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### The Parental Perception of the Effects of Therapeutic Riding on Children with Disabilities' Academics Before and During COVID-19

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The Parental Perception of the Effects of Therapeutic Riding on Children with Disabilities'  
Academics Before and During COVID-19

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Submitted in Partial Completion of the  
Requirements for Commonwealth Honors in Special Education

Bridgewater State University

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## Introduction

The search for effective forms of intervention is ongoing and therapeutic riding is emerging through research as a successful form. It is now more important than ever to discover effective interventions as the COVID-19 pandemic has jolted the education of many students, especially those with a disability. Most teachers were forced to implement an online teaching method to continue serving their students safely. Even when special education institutions remained open, many parents elected to keep their children home due to medical vulnerability and the risks that attending in-person education posed (Asbury et al., 2021). According to, Raghul et al. (2021) , 93.9% of the 30 special educators in their study reported: “difficulties in meeting the learning needs of the students” during online learning (p.1250). During this time of online learning, parents of students with exceptional needs were required to become their teachers and help guide them through school in addition to their other responsibilities. This research aims to evaluate parental perceptions of the effects of therapeutic riding on their children’s academic performance before and during COVID-19.

Therapeutic riding and Hippotherapy are both types of equine therapy, yet they are different in distinct ways. THR refers to a type of treatment that includes both riding and taking care of the horse, such as grooming and feeding (Margaret et al., 2016). This type of treatment differs from hippotherapy because hippotherapy uses the horse’s movements in the treatment of the child, not the act of properly riding the horse. In contrast, therapeutic riding involves instruction on riding the horse (American Hippotherapy Association, 1992). There is a far wider pool of research on hippotherapy than therapeutic riding. Much of the research on therapeutic riding has been done on the physical benefits of the treatment, such as posture, stability, and motor function (Lehram et al., 2001). Evidence also supports that therapeutic riding is an

effective intervention to improve individuals' communication skills, social skills, and overall mental health (Margaret et al., 2016). Research suggesting cognitive and verbal improvements shows promise that therapeutic riding will positively affect academic performance.

Current research is lacking in discussing how therapeutic riding impacts the academic performance of individuals with disabilities. In addition, much of the research conducted included a small population of participants and disability categories. There is also a gap in the research indicating parental perceptions, especially within the United States. This study seeks to identify a range of disabilities and survey a larger group of participants across different therapeutic facilities. This study will help to gain an understanding of how parents perceive their children's academic performance, which is particularly important today since parents have played an even more significant role in their children's education over the past two years. Research has indicated that parents of children with disabilities are mainly concerned with supporting their children's educational and mental health needs during the pandemic. The data indicates a need for research on unique interventions that have the potential to support students' academic needs during the current unprecedented state of education.

### **Benefits of Horses**

Horses have been and continue to be studied for their perceived physical and psychological benefits. Yet, there remains to be a gap in the research surrounding the psychological benefits of horses. Currently, anecdotal, and descriptive evidence supports the belief that horses may have a psychological benefit. More scientific research is required to represent this matter fairly (Kendall et al., 2014). To separate the horse's impact from the treatment program, Kendall et al. formulated hypotheses as to why the research has demonstrated that horses have a positive psychological impact on participants. It was hypothesized that one of

three things is possible: the horse is not related to the benefits of the therapeutic treatments; the horse provides a positive context; or the horse has unique abilities to produce the beneficial psychological effects noted in anecdotal research.

Much of the research on horse therapy has been linked to individuals with autism spectrum disorder. When studied together, it is often found that equine interactions profoundly affect many aspects of these individuals' lives. Empathic emotions increased with the multi-sensory experience of equine interactions. The horse's movements, the sensory experiences associated with them, and the horse's demeanor, all contribute to why researchers believe that horses can benefit the development of functional outcomes for individuals on the autism spectrum, especially those pertaining to social functioning (Malcolm et al., 2018). A horse compatible with the rider's personality has also been found to be important in the efficacy of horse-related interventions (Malcolm et al., 2018).

