	Socialization Upper body strength Overcoming fear	Upper body strength	Distance Cost
Marie	TR	Sitting up/posture Processing commands/ listening Overcoming fear	Opportunity to be involved in a hobby/sport	Parental motivation Fatigue
Pam	Hippotherapy	Adapting to new environment Strength/ posture Increased visual perception Confidence	Strength Adapting to new environments Confidence	Cost
Allie	Hippotherapy	Ambulation Improved vocalization Socialization Flexibility	Overall improvements	Scheduling

Research Question One

What are the parents' perceptions regarding the physical efficacy of hippotherapy or TR on children with spastic CP? Most parents who decide to enroll their children in hippotherapy or TR hope for some improvement in physical functioning as a result of therapy. All five of the parents interviewed, regardless of therapy type, reported at least some improvement in physical functioning.

Hippotherapy on Physical Efficacy

Hippotherapy will be addressed first in regard to physical efficacy. The following quotes are excerpted from interviews with parents whose children have been in hippotherapy.

Lisa, a mother of two, was eager to share how Jared was getting around better. She seemed very proactive in his therapy at home as well as at hippotherapy.

He was getting up off of the floor from ...his feet and his hand and then standing up, and then in just the last couple of days, he'll get up off of one foot...so he started to do that...part of his problems are his hips rotating inward, so his hips are getting stronger. So that's gotten better. She (the therapist) (has) done a lot of things...to straighten out his hips. So that's gotten better...and hip strengthening in turn...it's gonna help...his feet not to turn inward."

Allie, commented directly on her child being able to ambulate and vocalize, despite negative doctors' prognoses saying, "We were told she would never walk, or speak and it (hippotherapy) has been major...she's more vocal after these things."

The strength gained with hippotherapy also helped in other everyday chores. When asked if Jared as improved with Lisa comments about how her son improved with ordinary tasks.

I mean just having more upper body control helps him when he stands up on the step stool to go to the sink to brush his teeth. You know, doing this

type of movement with his teeth and doing this with his spoon (gestures brushing teeth and eating). You know being able to put his arms in his shirt. So it all hinges on his upper body getting stronger. Much stronger.

Allie said, “She was always very tight which we are back at the moment because we took her out (of hippotherapy) for six months, but she wouldn’t even climb stairs and between here and therapies, and swim therapies everything had pulled in together.”

Therapeutic Riding on Physical Efficacy

Marie and Jana both have children that have been participating in TR for over two years. When asked questions about how they thought TR had helped with physical functioning, Marie replied:

It has definitely helped her with sitting because...when we first started out there she was like down on the horse like this (leaning forward)...And it was very hard to try (and) get her to sit up straight...And...just at her last visit there when we met you, she stood on the horse, she rode him backwards...so yeah, that’s helped her out a lot on that kind of stuff...most definitely on posture.

Jana said, “He seems to stand up a lot straighter and he doesn’t have that forward gait quite as much. And he can stand in one spot that is not quite as wobbly when he is standing still.”

Geoff was overwhelmed with the physical benefits of TR, simply saying, “That (TR) has helped him just as much or more than physical therapy.”

In summary to research question one, despite different levels of initial functioning, four of the five parents mentioned the overall strength gained from either hippotherapy or TR (two from TR and two from hippotherapy). This overall strength was apparent because of increased function of certain activities like sitting, standing, walking and posture.

Research Question Two

The second research question to be addressed was what are the parents' perceptions regarding the psychological efficacy of therapeutic riding or hippotherapy on children with spastic CP? All five of the participants could recount events demonstrating that their child had shown improvements in psychological efficacy. Question four in the interview guide (Appendix H) dealt with the influence that the different therapies had on the children's attitude. The words self-esteem, motivation and independence were given to help with clarification and probing of the question. Again, hippotherapy will be addressed first followed by TR.

Hippotherapy on Psychological Efficacy

Hippotherapy parents did not express much about changes in attitude. Allie, when asked if she thought the therapy had "influence(d) her (child's) attitude, her self-esteem, motivation...maybe independence," she simply stated, "Everything." When asked to expound on this statement she spoke about her child, Anne, saying, "She gets upset when she doesn't come so we have to tell her that Happy (the horse) is on holiday, or Happy's sick so that we can get through a week." And when asked what Allie thought

her child's favorite thing about hippotherapy was, she quickly replied, "Riding Happy (the horse). Giving Happy treats."

Lisa also responded, "I don't know on that. I know that he loves coming...and when children have something that they are interested in and feel good about, in turn that positively affects other areas of their life. I just don't know more specific on that. Sorry."

Several parents commented on the socialization skills that seemed to grow from participating in hippotherapy. Lisa describes how having different people around Jared has helped him overcome some social anxieties.

It's helped him socially. You know, I guess when you have a little bit slower processing, and part...may be his shy personality, but he's always had a difficult time taking in a new environment and processing all that and looking at someone's eyes...So it's really helped him...with the different adults and the sidewalkers are usually different every time...The therapists really make sure that he looks at each of them and gives them a high five or says thank you.

Allie also spoke Anne becoming more social stating, "She used to be shy, wouldn't talk to nobody...she would sit up there and she would never talk to them...she has become more outgoing.

Pam, whose child has cortical visual impairment as well as spastic CP, happily explains how the hippotherapy helps Angela adapt.

It has helped her get used to new situations. She tends to have trouble adapting to new things so it's kind of been a whole new experience for her with the horses...(she) is able to adjust to new things...and develop probably a little more awareness and confidence in things...I think she has fun with it...it's kind of fun with the different noises that are out here.

Several of the hippotherapy parents discussed how their child reacted to the horse for the first few sessions of therapy. Many of the children were scared of the horse the first time that they rode, and others had a single frightening experience. One hippotherapy parent, Lisa recalls, "The first time he screamed and screamed the entire time and the second time he screamed about ten, fifteen minutes. And then the third time, I don't think he cried at all...he cried about not being able to get down, initially, just having to stay up on the horse...having to be made to do something that he (didn't) want to do initially."

Allie spoke about a moment when Anne appeared scared in the middle of her session, after she had already been consistently participating in hippotherapy.

"I don't really know what happened, but Happy got upset with her or something and the next time she wouldn't come back and go on Happy and they put her on Legend and she got upset about that. But she didn't want to get on Happy. They finally worked her back in and it only took like thirty minutes and they got her back on (Happy)."

The first experience with riding was not only traumatic for some of the children because of the fear of the horse, but also because of the separation from parents. Pam, a hippotherapy mother speaks about her daughter being away from her.

“She’s very happy interacting with the therapist on her own. Sometimes that’s been hard for her...separating from me, you know, and going with other people.”

Therapeutic Riding on Psychological Efficacy

The parents whose children participated in TR had several responses regarding attitude, self esteem, motivation, independence, socialization and fear.

Both of Tyson's parents heartily agreed that he “never had trouble with self esteem; he’s always been very outgoing!...You can see that he does stay focused a little better when he has been doing horse therapy what when he hasn’t been.” Other incidences of developing independence occurred when Tyson literally started riding in TR by himself.

“Well, he’s been riding by himself now. That really gets him fired up...That’s what he really has tried (for) you know, looked forward to, is riding by himself.”

Speaking about the focus needed for such independent tasks Tyson’s father, Geoff, says:

It’s all focus...for him. I mean they are teaching him turning, they’re standing up (in the stirrups) and so I mean he’s really gotta focus on the talks and hand so he can’t wander because that’s when he’s about to fall off the saddle.

Jana chimes in, adding a story about their child's work on focusing skills and how the instructor interacts with him to keep him alert:

Well and to listen to his instructor's instructions especially when he's riding by himself because I know last week he was riding by himself...and she was trying to get him to ride to a telephone pole that had a light above. He couldn't see the light...so I had to walk over and point it out to him. But he had to listen, he had to really look to find it...So when he rides, she really makes him, "Now Tyson, you really need to listen," you know? And she makes sure he hears the whole thing before he gets started.

Jana was relieved to have Tyson involved in TR when she got pregnant with her second child. She described how TR allowed Tyson an easier transition to brotherhood.

"Having him start riding the horses when Drew was born kind of took the focus off of Drew being the baby and all and he kinda had a little glory there too."

Secondly, the physical responsibility of Tyson care taking the horse was also mentioned as developing a sense of identity and accountability.

"They don't let him start until he's brushed the horse; he's gotta get the saddle blanket, the harness...It's his responsibility to get ready and when he's done he has to put it away and brush the horse again."

Marie, spoke about her child's motivation:

She's not motivated about the right things, you know what I mean? She still wants us to do a lot of things for her. So I don't think she is at the mentality age yet to want something for herself physically... She's very impatient and she wants to do everything right then and there and stuff. So with (the instructor) reminding her to put her hand here or there and stuff that's helped her.

Marie also excitedly stated that "It gives Emily a chance to do stuff that she normally wouldn't be able to do because I mean a lot of kids...her friends...get to do this and that, and she gets to say, 'Hey, I ride a horse.' And they are like, 'Wow!'"

Both Marie and Jana had stories of their child becoming fearful of the horse at some point much like the hippotherapy parents. One situation occurred when Tyson was in a TR session and the horse decided to shake its entire body. Jana said, "Now there was a time when he got scared because he almost fell off, but he got back on and rode him."

Marie also shares a story about an incident when Emily tried to feed her horse:

Like you know before when she was like feeding a carrot to the horse she would be kind of you know trying to jerk it back cause she'd get kind of scared and stuff, but no, I mean she even got bit this last time and she was like 'I want to do it myself!' and she doesn't get that she has to let go of it...otherwise the horse is going to get her!...(she) always makes sure that we have to bring Fudge carrots."

In summary of research question two, parents from both hippotherapy and TR responded with psychologically influencing stories such as fearing the horse, doing more independent tasks and being more social in the therapy setting.

Research Question Three

The third research question focuses more on the differences between the two therapies. Most responses about the influence of the therapy itself on the child to be similar. However, the responses about motivations and barriers (see Interview Guide Appendix H) of each of the therapies were different.

Parents in both therapies illustrated the barriers of over loaded schedules, time commitments, cost, and driving distances. However, positive motivations for attending therapy also included funding assistance, motivational people and physical and psychological improvements.

Differences in Barriers Between Therapeutic Riding and Hippotherapy

Allie, outlined some of the barriers they have overcome to participate in therapy:

“Because of schedules, I didn’t know how much more I could take and how much more she could take...because we were already in physiotherapy, swim therapy (and) speech therapy. And we were driving from Gainesville and we were driving here and then we’d be going to Sherman for therapy. So we were just driving...and this is one thing that I was very reluctant to do because I have three other children and I didn’t know how to juggle it. It’s hard on the other kids when

they were younger because they didn't want to sit in here for an hour or two hours."

Marie also struggles with a busy schedule:

My motivation to drive out there after dealing with everything. That's something I struggle with all the time and I have to force myself to do it....Just because especially when she's in school, which is normally when that (TR) is going on, she is constantly, non-stop doing stuff. And then private therapy and other doctor's appointments and everything else.

When choosing to allow Jared to participate in hippotherapy Lisa dealt with the barriers of cost and distance as well as the severance from her child.

I would say cost and distance are definitely hard, but...I think as a parent you have to get over just letting your child cry...you know just putting them up on a horse...I mean it's the first (time) probably for a lot of mothers, was for me where, you know, you just have to go sit in the stands! (gestures to where we are seated) So yeah, it was real hard at first, and watch them screaming out there while I am just sitting here. So you do kind of have to get over that.

A barrier that was observed only by parents with children participating in hippotherapy was the cost of the sessions. Because the child is receiving physical or occupational therapy in conjunction with the horse, the prices are the similar to physical

therapy visits. However, only a select group of insurance companies cover hippotherapy in their reimbursement fee schedule.

Probably the biggest thing was the cost...we had wanted to start doing it a year before we ever did, but you know our insurance doesn't pay for it and it is quite expensive to do and we couldn't afford that extra expense on top of all her other stuff," states Pam.

Marie had originally thought about participating in hippotherapy, but opted to do TR instead because of the expense. She chose to participate at Spirithorse Therapeutic Riding Center because it was free:

If you go any other place that has hippotherapy, with a therapist there, that's part of PT (physical therapy) and that takes away if they bill the insurance and you can't do that because the kids need more...that was very appealing when we were looking into it (TR) and stuff because the cost (of other centers) was just outrageous!

Allie was fortunate to have insurance that covered the cost of her child's hippotherapy, "Actually, we have been lucky on cost because the insurance has covered most of it. And all their volunteer work has been great."

And yet, Pam, was able to find funding for her child through a local program.

It wasn't until she was able to get some funding through...Denton County MHMR (Mental Health and Mental Retardation) that we were finally able to work it out for her to start coming...It's set up...to help the

child be able to live at home and avoid going in to a group home or an institution like their setting...it mostly covers the cost of everything and we just have small supplemental (payments).

Differences in Motivations Between Therapeutic Riding and Hippotherapy

Motivations for both TR and hippotherapy, besides the physical and psychological benefits already outlined in previous themes, revolved significantly around the people involved in the therapy setting such as the therapists, volunteers and staff. Pam points out that her daughter “enjoys the therapists and the other workers that work with her.”

Allie recalls being hesitant about letting the therapists press on with more intensive therapy at first.

“They are friendly and they push her which is one thing I didn’t want...but ever since I have said, ‘You push her. You make her do it.’” One particular individual was mentioned twice as being an influential motivation for continuing in TR. Jana and Geoff glow about Mr. Fletcher.

“Mr. Fletcher is an awesome man.”

“Yeah, Mr. Fletcher is probably the biggest part of the whole deal.”

Marie also has strong feelings of gratitude toward Mr. Fletcher.

“If it wasn’t for Charles we wouldn’t have been able to do any of this.”

Jared’s mother, Lisa nicely summarizes the relationship between the children and the therapists.

I would say really just the therapists in general. And the core between the therapist and the child. Jared has never really liked loud voices and all that kind of stuff. And Tina started out and didn't talk loud. Because he was having initially to get over some of the other issues...so she's been so much better than any therapist we have ever had at any other program...and her son has CP, so she's a mother.

In summary, five interviews were conducted with parents of children with spastic CP: three interviews were with parents whose children participated in hippotherapy and two parents whose children participate in TR. Among the most common responses to how the child was responding physically to both TR and hippotherapy included, gait and posture improvements, as well as overall strength and ambulation. Parents also stated psychological effects like confidence, adapting to a new environment and socialization. Among the most common responses to barriers in therapy were the drive time and scheduling. The cost of hippotherapy (averaging over 100 dollars per client hour) was also acknowledged as a barrier. The researcher's interpretation of these statements will be discussed in chapter five.

CHAPTER V

DISCUSSION

Summary

This study introduced three research questions, examined current literature, collected data in the form of semi-structured interviews and analyzed the results. Included in this chapter is a summary of the preceding chapters followed by some limitations of the study, the findings implications for the field and the recommendations for future research.

The purpose of this study was to explore the perceptions of parents of children with spastic CP in regards to the influence of TR and hippotherapy. These therapies have emerged as effective methods for physical and psychological improvement. However, limited research has been conducted on the effects of the therapies. Research on the influence of TR and hippotherapy will serve to inform parents of their choices in therapeutic modalities in regard to children with spastic CP. This study sought to answer three research questions concerning the perceptions of TR and hippotherapy from parents of children with spastic CP.

Primary investigation included a thorough literature review on CP, TR, and hippotherapy. It soon became apparent that literature on TR and hippotherapy is lacking. However, evidence in the literature supports that both therapies between the particular therapy improve patient's well being. Riding horses has been used since ancient Grecian

times to improve health, neuromuscular function and orthopedic disorders. (Bain, 1965; Mathys, 1987). In the last 20 years, more therapeutic options are becoming available and participants are becoming more vigilant about assessing all the options. It is clear that TR and hippotherapy will not be ignored as more parents become aware of their benefits.

One-on-one interviews were used to gather information from parents with children who have spastic CP and have participated in either TR or hippotherapy. There were several confounding variables that might have affected the participants' responses. Other factors to be explored are how much time the parent spends at home doing "exercises" with the child as well as other treatment modalities used, such as occupational therapy, physical therapy, and speech therapy separate from any riding facility. Parents who chose to be interviewed are assumed to be intrinsically motivated and therefore might be more motivated to work with their child at home as well as being involved in therapies. This would positively affect the results in a if they don't verbally account for their own time working the child, but rather credit the TR or hippotherapy for the improvements. Parents were recruited from three separate riding centers, two hippotherapy centers and one TR center. The data were then transcribed and evaluated using the constant comparison method. The specific methodology followed by the researcher was discussed in Chapter Three, and Chapter Four contained the results of the study including four apparent themes found embedded in the data. This final chapter discusses the findings, implications for the field, and recommendations for future research.

The research questions in this study examined the parents' perceptions of TR and hippotherapy on children with spastic CP:

1. What are the parents' perceptions regarding the physical efficacy of TR/hippotherapy on children with CP?
2. What are the parents' perceptions regarding the psychological efficacy of TR/hippotherapy on children with CP?
3. What are the differences in perceived influences between TR and hippotherapy?

The limitations of this study will be briefly addressed before the discussion of the findings. The sample of participants was gathered from a select few riding centers in the DFW metroplex. As a result, this sample may not accurately and validly reflect the perceptions of all parents, as the sample is restricted to a small number of participants. It could be improved by recruiting for a longer period of time and from more than three facilities. Also, recruitment should take place during the spring or fall, when the riding centers are the most active.