Although often studied alongside individuals on the autism spectrum, horses have also been studied with other populations. Horses have benefited individuals with behavioral and attention challenges (Norwood et al., 2021). Equine therapy has been studied regarding both behavior and attention, but interestingly there were benefits found when individuals interacted with the horses without therapeutic treatment. When equine interventions, excluding a therapist, were used, it decreased behavioral challenges and attention and hyperactivity symptoms (Norwood et al., 2021). Equine-facilitated psychotherapy is a form of equine therapy that utilizes the horse's unique properties by clinicians to gain more insight into their clients (Karol, 2007). This research supports the third hypothesis from Kendall et al. that horses can produce psychological benefits in those who interact with them through their therapeutic properties.

Further research must be conducted to provide evidence if the third hypothesis is correct, but current research presents promising results that equine interventions are beneficial for all.

### **Equine-assisted Therapy (equine therapy)**

Equine-assisted therapy is a broad term that encompasses a variety of equine-related therapies. This intervention is a type of animal-assisted therapy that has been found to have many benefits for people's overall well-being (Portela-Pino et al., 2020). Hippotherapy and therapeutic riding are two types of equine-assisted therapy widely used. Equine-assisted therapy is traditionally used for its physical benefits, as seen in studies conducted with participants with cerebral palsy, Down syndrome, and neuromuscular diseases (Champagne & Dugas, 2010; Debusse et al., 2005; Stergiou et al., 2017). However, an increasing number of studies are finding that equine-assisted therapy also has many psychological benefits for those participating.

### **Hippotherapy**

Hippotherapy is a subtype of equine-assisted therapy that is used as a form of occupational, physical, or speech therapy and involves professionals of each treatment type, a horse trainer, and riding instructors on both sides of the horse (Koca & Ataseven, 2016; Silkwood-Sherer et al., 2012).

Hippotherapy takes place in a unique, non-traditional environment that surrounds the client with others who are there solely for the horses. This contrasts with the traditional treatment setting of being surrounded by doctors and other therapists. This setting and the presence of other animals is an aspect of this non-traditional intervention that has been seen to engage clients in the treatment process (Marchiş et al., 2017). The emotional connection felt between the client and the horse is another unique factor attributed to the success of using hippotherapy as an intervention (Marchiş et al., 2017).

For maximum results, professionals are required to tailor the hippotherapy treatment to the needs of their clients. This can be accomplished by manipulating the horse's direction and pace (Shurtleff et al., 2009). When treatment is tailored, research has shown a multitude of benefits that can come from this intervention. Individuals with cerebral palsy, Down syndrome, autism spectrum disorder, and other disorders affecting movement often utilize hippotherapy as a form of physical and occupational therapy. Improvements in balance, motor control, posture, sensory integration, muscle tone, gait, and strength can all be attributed to the successful implementation of a hippotherapy program (Zadnikar & Kastrin, 2011). Improvements in these physical aspects can substantially enhance an individual's ability to perform daily tasks, leading to increased independence and autonomy (Murphy, 2008). When a speech therapist is incorporated into the treatment, there have also been benefits in speech, language, and cognitive functions (Koca & Ataseven, 2016). Improvements in all cases result from the therapists' incorporation of the horse's gait, movements, and sensory stimulation (Koca & Ataseven, 2016).

Further research is needed to determine the efficacy of this treatment for a wide range of populations due to the small sample sizes that are common among the presently available research. There is also a need for further research outside individuals with cerebral palsy and a deeper investigation into the psychological benefits.

### **Therapeutic Riding**

Therapeutic riding (THR) contrasts with hippotherapy in how the intervention is implemented. Therapeutic riding has less of a focus on the horse's movements and more of a focus on the actual act of riding and experiences with the horse. Therapeutic riding also differs from traditional recreational riding because each lesson is adapted and tailored to the individual rider's needs (Kaiser et al., 2004). A clinician or doctor does not administer this type of

intervention. Instead, it is taught by a therapeutic riding instructor with the primary goal of creating a therapeutic connection between the client and the horse (le Roux & Boyd, 2017). The horse and rider's connection are at the core of the benefits found when utilizing therapeutic riding. Like hippotherapy, therapeutic riding creates a therapeutic experience hidden behind an enjoyable activity, increasing the connections amongst those involved.