A limitation of the study was that keywords and themes embedded in the data were limited to the researcher's own experiences and. A second shortcoming was the researcher's lack of experience in conducting qualitative research. Upon review of transcripts, the researcher identified opportunities for probing that were missed during the actual interview. Steps taken to reduce researcher bias include: 1) becoming more educated about the topics and themes being discussed and 2) having a second researcher, the faculty advisor in this case, analyze the transcripts for themes separately.

Findings

The therapeutic riding and hippotherapy environment is unique to other more traditional therapies because of the added element of the horse. This interesting and unique addition seemed to be the missing link for many children who have attended traditional PT and OT their entire lives. Four themes emerged from the constant comparison as being factors in the influence of TR and hippotherapy.

Physically, it was apparent that being atop the moving mount produced an action that was unusually taxing to their muscles, subsequently necessitating a gain in overall strength and endurance. Some children were able to sit up straighter and for longer periods of time, while others improved their standing and walking abilities. “Overall strength” was also mentioned as one of the most positive aspects of TR and hippotherapy. This gain in strength was a theme common to both therapies.

The next two themes address the second research question. The psychological aspects of TR and hippotherapy were much more perceptible, and mentioned more often by the parents. It is yet to be determined how much of this psychological benefit is derived from the bond between the horse and the child verses the accomplishment of the tasks at hand while riding. According to Lisa, “when children have something that they are interested in and feel good about, in turn that positively affects other areas of their life.”

For a child with a disability, having to relying on others for help can negatively affect his/her ability to develop independence from others. However, developing

independence was one of the most common themes apparent in both TR and hippotherapy. Independent tasks such as feeding carrots and treats, brushing, and putting on saddles developed a palpable sense of achievement and responsibility. Developing an individual identity was also an area that helped with independence. Parents recalled that their children were developing an equestrian identity that helped them become an individual, apart from other siblings or friends who were involved in other activities such as sports or music. This building of an identity may help in developing an independence that becomes harder for a child with a disability.

Confidence and independence also come when a child overcomes fears and accomplishes realistic goals (National Mental Health Association, 2006). Initial fear of the horse was apparent in almost all of the interviews. Many of the children were opposed to riding for the first few sessions. This could have been due to an actual fear of the horse, the separation from the parent, or a combination of both. One parent even mentioned having reservations about letting her child go by herself with the therapist at first. However, all children were able to overcome this fear, and actually grew to adore their steeds, often commenting to their parents about the next time they would be able to ride, and calling their horses by name. This case demonstrates the affect of these riding therapies beyond the children to the parents in allowing that sense of independence to flourish. Another observation that addressed overcoming fear was children becoming more outgoing and less shy. Several parents stated their child had originally been very introverted and quiet around strangers. However, after being in TR or hippotherapy, they

had become much more extroverted and vocal towards the side walkers and the horse handler. One reason for this might be the familiarity with the horse produces a common bond, making it less intimidating to relate to people. Another reason could be the consistency of the lessons, the volunteers and the therapist, as well as the encouraging and cheerful attitude of the volunteers and staff.

To address the third research question, the last findings compare the differences in perceived influences of TR versus hippotherapy. This finding in itself leads the researcher to conclude that there was not actually much difference in the physical and psychological effects between TR and hippotherapy. Other perceived influences included motivations and barriers that, interestingly enough, were also very similar between the two therapies. Some of the motivations for both TR and hippotherapy were the inspirational and friendly therapists, staff and side walkers. Motivational people were mentioned several times as the ones who “make this all possible” or were described as “friendly” or “awesome.” Many of the barriers were also the same including the time commitment, driving distance and scheduling difficulties. One difference between barriers to hippotherapy and barriers to TR was that hippotherapy utilizes PT and OT and therefore is billed as such. The barrier for several parents to participate in hippotherapy was the cost of the therapy added to the other expenses of having a child with a physical disability. However, two parents had overcome this barrier by finding alternate sources of funding through insurance or community programs.

Conclusion and Implication for Practice

In conclusion, TR and hippotherapy have proven to be effective for children with spastic CP, as perceived by their parents, not only in physical functioning, but psychological efficacy as well. Differences in the effects of TR and hippotherapy are minimal; however barriers to therapy are considerably higher as cost becomes a factor for hippotherapy.

Previous quantitative research comparing children riding an innate barrel versus children riding a horse (Benda, McGibbon & Grant, 2003) alongside this qualitative piece implicates that the connection and bond with the horse plays a larger role than a simple therapy tool. Supporting this human animal bond is research about the connection of other therapy animals such as dogs and cats (Delta Society, 2005).

Recommendations for Future Research

There is still much to be researched in the areas of TR and hippotherapy. There are still many parents who do not realize the benefits of these therapies, and further research would assist them in understanding these benefits. More specifically, research should be done for children with other disabilities, not just children with spastic CP. Other types of disabilities that could be addressed are autism, multiple sclerosis, and any types of orthopedic dysfunctions.

Research that compares the differences in psychological influences between TR and hippotherapy verses Equine Facilitated Psychotherapy will help to clarify what part of the human-horse bond effects the psychological aspects of the child the most.

Other researchers may want to use this as a platform for quantitative studies.

Only a few studies exist that measure muscle functioning and even fewer studies measure psychological progress. Quantitative data will be more helpful in providing avenues of funding for hippotherapy such as reimbursement from insurance companies as well as community funding.

Lastly, research may be done with children who have participated in both TR and hippotherapy to find comparative values of each therapy. This would eliminate having to compare one individual to another individual with different levels of functioning and/or parts of the body affected.

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APPENDIX A

Facility Approval Letters

SpiritHorse Therapeutic Riding Center

To Assist Each Child in Reaching Their Full Potential Through Interaction with Horses

Charles I. Fletcher, Founder, President/Executive Director

Trish Robinson, Vice President

Nancy Cooper, Secretary

Virginia Scott, Treasurer

Member

Dr. Cole Sciba, DVM, Board Member

Board Member

Dr. Stewart Coffman, M.D., Board Member

Carl Buck, Board Member

Laura Ann Vincent, Board Member

Kristi Tuinei, Board Member

Kelly Waterman, Board

Judith Alvarado,

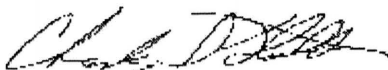
Pat Flynn, Board Member

April 20, 2006

To whom it may concern:

Celeste Becker has our permission to interview any of our participants, their families, or our staff at our facilities for the purpose of gathering information for her cerebral palsy and equine-assisted therapy research.

Sincerely,



Charles I. Fletcher
Executive Director

1960 Post Oak Road Corinth, Texas 76210
497-4439

Voice (940) 497-2946 Fax (940)

spirithorsethera@aol.com

www.spirithorsetherapy.com

Reata Rehabilitation

Reata Rehab
April 30, 2006

To Whom It May Concern:

Celeste Becker has Reata Rehabilitation's permission to interview any of our patients, their families, parents of minor children, and/or our staff at our facility at Reata Rehab for the purpose of gathering information for her cerebral palsy and equine-assisted therapy research. Paperwork including a confidentiality agreement was completed.

Sincerely,

Becca Glaser

Becca Glaser, OTR
Executive Director

9204 T.N. Skiles Road
Ponder, Texas 76259

reatarehab@ev1.net

www.reatarehabilitation.org

APPENDIX B

Recruitment Flyer

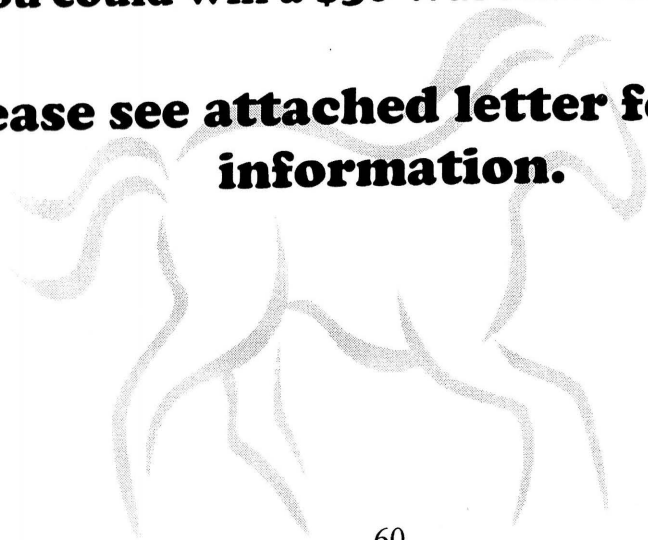
Research on the Influence of Therapeutic Riding and Hippotherapy!