The environment of a therapeutic riding facility holds similar benefits to the environment of someone participating in hippotherapy. However, therapeutic riding presents more opportunities for riders with disabilities to interact, positively affecting the participants' communication and social skills (le Roux & Boyd, 2017). The connections built between the rider and the horse, and instructors are also essential to the success of THR. The horse and instructors provide feedback in the form of positive reinforcement that creates a comfortable and safe environment that allows for improvements in self-efficacy and social and emotional learning (Westerman et al., 2012).

Therapeutic riding has many similar benefits compared to hippotherapy; however, it is often noted as advantageous outside of physical benefits. As briefly mentioned, this intervention has the potential to help individuals with their social and communication skills. This includes skills such as initiating conversations, maintaining eye contact, and turn-taking within conversations (Al-Hmouz & Arabiat, 2015). The social and communication skills developed during therapeutic riding have generalized to other contexts, further enhancing the participants' quality of life (Gabriel et al., 2015; Martin et al., 2020).

Benefits in participants' executive functions such as organizational skills, planning, memory, and social inhibition have also been identified in treatment utilizing THR (Aviv et al., 2021). Executive functioning deficits are often found in individuals with disabilities such as



autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD). Deficits in executive function led to more significant challenges in school settings, often resulting in feelings of failure and decreasing self-esteem (Aviv et al., 2021). Increases in executive functioning were not linked to increases in self-esteem; however, THR increased self-esteem, which aided in the development of executive functioning (Aviv et al., 2021).

Autonomy and independence are two aspects of life that individuals with disabilities are sometimes limited. THR has shown to help these individuals strengthen their skills to be more active participants in their basic needs. Research has shown physical improvements in mobility and posture that have increased individual independence and ability to navigate their environment (Lehrman et al., 2001; Lovrić et al., 2020). Outside of this, THR enables individuals with disabilities to conduct all necessary personal hygiene matters and clothe themselves (Lovrić et al., 2020).

Although many benefits of THR have been found throughout research, there is some evidence that contradicts this. One study found that therapeutic horseback riding does not have a clinically significant impact on children with cerebral palsy (Davis et al., 2009). Another study conducted on children with ADHD found that therapeutic riding can have some benefits, but they are not significant enough to recommend it as a therapeutic service (García-Gómez et al., 2016). The lack of empirical evidence surrounding the matter makes the extent of the benefits of therapeutic riding interventions unclear.

## **COVID-19**

Over the past two and a half years, the COVID-19 pandemic has caused pervasive challenges for countless people. However, children with disabilities and their families are among the populations of people who have felt the effects of COVID-19. Students with disabilities

receive individualized instruction and services per their individualized education programs during the school year. However, when the COVID-19 pandemic made it unsafe to attend school in person, many schools resorted to virtual learning platforms. Teachers and their students were unfamiliar with this learning format, and teachers found themselves in a situation where they were unable to provide the same quality education despite their best efforts (Adedoyin & Soykan, 2020). Many lawsuits have been filed with the federal and state governments due to children being denied a free appropriate public education during the pandemic (Porter et al., 2021). The detrimental effects on children's education during the pandemic are hypothesized to have long-lasting impacts (Porter et al., 2021).

The pandemic's impact on the emotional and mental health of students with disabilities and their families is of equal concern. Fear, distress, anxiety, stress, and low mood were reported by parents of children with disabilities and their children during the pandemic (Asbury et al., 2021). The role of parents who have students with special needs in their children's education greatly increased, which significantly increased the pressure felt on those families, putting those families at a higher risk of mental health challenges (Asbury et al., 2021). The amount of stress produced by the pandemic has displayed inequalities, showing higher stress levels on children with disabilities and their families compared to those who do not have disabilities (Asbury et al., 2021; Tso et al., 2020). One major factor contributing to this was parents needing to reduce work time to closely supervise children at home (Tso et al., 2020). The increased pressure and mental health struggles due to the pandemic have created an urgent need for effective interventions both in and out of the classroom.