**Does your child have
*spastic CP?***

**Is your child between
*ages 4 and 18?***

**If you answered yes to these two questions, please
consider doing a simple interview for research!
You could win a \$50 Wal-Mart Gift Card!**

**Please see attached letter for more
information.**



APPENDIX C

Cover Letter

Celeste Becker
604 Wolftrap
Denton, TX 76209
817-915-0621

May 25, 2006

Dear Parents:

I am a graduate student at Texas Woman's University pursuing my Master's Degree in Health Studies. My thesis topic is "The Influence of Therapeutic Riding and Hippotherapy on Children with Spastic Cerebral Palsy (CP) - - Parents Perceptions." I am writing to offer you the chance to contribute your thoughts about these types of therapies.

I'm looking for willing parents of children ages 4-18 with spastic CP who would like to sit down and talk with me concerning how you feel about therapeutic riding or hippotherapy. The interview will take between 30 and 45 minutes. I will be glad to meet you wherever is convenient for you. This riding facility has offered a private room for interviews if you wish to meet here while your child is in therapy.

I will be audio taping the topics that we discuss so that I may have an accurate record of what you have said. Your name won't be used in the research or on the audiotape.

As an added incentive, I will be raffling off a \$50 Wal-Mart gift card that will be eligible to *everyone* who responds to this flyer!

Please contact me at **817-915-0621**.

Keep on,

Celeste Becker

APPENDIX D

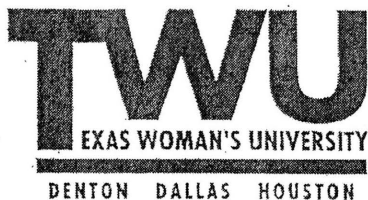
Screening Questionnaire

Screening Questions

1. Does your child participate in TR *or* hippotherapy?
2. Does your child have spastic CP? What parts of his/her body are affected?
3. How old is your child?
4. How many hours has your child been in TR/hippotherapy?
5. Would you like to meet at the facility or at another location?

APPENDIX E

IRB Approval Letter



Institutional Review Board

Office of Research and Sponsored Programs
P.O. Box 425619, Denton, TX 76204-5619
940-898-3378 Fax 940-898-3416
e-mail: IRB@twu.edu

May 12, 2006

Ms. Celeste Becker
604 Wolftrap
Denton, TX 76209

Dear Ms. Becker:

Re: The Influence of Therapeutic Riding and Hippotherapy on Children with Spastic Cerebral Palsy - - Parents' Perceptions

The above referenced study has been reviewed by the TWU Institutional Review Board (IRB) and appears to meet our requirements for the protection of individuals' rights.

If applicable, agency approval letters must be submitted to the IRB upon receipt PRIOR to any data collection at that agency. A copy of the approved consent form with the IRB approval stamp and a copy of the annual/final report are enclosed. Please use the consent form with the most recent approval date stamp when obtaining consent from your participants. The signed consent forms and final report must be filed with the Institutional Review Board at the completion of the study.

This approval is valid one year from May 5, 2006. According to regulations from the Department of Health and Human Services, another review by the IRB is required if your project changes in any way, and the IRB must be notified immediately regarding any adverse events. If you have any questions, feel free to call the TWU Institutional Review Board.

Sincerely,

Dr. David Nichols, Chair
Institutional Review Board - Denton

enc.

cc. Dr. Susan Ward, Department of Health Studies
✓ Dr. Anna Love, Department of Health Studies
Graduate School

APPENDIX F

Consent Form

TEXAS WOMAN'S UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH

Title: The Influence of Hippotherapy and Therapeutic Riding on Children with Spastic Cerebral Palsy - - Parents' Perceptions

Investigator: Celeste Becker817-915-0621
Advisor: Anna Love, Ph. D.....940-898-2865

Explanation and Purpose of Research

You are being asked to participate in a research study for Ms. Celeste Becker's thesis at Texas Woman's University. The purpose of this research is to explore the influence of hippotherapy and therapeutic riding on children with cerebral palsy. The influence of both therapies will be explored from the parent's perception.

Research Procedures

Face-to-face interviews will be conducted by the researcher for this study. The interview will take place at a private place agreed upon by you and the researcher. You will be audiotaped during the face-to-face interview. The purpose of the audiotaping is to provide a transcription of the information discussed in the interview and to assure the accuracy of the reporting of that information. Your maximum total time commitment in the study is estimated to be one hour. This includes the time you have already spent contacting the researcher.

Potential Risks

Potential risks related to your participation in the study include fatigue and emotional discomfort during your interview. To avoid fatigue, you may take breaks during the interview as needed. If you experience emotional discomfort regarding the interview questions, you may stop answering any of the questions at any time. The researcher will provide all participants with a referral list of names and phone numbers of counselors and CP centers that they may use should they feel as though they need to discuss this physical or emotional discomfort with a professional. To limit the risk of coercion, the incentive, a 50\$ gift card, has been provided to all who responded to the recruitment flyer, not just those who sign an informed consent. The cooperation of the facility from which you were recruited was limited to posting the recruitment flyers and letters as well as providing a private room for interviewing. Your participation in this study will not be shared with the facility employees or volunteers so you should see no change in service by the riding facility management or staff based on your decision to participate in this study.

Another possible risk to you as a result of your participation in this study is release of confidential information. Confidentiality will be protected to the extent that is allowed by law. The interview will take place in a private room at the riding facility or at another location agreed upon between you and the researcher. The researcher will arrive early to the appointment to avoid any association between you and the researcher.

Participant Initials

A code name, rather than your real name will be used on the audiotape and transcription. Only the researcher, her advisor, and the transcription auditor will have access to the tapes. The tapes, hard copies of the transcriptions, and the computer disks containing the transcription text files will be stored in a locked filing cabinet in the researcher's office.

The tapes and transcription disks will be destroyed and the hard copies of the transcriptions will be shredded. It is anticipated that the results of this study will be published in the investigator's thesis as well as in other research publications. However, no names or other identifying information will be included in any publication.

The researcher will try to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

Participation and Benefits

Your involvement in this research study is completely voluntary, and you may stop your participation in the study at any time without penalty. There are two benefits to your willingness to be a part of this study. All participants that contacted the researcher in order to assist with research are eligible to receive a \$50 gift certificate to Wal-Mart. Even if you decide to discontinue the interview, you will still be eligible for the gift card.

A copy of the summary of the results of this study will be available to you at each riding facility upon completion. If you would like a personal copy of this research, please write your mailing address in the assigned lines below.*

Questions Regarding the Study

If you have any questions about the research study, you may ask the researchers. Their phone numbers are at the top of the first page of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-898-3378 or via e-mail at IRB@twu.edu. You will be given a copy of this signed and dated consent form to keep.

Signature of Participant

Date

*If you would like to personally receive a summary of this research, please provide an address to which this summary should be sent:

APPENDIX G

Transcriptions

Transcription for Jana and Geoff
Friday, June 2, 2006

CB: So we already know that Tyson is in TR not hippo is that correct?

Jana: Right, right.

C: Has he ever done hippo.

Jana: No its' always been TR, even in Amarillo.

CB: Okay, so he did it in Amarillo too?

Jana: Yes. He started when he was about 30 months.

CB: Okay, and just in general, how do you think that TR has influenced him. Good? Bad? Any thoughts?

Geoff: Very good. That has helped him just as much or more than physical therapy.

CB: Good. How do you think it has affected his daily activities such as sitting, standing self care, hygiene, dressing himself? Or maybe he hasn't had those problems?

Jana: I think he....especially when he....well cause we only do it here in the spring and in the fall but you can tell when we have been doing it because he seem to stand up a lot straighter where he has a forward gait quite a bit, he seems to stand up a lot straighter and he doesn't have that forward gait quite as much.

Geoff: And he can stand in one spot that is not quite as wobbly when he is standing still.

CB: What about sitting, he's fine sitting?

Jana: Yeah

CB: Always has been? Okay. In what ways has the horse and therapy influenced your child's attitude? Like his self esteem, his motivation, his independence?

Jana: (laughing) He's never had trouble with self esteem; he's always been very outgoing!

Geoff: It's nice, in just in every one of those fields he's never had problems with anything. He's like she said outgoing...he doesn't have problems with motivation.

CB: Or socially with other kids?

Geoff: No, very social

Jana: Yes.

CB: Describe any changes in Tyson' overall physical abilities since participating. Since he has participated in therapy for so long I am sure it's hard to remember before he was participating, but I know we have already talked about standing, what about general balance, motor control feeding himself um....sensory or perception...has he had any problems with that?

Jana: He has a hard time focusing , staying focused on one task...

CB: Right

Jana: I think that helps some...umm...I don't know how much, but you can see that he does stay focused a little better when he has been doing horse therapy than when he hasn't been.