## **Conclusion**

Equine-assisted therapies have existed within the literature for years; however, some gaps remain. Empirical evidence of the physical benefits of hippotherapy has become widely available, but therapeutic riding remains almost solely supported by anecdotal evidence. Presently, improvements in symptoms of autism spectrum disorder and ADHD, psychological benefits, quality of life, and a range of physical refinements have been identified after using a therapeutic riding intervention. The need for new interventions is more significant than ever as the pandemic results are felt worldwide. Currently, no research has studied how therapeutic horseback riding impacts the academic performance of students with disabilities during the pandemic; therefore, this research seeks to address that gap.

## **Methodology**

### **Research Model**

Parents or legal guardians of riders with disabilities participating in a therapeutic riding program were surveyed regarding their perception of the effects of therapeutic riding on their children's academic performances before and during the COVID-19 pandemic.

A survey of both quantitative and qualitative questions was created using Qualtrics Survey software. Using both quantitative and qualitative data, researchers could determine the exact population that contributed to the survey while capturing the participants' experiences. Data collected contributes to a growing field of research seeking to determine the effectiveness of therapeutic riding as a unique intervention for individuals with disabilities. The survey questions targeted both how the pandemic has affected their child's education and how therapeutic riding has affected their child's academics and autonomy. The institutional review board reviewed and approved the study and the proposed survey before it was sent to the participating facilities.

The survey results were analyzed using bar graph displays and thematic analysis. Bar graphs were created for quantitative questions using software in Qualtrics Survey software that allowed researchers to generate a report and compare responses. A thematic analysis was conducted for qualitative questions, and all data were coded to identify any consistent themes. Each theme was analyzed to determine how it portrays the participants' perceptions.

Voluntary response sampling was utilized. The owners/directors of three therapeutic riding facilities (Furnace Brook Farm, Horse SenseAbility, and Ironstone Farm) were provided with an anonymous survey link and a printable poster for recruiting participants, in addition to information about the study and its purpose that could be given to the participants. They then provided their clients with the anonymous link and their results were recorded using the Qualtrics Survey software. All communication occurred through the owners/directors of these facilities to preserve the participant's anonymity. Two weeks after the survey was distributed an email was forwarded to the facilities to remind them of the survey and to answer any questions. Access to the survey officially closed four weeks after the email reminder was delivered.

### **Setting**

Furnace Brook Farm is located in Marshfield, Massachusetts. Although an established farm since 1989, Furnace Brook Farm transformed into a therapeutic riding facility in 2016 when the farm director acquired her Certified Therapeutic Riding Instructor certification. Furnace Brook Farm currently serves the Justice Resource Institute's program, "Trot On" (Furnace Brook Farm, n.d.). FBF provides hippotherapy, horse-assisted mental health therapies, and therapeutic riding instruction as its three equine therapeutic service alternatives (Furnace Brook Farm, n.d.). Their philosophy is based on the idea that being around horses has a healing power (Furnace

Brook Farm, n.d.). Lessons may include a range of horse-related activities, including riding, feeding, walking, and playing games with the animal (Furnace Brook Farm, n.d.).

Horse Senseability is hosted by Wildstar Farm in Sherborn, Massachusetts. They offer therapeutic riding and horsemanship lessons for both adults and children with disabilities (Horse SenseAbility, 2019). Clients able to steer the horse can go outdoors and on trails during their therapeutic riding lessons.

Ironstone Farm is located in Uxbridge, Massachusetts. Ironstone farm's program, Challenge Unlimited, Inc., serves individuals with disabilities six years and older unless they are pre-enrolled in early intervention services, where they can start therapeutic riding lessons as young as three-years-old. The farm emphasizes the therapeutic effect that horses, the farm environment, and the act of riding have on individuals who participate in the program (Ironstone Farm, n.d.). Improving a client's physical ability and confidence is the program's goal.