CB: Do they have him focus in therapy on different things like have him do tasks on the horse or I am not sure at Spirithorse, I have seen them...

Jana: Well he's been, he's been riding by himself now.

CB: Oh good!

Jana: That really gets him fired up.

CB: Yeah, I bet.

Jana: Riding by his self, and he really...

Geoff: Well, yeah I mean it's all focus, all focus for him. I mean they are teaching him turning, they're standing up and so I mean he's really gotta focus on the task at hand so he can't wander because that's when he's about to fall off the saddle.

Jana: Well and to listen to his instructor's instructions especially when he's riding by himself because I know last week he was riding by himself and um...we were on one side of the pen and she was trying to get him to ride to a telephone pole that had a light above. He couldn't see the light, he couldn't find the light, so I had to walk over and point it out to him. But he had to listen, he had to really look to find it and I think those kind of things he has to really, where, sometimes he I think he listens to half of what you are gonna say and he thinks he knows the rest of what your gonna say so he'll just take off and go. So when he rides, she really makes him "Now Tyson you really need to listen," you know and she makes sure he hears the whole thing before he gets started.

(Tyson enters room)

CB: That's fine...we'll get all sorts of input.

T: Hi.

CB: Hi there! How are you!

T: What's your name?

CB: I'm Celeste.

T: My name is Tyson.

CB: It's a pleasure to meet you Tyson.

T: Nice to meet you Celeste.

CB: I hear you go riding, is this true?

T: Uh, huh.

CB: Do you love riding?

T: Uh, huh. And I am going to Lion's Camp

CB: Lion's camp! Oh my gosh, that sounds so fun. When does that start.

T: Next Sunday. Not this Sunday, but the next.

CB: And what do you do at Lions Camp?

T: Uhh... maybe canoeing, maybe fishing in the canoe, swimming, arts and crafts, riding horses...

CB: Oh, so you get to ride horses there too?

T: Yeah, too. Yeah.

CB: Oh fun, very fun. Well it's so nice to meet you Tyson.

T: Nice to meet you.

CB: It's just a pleasure. (to parents) Very friendly and personable!

T: Yep!

(Laughter)

CB: Is there anything you started doing differently at the time you started with TR that might have influenced him or his attitude or physical ability? Again, he's been in TR for so long it might be hard...

Jana: Well, I don't know, the only thing I can think was that was right when Timothy was born. And we started riding horses, like, when I was on maternity leave.

CB: Oh, okay.

Jana: And I think, well I think, this is just an assumption I made...

CB: That's fine.

Jana: But having him start riding the horses when timothy was born kinda of took the focus off of timothy being the baby and all and he kina had a little glory there too cause my mom stayed with me for a little while after timothy was born and she watched Tyson ride and everything.

CB: So you would say an "easier transition"

Jana: right

(Youngest child enters room)

CB: Hi sugar!

(Tyson enters room holding two trophies.)

T: This is what I got for riding!

CB: Oh come here and let me see them... Oh wow... those are fabulous. Can I set them her, keep them here for a while, while I finish talking to your parents?

T: Sure.

CB: Okay, thanks. (Speaks to other child briefly)

CB: Have we (Tyson) ever been scared of the horses?

Jana: No. Never. Now there was a time when he got scared because he almost fell off, but he got back on and rode him.

T: Uh huh!

CB: Good for you!

T: And one day umm... I was riding my horse and it shook and I was like "Whooooaaaa!" and then he stopped and I said "Whew. That's better."

CB: Was that the time you think you almost fell off?

T: Yeah.

CB: Oh. Sometimes that happens... sometimes they just shake because they are trying to get flies off or something. (To parents) What are some barriers or hurdles that you or Tyson have had to overcome in your experience with TR? Could be anything... maybe the distance driving, or...

Geoff: That's the only thing really I mean that facility has made it just so easy.

Jana: it's just an awesome place. Even these two like to go out there because it's out in the country kind of and they like to go around and pet all the dogs and cats and they have swings out there and they like to go swing. I guess the heat, I mean once it starts getting so hot, I mean that might be something, but even then, that's a small something really. I

would say probably the biggest thing is the drive cause it is ya know, quite a ways for us to go, but we kinda look forward to going.

CB: What about the cold?

Jana: No, because it's never...

Geoff: They usually stop before it...

Jana: Before it gets too cold...yeah.

CB: So just fall and spring?

Jana: Yeah, they stop right before thanksgiving. They start in September and stop right before thanksgiving. And I now this next spring, they will start in mid Feb. because we had to stop so early this year. Cause they, last Sat. was our last time to ride, so we really didn't get a whole lot of riding time this spring. And I know, was it last spring it rained and rained and it seemed like every Saturday it rained so we didn't get to go except maybe two or three times.

(Jana speaks to other child briefly)

T: May I sit by you?

CB: Of course! I would love that? (to parents) What would you say are some of the most positive aspects of Tyson's experience with TR?

Jana: Just him being able to ride by himself. That's what he really has tried you know, looked forward to is riding by himself. And that has been a big plus. Umm. I think too, seeing the other kids that came out there ummm...some of them are a lot more severe than what Tyson is and seeing them do things and he loves the other kids. There is a little girl out there that he just loves to talk to and yeah. I think just partly just being with the other kids and interacting with them and the horses together. I mean sometimes he helps them feed the carrots to the horses and umm...I think that's a big plus, don't you?

Geoff: Well and it's responsibility too. They don't let him start until he's brushed the horse, he's gotta get the saddle blanket, the harness. It's his responsibility to get ready and when he's done he has to put it away and brush the horse again so it's responsibility also that he has gotten out of it.

CB: And any positive aspect from your standpoint? Anything you have gotten out of it?

Jana: The jog around the fence? (Laughing)

Geoff: The exercise! (Laughing)

CB: Okay! Do you go with as sidewalkers?

Jana: Yes.

Geoff: When we trot.

T: When we trot I only have a sidewalker. I used to have two, but now I only have one.

CB: Just one on one side?

T: Yeah.

CB: Good. You are progressing very well I hear. That's really good.

T: Thank you.

CB: You're welcome. (to parents) Do you think Tyson would have a different view of the barriers or favorite things about TR as opposed to the things you have described to me?

Jana: I don't know?

T: Yeah, berries!

(Everyone laughs)

Jana: Berries?

CB: Berries?

T: Yeah, they have berry trees back where they ride and it's a little trail and then they have berry trees. I like to pick the berries and eat them.

CB: Do you pick them while you are riding?

T: Uhh, yeah.

CB: Oh, fun! What's your favorite thing about going riding. If you could pick one favorite thing.

Jana: (to Tyson) That's hard.

T: Most favorite thing....hmmm...my most favorite thing is riding around by myself.

CB: All by yourself?

T: There's about four other sized rings and I like riding around that.

CB: And you can do it all by yourself?

T: Yep.

CB: Oh, that's awesome.

T: I don't even need no one to direct the horse, but I do have my leader in front of the horse because, you know, she's not comfortable with no one watching me.

CB: So, just in case.

T: Yeah.

CB: Okay.

Jana: But you ride around the ring by yourself. She just stands on the inside of the ring and watches.

CB: Yeah, that's very good, I am very impressed! Well, that's it, that's all I have. Are there other things you want to add to it or things we didn't cover? I do appreciate you guys so much!

Geoff: Sure....

Jana: I do think too, is Mr. Fletcher. Mr. Fletcher is an awesome man.

Geoff: Yeah, Mr. Fletcher is probably the biggest part of the whole deal is...

T: Oh, yeah. That is my favorite trophy I ever had because um, it is very special to me because my riding teacher gave it to me and it's really special to me.

CB: I can imagine it is. Do you see Mr. Fletcher every time you go out?

T: Yeah, when we go out, he always, when I see him, he sees me, he says, asks for a hug, and I give him a giant, GIANT sweaty hug! (laughter) Yeah, Mr. Fletcher is pretty sweaty! It's all that work he has to do. I can imagine him being sweaty!

CB: I know, it's a big place he has to run. Well, very good, it was so pleasant to meet all of you!

Transcription for June 10 - Lisa

CB: Does your child participate in TR or hippotherapy?

Lisa: Yes. Hippotherapy.

CB: Okay, and he/she?

Lisa: He, Jared.

CB: He has spastic cerebral palsy?

Lisa: Uh, huh.

CB: And what parts of his body are affected by it?

Lisa: Well, it's umm, his upper body, both hands and then his lower left leg, really his left side primarily. But he has, he has a very mild case. It's mild. It's one of the mildest cases that they have ever seen.

CB: Oh, okay. And how old is Jared?

Lisa: He is two and a half.

CB: And how many hours has Jared been participating in hippotherapy?

Lisa: He started in the spring, and he went I guess, he started in the beginning of march, I would say maybe six times in spring, and then eight hours now, so I would say about 15.