### **Survey Contents- Appendix A**

Question #1 ensures that the participant is a member of the targeted population of parents with a school-aged child with disabilities who receive therapeutic riding services. Questions #2, #3, and #4, highlight the demographic information of the survey respondent, including their gender, age, and race. The child's gender, age, and disability were assessed in questions #5, #6, and #7. The length of time their child has received therapeutic riding lessons and other interventions they received alongside TR were determined in questions #8 and #9. Question #14 allowed further elaboration on the parent's perception of the intervention. All questions asking personal information included an option for "other" and "prefer not to say". No questions were marked as required. All answers were recorded anonymously.

### **Hypotheses**

**Hypothesis 1:** COVID-19 has profoundly impacted children with disabilities' academics, negatively impacting their quality of education.

**Hypothesis 2:** Therapeutic riding has greatly improved children with disabilities' academics.

**Hypothesis 3:** The most significant contributing factor in therapeutic riding's effect on children is the horses.

**Hypothesis 4:** A child's autonomy and confidence will have been greatly improved through therapeutic riding services.

### **Rationale**

The lack of quantitative data and the limited number of participants makes this study challenging to generalize. However, the collected qualitative and quantitative data provide valuable contributions to existing literature regarding the perceptions of therapeutic riding on children with disabilities. This research included questions that specifically targeted the effects of the pandemic and how therapeutic riding worked to balance the hardships that the pandemic created for families with children with disabilities (Questions #9 and #10). Targeting the intervention's effects on academics is nominally included in past studies, which highlight the importance of the present study. Furthermore, the perceptions of parents/guardians of individuals with disabilities are a point of view that is frequently missing from relevant research.

### **Results**

Despite extensive outreach to therapeutic riding facilities in the surrounding Massachusetts area, there was a limited number of participants. Out of seven facilities that were contacted, only three decided to participate in the study. Out of those three facilities, only ten responses were recorded. Due to the lack of data able to be analyzed, the results of this study are

of limited benefit in supporting existing studies that seek to establish the effectiveness of therapeutic riding.

All 10 participants were parents of a school-aged individual with disabilities who received therapeutic riding services. 10% of participants were between the ages of 20 and 40 years old. 90% of participants were between 40 and 60 years old. All respondents were female. Nine participants were Caucasian, and one participant was Hispanic/Latino. Four parents reported that their child was female, and six parents reported that their child was male. Three of the participants' children were between five and ten years old, four children were between 10 and 15 years old, two children were between 15-20 years old, and one was between 20 and 25 years old or older. Parents reported that four children had autism spectrum disorder, one had autism spectrum disorder and ADHD/ADD, two children had an intellectual/developmental disability, one child had an intellectual/developmental disability and autism spectrum disorder, one child had Cerebral Palsy, and one child had an intellectual/developmental disability and a social/emotional disability. It was reported that 50% of the children had been receiving therapeutic riding services for five or more years, 30% had been receiving services for three to four years, 10% had received services for one to two years, and 10% had received services for less than a year. In addition, the therapeutic horseback riding, 90% of participants received speech and language services, 50% received physical therapy, 60% received occupational therapy, 20% received Counseling/psychiatric services, 30% received ABA services, and 20% responded that they received other services. One response regarding other services included "music therapy", and another response highlighted "academic services in a substantially separate classroom".

## **Hypotheses**

**Hypothesis 1:** COVID-19 has had profoundly impacted children with disabilities' academics, negatively impacting their quality of education.

Research conducted during the pandemic concluded that teachers felt unable to provide quality education to students due to their unfamiliarity with online learning (Aedoyin & Soykan, 2020). Reports of lawsuits being filed due to children being refused a free appropriate public education and the long-lasting effects of the detrimental impact of the pandemic on the education system have been documented (Porter et al., 2021). Therefore, it was expected that the research would show that COVID-19's impact would be both profound and that the quality of education children receive during the pandemic is worse than before the pandemic.

Question #10 of the study asked participants to rate pandemic's impact had had on their child's academics from none to profound. Exactly 50% of respondents reported that the pandemic had a moderate impact, and 50% said it had a mild impact. In continuation of this question, parents were asked in question #11 if their child's education quality had been impacted compared to the quality of education they received before the pandemic. The respondents were asked to rate the impact of the pandemic by selecting worse quality, better quality, or same quality. 60% of respondents said that the quality of education their child received during the pandemic was the same as before the pandemic. 20% said it was better quality, and the other 20% said it was worse.