CB: Fifteen. Okay, just in general, how do you think hippotherapy has influenced Jared?

Lisa: Well, it's helped him with sensory things. It's helped him socially. You know, I guess when you have a little bit slower processing, and part it might be his shy personality, but he's always had a difficult time taking in a new environment and processing all that and looking at someone's eyes and that kind of thing. So, it's really helped him you know just with the different adults and the sidewalkers are usually different every time and uh, the therapists really make sure that he looks at each of them and gives them a high five or says thank you, you know. You know and then just all of the sensory things like feeling of the blankets or feeling of the horse and then she puts different things in his hands a lot when he rides so that's helped him a lot in opening up his hands, and grasping on to things.

CB: Uh huh.

Lisa: But the main thing with Jared was that he was already a walker, but he still didn't have very good upper body control and balance, so it's helped, it's made him a lot stronger. He was getting up off of the floor from like his feet and his hands and then standing up, and then in just the last couple of days he'll get up off of one foot.

CB: Oh, good.

Lisa: He'll kinda of do like this and get up standing off of one foot. So he started to do that and um, his hips, part of his problems are his hips rotating inward, so his hips are getting stronger. She's done a lot of things with him right now to straighten out his hips. So that's gotten better. His hips lining up with his legs and his feet. And hip strengthening in turn, I think, it's gonna help his foot, his feet, not to turn inward. So...

CB: ow do you think it influences with daily activities? We already talked about sitting and standing...umm...how about like self-care? Hygiene? Dressing himself? I mean he is kind of young for those types of questions, but...

Lisa: Well, it all plays in, you know, it all, um, I mean just having more upper body control helps him when he stands up on the step stool to go to the sink to brush his teeth. You know, doing this type of movement with his teeth and doing this with his spoon. You know being able to put his arms in his shirt. So it all hinges on his upper body getting stronger. Much stronger.

CB: What about Jared's attitude as far as like self-esteem?

Lisa: He loves coming.

CB: How has the therapy influences his attitude?

Lisa: Hmm...

CB: Or maybe his independence or motivation?

Lisa: I don't know on that. I know that he loves coming. You and when children have something that they are interested in and feel good about, in turn that positive(ly) affects other areas of there life. I just don't know more specific on that. Sorry.

CB: That's okay. That's fine! Um, we already talked about sensory abilities. Was there anything you have been doing differently, you started doing differently at the same time you started hippotherapy? Like this past, that you attribute maybe some of the changes to?

Lisa: Um, no.

CB: Um, does Jared, has he ever appeared scared of the horse? Or do you think that affects...

Lisa: Uh huh. The first time he screamed and screamed the entire time and the second time he screamed about ten, fifteen minutes. And then the third time, I don't think he cried at all. But he wouldn't even get on a riding toy. I mean he just wasn't comfortable being up off of the ground. So, she uses, and I guess this is a part of hippotherapy, but it doesn't have anything to do with the horse. But Tina puts them on the padalla, and that has really helped him, and just weight shifting on the padalla...

CB: Which is the? The padalla is the?

Lisa: It's a toy with the slats...(laughs) with the slats on it and it has the wheels under the slats and it kinda looks like a elliptical machine that you see at the workout club? Cross country skiing? And then you hold on to the bars? (demonstrating with arms)

CB: Uh huh.

Lisa: And uh, but he was just real frightened to go backwards. You know, now he goes forward and he goes backwards. He keeps his feet on the things pretty well. So, that's been really helpful for a riding toy.

CB: Okay, what are some barriers that you and or Jared have had to over come in your experience with hippotherapy?

Lisa: Hmm...

CB: I mean you can think of anything as far as cost, or distance or..

Lisa: Hmm... yeah, cost, that's a big one...and distance. That's a big one.

CB: Okay.

Lisa: Yeah, I would say cost and distance are definently hard. But um, you know I think as a parent you have to get over just letting your child cry.

CB: Yeah.

Lisa: You know, just putting them up on the horse. And I mean it's the first thing probably for a lot of mothers, was for me where, you know you just have to go sit in the stands. (laughs and gestures to where we are seated)

CB: Yeah, just kind of passive.

Lisa: So yeah, that was real hard at first, and watch them screaming out there while I am just sitting here. So you do kind of have to get over that.

CB: What would you say are some of the most positive aspects of Jared's experience with physical therapy?

Lisa: Most positive aspects. I would say just the improvement in general. (waving at Jared as he rides by) Hi Jared! He's got a sly smile, doesn't he? He will get in different positions here in a minute. He can even stand up on the horse! (pausing to watch)

CB: Do you think Jared would have a different view of the barriers, or the favorite things or positive aspects? What do you think he would say was the hardest part, or his favorite things or...

Lisa: The hardest part...hmm...I would say when he cries about not being able to get down, initially, just having to stay up on the horse, having to stay and having to be made to do something that he doesn't want to do initially.

CB: But so far that has passed after the first three sessions?

Lisa: Oh yeah. After the first two really. Just the first two times, he cried.

CB: And his favorite, you think his favorite part?

Lisa: Well, he really did enjoy giving crunchy carrots and he seemed to really enjoy grooming the horse this morning. And he really likes riding that padalla. And I would say really just the therapists in general. And the core between the therapist and the child. Jared has never really liked loud voices and all that kind of stuff. And Tina started out and didn't talk loud. Because he was having initially to get over some of the other issues and um, so she's been so much better than any therapist we have ever had at any other program.

CB: She seems really nice.

Lisa: Uh huh...and her son has CP so she's a mother.

CB: Yeah she identifies. Okay, well that's about it then!

Transcription for June 19 – Marie

CB: Alright, how old is Emily?

Marie: She will be seven in August, so she's almost there.

CB: And how long has she been doing the therapeutic riding (TR)?

Marie: I want to say since 2004, spring of 2004?

CB: And has she ever done hippotherapy? Or has it always been there (Spirithorse)?

Marie: No, it's always been there.

CB: Okay. Um, how do you think the therapeutic riding has influenced Emily?

Marie: Um, like personality wise? Or...

CB: Anything, anything you can think of.

Marie: Well, she loves horses now and um, she's willing to try things, but it has to be at her own pace obviously.

CB: Right, right.

Marie: And um, I don't know, she has always been outgoing, so that hasn't changed.

Probably less afraid of certain things I think maybe

CB: Think maybe new situations? Or certain things like what?

Marie: Like you know before when she was like feeding a carrot to the horse she would be kind of you know trying to jerk it back cause she'd get kind of scared and stuff, but now, I mean she even got bit this last time and she was like 'I want to do it myself!' and she doesn't get that she has to let go of it! (Laughing and gesturing about feeding the horse with her hands) Otherwise the horse is going to get her!

CB: Right, right!

Marie: But even after she got bit she still wants to do it.

CB: She's okay with it. Good.

Marie: Yeah.

CB: Good. How do you think the therapy has influenced Emily in activities like sitting, self care...

Marie: It has definitely helped her with sitting because um, when we first started out there she was like down on the horse like this. (leaning over forward)

CB: Right.

Marie: And it was very hard to try get her to sit up straight.

CB: Yeah.

Marie: And it just at her last visit there when we met you, she stood on the horse, she rode him backwards, she did all kinds of stuff. And so yeah, that's helped her out a lot on that kind of stuff.

CB: On the posture and everything?

Marie: Yeah. Most definitely on posture.

CB: What about dressing herself or hygiene or other like acts of daily living like that?

Marie: Um, she tries to do that stuff but she doesn't have very good use of her left hand, so

CB: Dexterity?

Marie: Yeah.

CB: Is it mostly one side of the body or...

Marie: Actually it's all four extremities but she has use of her right arm and hand the most out of everything, so. It probably effects the left arm the worst and the right leg. And I don't understand that, but it's really weird.

CB: Okay, that is interesting! I haven't come across that yet.

Marie: Yeah, it's really wierd.

CB: Um, what about Emily's attitude how do you think it has affected her attitude we already kind of talked about her confidence, she's less scared, but what about like motivation or independence? Self-esteem?

Marie: Motivation, she's not motivated about the right things, you know what I mean, she still wants us to do a lot of things for her. She's just lazy. (laughing) So I don't think she is at the mentality age yet to want something for herself, physically.

CB: She's smart! She realizes that people do it for her so it's a very intelligent way to make it happen.

Marie: Right, yeah. So, yeah, outside of that, she's just not there mentally to want something for herself physically.

CB: Right, okay. How about physical abilities like balance coordination we already talked about sitting, but what about motor control or sensory. Does she have any vision problems at all?

Marie: She wears glasses which we normally don't have her wearing them when she's riding because of the helmet, you know her head's so small and stuff. But her visions really not that bad. Um, sensory, she has always kind of had that sensory thing you know she doesn't like a lot of people to touch her just because of everything she's been through. Uh, and what else was there?

CB: Coordination, balance?

Marie: She's not very patient, she's very impatient and she wants to do everything right the and there and stuff. So with reminding her and stuff to take it slower, to put her hand here or there and stuff, that's helped her.

CB: So more like slowing down and thinking through the action.

Marie: Right. She's just so excited to do everything you know and she doesn't let her brain slow down, she doesn't slow down long enough for her brain to process it to show her body exactly how she needs to do it.

CB: Exactly, exactly. I understand. Okay. Have you been doing anything differently since the time you started with the therapy that maybe has influenced her other than the therapy? Like did you start anything around August that would have made her sit up more?

Marie: Like before this next session starts? Is that what you are...

CB: No, I guess (looking at notes) you started in spring of '04, so is there anything you started at the same time that might have had the same effects?

Marie: No.

CB: Nothing you did different with her schedule or any other therapy or things like that?

Marie: She's been doing other therapies since she was four months old, so that hasn't changed.

CB: Right. And we kind of talked about this, but does she appear to be scared of the horse ever?

Marie: Maybe a little bit in the beginning because she'd never really...she'd been around the horse one time at a local kid's picnic. And she thought it was neat and stuff so she was excited. But I think she was probably a little scared at the same time.

CB: Yeah, yeah.

Marie: So, I think in the very beginning she was, but now she's like, 'Are we going to see Fudge?'

CB: Yeah. So you don't think it's affected her, the being scared. It's completely past and it doesn't affect her riding at all now?

Marie: No. Uh uh. She might tell you she's scared but she's not.

CB: She's not.

Marie: No.

CB: What are some of the barriers or hurdles or things you have had to over come to get her to this place in therapy? Think of things outside the box maybe like distance or cost or the weather or...

Marie: To drive out there?

CB: Uh huh.

Marie: My motivation to drive out there after dealing with everything. That's something I struggle with all the time and I have to force myself to do it.

CB: Right, right! Exactly!

Marie: Just because especially when she's in school which is normally when that is going on, she is constantly, non-stop doing stuff. And then private therapy and other doctors appointments and everything else. Uh, the distance, I don't really mind the distance just because it was free. Because if you go to any other place that has hippotherapy, with a therapist there, that's part of her PT (physical therapy) and that takes away if they bill the insurance and you can't do that because the kids need more. So yeah, if it wasn't for Charles we wouldn't have been able to do any of this.

CB: So would you say that was one of the most positive aspects about the therapy is that it's free and it's available and...

Marie: Yes, yes. That was very appealing when we were looking into it and stuff because the cost was just outrageous. And it actually took me about eight months to track down a phone number for him. Because I was calling information, "Who? No we don't have a number for that." And I'm like...

CB: When or where did you first hear about it?

Marie: Um, she was going to get Botox at Our Children's House and that's where our therapy was at the time and a lady was mentioning hippotherapy I think at Copper Canyon or someplace around there and she gave me the number for them and I tried to get information from them and they didn't have any, which I am kind of leery about. I kept trying to check the internet and kept trying to check this and trying to check that, I

called information and I could not get a number, and finally, that spring the receptionist at Our Children's House, which I became very good friends with, I was talking to her about it and she was like, 'Well, let me look it up for you.' And I was like, 'You can try, but I can't find them!' And you know, Emily went into therapy and when we came out she was like, 'Here's the information.' And so I was like, 'Okay thanks!' You know after all this, thank you very much.

CB: Well, good. Well, because now they have the internet site that's pretty inclusive and I was just wondering how far that has come.

Marie: I can't really remember, you know I was just checking everything I could. Maybe I was spelling something wrong or typing something in wrong? I don't know what it was but she just popped it up and printed it off for me and it worked!

CB: Did she have to go on a waiting list to get it?

Marie: No not really because I called them, told them about Emily, and he sent out the paperwork. I had to send certain form for her doctor to fill out and then got it all back in and once they got it all, you know, they scheduled her appointment.

CB: That's great.

Marie: I mean it probably took about a month to you know, get all that and everything done.

CB: Um, so any other positive aspects or favorite things about TR that you can think of other than that it's free and it's available.

Marie: Um, it gives Emily a chance to do stuff that she normally wouldn't be able to do because I mean a lot of kids, a lot of her friends they get to do this and that, and she gets to say, 'Hey I ride a horse.' And they are like, 'Wow!'

CB: Exactly. I have heard that a lot actually.

Marie: So, good.

CB: Do you think that Emily would have a different view about the things that she has to overcome like barriers or her favorite things? Do you think she would say anything different? Like what would be her favorite things, or what would be the things she doesn't like about TR?

Marie: If you could actually get an answer from her? (laughs) I mean 'cause we ask her questions all the time and we have to reward it 500 times before we get an actual answer to our question.

CB: Right.

Marie: I mean she's just not understanding what we're asking her. And I think somewhere in there she stops listening. So I think that's part of her problem. (laughing) So I mean if you asked her if she liked to ride Fudge, I really just don't know what she would say.

CB: Really.

Marie: I'm sure she'd be like, 'Yeah!' but she might go off on some other tangent you know and I really don't know what she would say at this point.

CB: That's okay. That's fine!

Marie: But she always makes sure that we have to bring Fudge carrots.

CB: Carrots! Got it. That's huge! Alright, that's it. That's all the questions I have for you.

Transcription for June 19 - Pam

CB: Okay, so Angela participates in TR or hippotherapy?

Pam: Hippotherapy.

CB: And in general tell me how you think hippotherapy has influenced Angela?

Pam: Well I think for one thing it has helped her get used to different situations. She tends to have trouble adapting to new things so it's kind of been a whole new experience for her with the horses and animals and stuff. I think she has gotten a little bit stronger overall and you know just trying to kind of adapt gain muscle strength in different postures and stuff.

CB: How do you think the therapy influences Angela in daily activities like sitting, um self-care, hygiene, dressing herself?

Pam: Probably I mean sitting you know I think she has been able you know it's been kind of slow going but we've probably been able to hold the sitting position a little bit longer than we have before.

CB: Longer.

Pam: Yeah.

CB: In what ways does the horse and the therapy influence your child's attitude as far as like self esteem, motivation, independence maybe? If you have noticed anything at all?

Pam: Um, I mean I think she had a real hard time adjusting, adjusting to it at the beginning, but you know I think once she finally did you know she's, now when she's out there she's very comfortable out there and she's very happy you know interacting with the therapist, you know, on her own. And sometimes that's been hard for her, is separating from me, you know, and going with other people. And so I think that has been a big thing for her and you know I think she quite enjoys it.

CB: Yeah, yeah. How long has she been in therapy?

Pam: Um, she started last September, so that's about nine months I think?

CB: And how old is she?

Pam: She's five, just turned five.

CB: And she has spastic cerebral palsy, correct?

Pam: Mm hmm.

CB: And what parts of her body does it affect?

Pam: Um, I mean her arms and her legs. I mean...

CB: Both sides?

Pam: Yeah.

CB: Okay, describe any changes in Angela's overall physical abilities since participating in hippotherapy. This would be like balance, coordination. We already talked about sitting. Motor control. Maybe perception? Sensory perception?

Pam: Probably um, you know just overall strength would be a little bit stronger and um, she's legally blind, she has cortical visual impairment, um, but over the last year or two. And a lot from the stuff we've done I'd say over the last nine, ten months she has been

more aware. More engaging visually and kind of looking around and interacting with people and things around her where as before she just wouldn't do that often.

CB: Maybe noticing like other horses passing or different things like that?

Pam: Mm, hmm. (nodding)

CB: And so you would say peripheral vision better? Or?

Pam: Yeah, yeah.

CB: Is there anything you have been doing differently starting in September when you started hippotherapy that would have changed her attitude or physical ability besides the hippotherapy?

Pam: Um, I mean that was really the biggest main thing. I mean, you know, she goes to school three hours a day and within a month or two of that time they did start having an occupational therapist work with her that hadn't before.

CB: That would be at the school?

Pam: Mm hmm. At the school. Um so some of the stuff they do would have been slightly different that what had been done before, so um, but otherwise yeah.

CB: Had she had occupational therapy before?

Pam: She hadn't for the last year, but you know before that, you know from birth to three she had had it.

CB: Does Angela appear to be scared of the horse?

Pam: No, no. Like I said, at the beginning, yeah. But no, now I think she does fine.

CB: Okay, what are some barriers, or hurdles that you or Angela have had to overcome in your experience with hippotherapy? And think of anything, like as far as the drive, or does it cost too much, or maybe there aren't any hurdles or...