Hypothesis one was not supported. None of the survey participants felt that the pandemic had profoundly affected their child's academics. Similarly, only 20% of respondents reported that the quality of their child's education during the pandemic was worse than it was before the pandemic.

**Hypothesis 2:** Therapeutic riding has greatly improved children with disabilities' academics.



Although existing research lacks evidence that therapeutic riding has an impact on an individual with disabilities' academics, there is research that links therapeutic riding to improvements in both cognitive and verbal performance (Margaret et al., 2016). Furthermore, executive functioning skills often inhibit a child with ADHD's ability to perform in school. Therapeutic riding has been linked to improvements in executive functioning (Aviv et al., 2021). Enhanced executive functioning skills may improve children with disabilities' academics.

Question #12 asked participants how therapeutic riding impacted their child's academics. They were asked to rate it by selecting none, greatly worsened, moderately worsened, mildly, worsened, mildly improved, moderately improved, or greatly improved. 10% of participants reported that therapeutic riding greatly improved their child's academics, 60% said therapeutic riding moderately improved their academics, 20% said it mildly improved, and 10% said it had no impact.

Hypothesis two was mainly not supported as only one respondent reported that therapeutic riding greatly improved their child's academics.

**Hypothesis 3:** The most significant contributing factor in therapeutic riding's effect on children is the horses.

One of the main hypotheses as to why therapeutic riding has positive psychological impacts is because the horse either provides a positive context or has unique abilities to create psychological benefits (Kendall et al., 2014). Individuals with behavioral, attention, and hyperactivity symptoms who worked with horses without therapeutic treatment were found they had a decrease in their behavioral, attention, and hyperactivity symptoms (Norwood et al., 2021). Direct benefits tied with the interaction of horses led to hypothesis three.

In question #13, parents were asked what they felt the largest contributing factor in therapeutic riding's effect on their child was. 20% of parents responded that horses were the largest contributing factor in therapeutic riding's effect on their child. 30% said it was the act of riding, 20% said it was the trainers/facility staff, 20% said it was the environment, and 10% said other. None of the respondents felt that the structure of the riding schedule, the socialization, nor the vocational skills were the biggest contributing factor to therapeutic riding's effect on their child.

The majority of respondents felt that the act of riding was the most impactful factor in therapeutic riding's impact on their child. Two out of ten respondents agreed with Hypothesis 3 that the largest contributing factor in therapeutic riding's effect on children is the horses.

**Hypothesis 4:** A child's autonomy and confidence will have been greatly improved through therapeutic riding services.

A child's sense of autonomy and confidence impacts their performance in school. In addition, one of the greatest pressures that the pandemic put on parents of individuals with disabilities was having to closely supervise their children at home (Tso et al., 2020). Therefore, an increase in autonomy and self-confidence are critical skills to improve during the COVID-19 pandemic. Therapeutic riding has proved to improve individuals with disabilities' self-confidence and autonomy (Farias-Tomaszewski et al., 2001).

Question #14 asked respondents how therapeutic riding had affected their child's level of autonomy. They were asked to rank it by selecting moderately worsened, mildly worsened, mildly improved, moderately improved, or greatly improved. 30% of participants reported that their child's level of autonomy greatly improved, 50% reported that it moderately improved, and 20% reported that it mildly improved. Furthermore, after a thematic analysis, confidence was one

of the two prevalent themes when parents were asked to elaborate on therapeutic riding's effect on their child. 75% of the respondents stated that their child's confidence improved.

Hypothesis 4 was supported. Despite only 30% of participants reporting that their child's autonomy greatly improved, all participants reported that their child's confidence improved to some degree. Furthermore, confidence was a prominent theme in the open responses, which supports Hypothesis 4.