Pam: Um, probably the biggest thing was the cost. And we had wanted to start doing it a year before we ever did, but you know our insurance doesn't pay for it and it is quite expensive to do and we couldn't afford that extra expense on top of all her other stuff. And so it wasn't until she was able to get some funding through like Denton County MHMR that we were finally able to work it out for her to start coming. I mean that's been the biggest thing. And I mean, you know, the distance, you know, it's like a three hour round trip to come and do it but that's minor. You know it's definitely worth it.

CB: Good. Um describe to me what kind of help that you get from Denton County MHMR?

Pam: It's their In Home and Family Support program. So um, they you know it's like up to \$2,500 a year per family and child that you can use. And you know I guess it's set up you know to help the child be able to live at home and avoid going in to a group home or an institution like their setting and so it can be used for a variety of things and uses. And we have chosen enter her in to that. It mostly covers the cost of everything and we just have small supplemental (payments).

CB: Okay, right. Yeah. That's nice, that's really good.

Pam: Oh yeah.

CB: I bet. What would you say are the most positive effects of hippotherapy?

Pam: Um, you know I think the strength that she has developed, I think, you know, and is able to adjust to new things, and you know develop probably a little more awareness and confidence in things.

CB: Do you think Angela would have a different view of the barriers to coming here or favorite things to coming here than you do?

Pam: I mean obviously she could care less about the funding. I mean and yeah, the time in the car and unless the air conditioner is not working she is perfectly fine! (laughing) As far as the things she might enjoy, you know I think she has fun with it, you know, it's kind of fun with the different noises that are out here. And um, she enjoys the therapists and the other workers that work with her and stuff.

CB: Alright, that's all I have. Thank you so much!

Pam: Well, that was easy!

Transcription June 20 – Allie

CB: Anne has been in hippotherapy for how long?

Allie: Three years on and off.

CB: Has she ever done therapeutic riding? Or has it always been hippotherapy?

Allie: Always been hippotherapy.

CB: How old is she?

Allie: She's Six.

CB: And just in general, tell me how you think the hippotherapy has affected (Anne).

Allie: Anne, we were told she would never walk, or speak and it has been major.

CB: So you have seen improvements?

Allie: We go in stages of improvement and then we go stagnant and then we go major improvements.

CB: So she often times plateaus and then keeps improving?

Allie: Mmm, hmmm.

CB: How do you think the therapy has influenced Anne in daily activities like sitting, standing...

Allie: Well it's improved her because of walking and um, she's more vocal after these things.

CB: How about self-care, hygiene, dressing herself?

Allie: We're slowly getting there. (laughing) We're still getting on that one!

CB: Right, right.

Allie: I mean she can do it but she doesn't do it. It's a constant battle.

CB: Okay, in what ways does the horse and the therapy influence her attitude, her self esteem, motivation? Maybe her independence?

Allie: Everything.

CB: All of those.

Allie: Mmm, hmmm. She gets upset when she doesn't come so we have to tell her that Happy (the horse) is on holiday, or Happy's sick so that we can get through a week!

CB: Uh, huh. So what about her self-esteem, like do you feel like she is carrying herself more confidently, maybe? Or has she always kind of out going?

Allie: No, she has become more outgoing since...

CB: Oh, really?

Allie: She used to be shy wouldn't talk to nobody.

CB: Do you think that has to do with the therapy, or maybe the therapist around?

Allie: I think it's every aspect they have pushed her. I couldn't name it to one thing.

CB: Okay.

Allie: But she would sit up there and she would never talk to them at one stage so...

CB: Very good. Describe any changes in Anne's overall physical abilities since participating in...hippotherapy. I know we already talked about her walking, but I know they are working on having her move across laterally and arm strength. Has that...anything you have noticed?

Allie: They have helped her on every aspect of her. She was always very tight which we are back at at the moment because we took her out for six months, but she wouldn't even climb stairs and between here and therapies, and swim therapies everything has pulled in together. And this is one thing that I was very reluctant to do because I have three other children and I didn't know how to juggle it and there was another mother who has a child with cerebral palsy, severe, and she finally got me to come and ever since we have been coming.

CB: Um, you had mentioned before her sensory, or her senses. Maybe her speech? How do you think that has changed?

Allie: Oh, she's more vocal. More outgoing.

CB: And what about, she's never had any problems with vision?

Allie: Vision has always been good.

CB: Or depth perception or all that has always been good?

Allie: I think so. I don't know, I have had so many tests on her I lose track after a while.

CB: Right. Is there anything you have been doing differently since the time you started hippotherapy that might account for some of the changes? I know you had mentioned swimming?

Allie: She's been in lots of different therapies and we always work at home with her, a hard time. I mean she doesn't just go away from here in a week and get away with nothing. I mean she gets worked on in different angles all the time. Or aspects, sorry.

CB: Right. Um, has she ever appeared scared of the horse?

Allie: Once.

CB: I don't really know what happened, but Happy got upset with her or something and the next time she wouldn't come back and go on Happy and they put her on Legend and she got upset about that, but she didn't want to get on Happy. But they finally worked her back in and it only took like thirty minutes and they got her back on.

CB: On to Happy then?

Allie: (Nodding yes)

CB: Okay and was that like the first time she'd ever ridden?

Allie: No it was in the middle. And Happy just wasn't behaving.

CB: Oh, I see.

Allie: But that's *her* horse. You can ask anyone. That's hers!

CB: So when you very first started, she wasn't scared in the very beginning?

Allie: Nope. She loves animals and she loves babies.

CB: Yeah, I noticed she wanted to go see the baby horse. That was one of the first things she said. What are some barriers or hurdles that you and or Anne have had to overcome with your experience with hippotherapy? I know you had kind of already mentioned having three other kids and I am sure it is hard to handle the schedule? Or maybe cost or the drive?

Allie: Actually, we have been lucky on cost because the insurance has covered most of it. And all their volunteer work has been great. It's hard on the other kid's when they were

younger because they didn't want to sit in here for an hour or two hours. But now they are old enough that the oldest one stays home or what have you.

CB: Yeah. SO you'd say probably the biggest barrier would be the time? Scheduling?

Allie: Scheduling. And it's not their fault, it's my fault.

CB: What would you say are some of the most positive aspects of your experience here?

Allie: Just everything. What they have done with her. And they are friendly and they push her which is one thing I didn't want. But when we started with everybody, because we did have one bad experience, but ever since I have said, 'You push her, you make her do it.'

CB: So you would say the improvement you have seen would be the most positive experience?

Allie: Mmm hmmm.

CB: What do you think is her favorite thing about being here?

Allie: Riding Happy. Giving Happy treats.

CB: Do you think that, we kinda talked about this, that your view about the barriers or the favorite things would be different than yours? What do you think would be her barriers or hurdles that she has to over come to be here? Or maybe she has none?

Allie: She doesn't like being stretched and having to have that before she rides the horse is one of the hardest things. And she has a way of, if someone doesn't know her she wraps them around her little finger to get people to do things and everyone needs to know that she can't do that.

CB: Anything else you want to mention about your experience with hippotherapy?

Allie: Just one of the best things we ever did. And it was one of the hardest things to do.

CB: Hardest things, why?

Allie: Just because of schedules and I didn't know how much more I could take and how much more she could take. Because we were already in physiotherapy, swim therapy, speech therapy. And we were driving from Gainesville and we were driving here and then we'd be going to Sherman for therapy. So we were just driving.

CB: Lot's of time in the car. Okay that's all we have! You can go ahead and answer that (ringing phone) Thank you so much...

APPENDIX H

Semi-Structured Interview Guide

Semi-Structured Interview Guide
For Parents with Children with CP in TR or Hippotherapy

Research on the influence of TR and hippotherapy will serve to inform parents on their choices in therapeutic modalities in regards to children with spastic cerebral palsy. The purpose of this study is to explore how parents of children with spastic cerebral palsy perceive the influence of TR and hippotherapy.

- 1) Which does your child participate in? TR or hippotherapy? _____
- 2) Please tell me how you think TR/hippotherapy influences your child?
- 3) How do you think the therapy influences your child in daily activities? (sitting, standing, self-care, hygiene, dressing)
- 4) In what ways does the horse and the therapy influence your child's attitude? (self-esteem, motivation, independence)
- 5) Please describe any changes in your child's overall physical abilities since participating in TR. (balance, coordination, motor control, sensory and perception etc.)
- 6) Is there anything else you have been doing differently during this time aside from TR/hippotherapy that you think might have had some influence on his/her attitude and physical ability?
- 7) Does your child appear to be scared of the horse? If yes, do you think this affects the TR/hippotherapy?
- 8) What are some barriers or hurdles you and your child have had to overcome in your experience with TR/hippotherapy?
- 9) What would you say are some of the most positive aspects of your child's experience with TR/hippotherapy? And yours?
- 10) Do you think your child would have a different view of barriers or favorite things about TR/hippotherapy from what you've described to me today?