### **Theme: Physical Strength**

Physical strength was identified as a prominent theme in addition to confidence. 50% of respondents stated that therapeutic riding services have increased their child's physical strength. Although hippotherapy is traditionally the equine therapy used to support physical strength and mobility, physical benefits from therapeutic riding appear to be evident.

### **Discussion**

Questions in the survey targeted a wide range of factors that allow this research to study the effects of therapeutic riding on children with disabilities' academics. Overall, the survey supports previous research that therapeutic riding has many beneficial effects. Although the degree to which therapeutic riding impacts children with disabilities widely varies, no respondents reported that it had no effect. Furthermore, the impact of the COVID-19 pandemic on children with disabilities' academics in this sample varied, but the participants reported that their child's academics were affected. Therapeutic riding's effect on children with disabilities' academics was overall reported to moderately improve their academics.

Although the hypotheses proposed were not fully supported, the research is significant as it begins to fill the gaps in research regarding therapeutic riding's effect on academics and to counter the detrimental effects on children with disabilities' academics due to the pandemic. The

sample size in this study was very limited, which is a recurring problem in research regarding therapeutic riding. Small sample sizes prevent researchers from being able to generalize to the general population. Also, a lack of a control group to control for the confounding variable of the effect of in-school therapies was a limitation of this study. Furthermore, another limitation of this study was the inability to obtain a large pool of quantitative data. Most of the research developed in this field has relied on qualitative and anecdotal evidence. Moreover, there is an extreme lack of research regarding therapeutic riding's effect on academics and therapeutic riding services during the pandemic. This limitation makes it difficult to compare and contrast the present study with previous research.

### **Conclusion**

The purpose of this study is to enhance the understanding of the effectiveness of therapeutic riding as a unique intervention. Some children with disabilities are resistant to other forms of therapies, making therapies such as therapeutic riding significant. It is also specifically significant during this period of time, as previous studies have documented that the pandemic has had a profound impact on individuals with disabilities. Although the impact of therapeutic riding on children with special needs' academic performances was inconclusive, there was unanimous reporting that children's confidence was enhanced by participation in therapeutic riding.

### **Further Research**

Further research should employ larger sample sizes to examine therapeutic riding interventions. Examining how therapeutic riding impacts academic performance is still lacking from the literature, and more studies are needed to increase our understanding and new potential use of therapeutic riding. It is also suggested that further researchers investigate how

confounding factors, such as socioeconomic status, academic placement, other therapies, and support systems, play a role in how therapeutic riding impacts participants with special needs.

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**APPENDIX**

**A. Survey**

**APPENDIX A**

1. Are you the parent/guardian of a school-aged individual with disabilities that is receiving therapeutic riding services?
  - a. No
  - b. Yes
2. What is your age?
  - a. 1-20
  - b. 20-40
  - c. 40-60
  - d. 60-80
  - e. 80-100
3. How do you identify
  - a. Female
  - b. Male
  - c. Transgender
  - d. Other
  - e. Prefer not to say
4. What is your race?
  - a. African American/African/Black/Caribbean
  - b. Asian/Pacific Islander
  - c. Caucasian
  - d. Hispanic/Latino
  - e. Native American
  - f. Other
5. How does your child identify?
  - a. Female
  - b. Male
  - c. Transgender
  - d. Other
  - e. Prefer not to say
6. What is your child's age?
  - a. 1-5
  - b. 5-10
  - c. 10-15
  - d. 15-20
  - e. 20-25+
7. What is your child's disability? (Select all that apply)
  - a. Intellectual/Developmental Disability
  - b. Autism Spectrum Disorder
  - c. Cerebral Palsy
  - d. Specific Learning Disability
  - e. ADHD/ADD
  - f. Traumatic Brain Injury
  - g. Muscular Dystrophy
  - h. Social/Emotional

8. How long has your child been receiving therapeutic riding services?
  - a. <1 year
  - b. 1-2 years
  - c. 3-4 years
  - d. 5 or more years
9. What other services does your child receive in addition to therapeutic horseback riding?  
(Select all that apply)
  - a. Speech and language
  - b. Physical Therapy
  - c. Occupational Therapy
  - d. Counseling Services/Psychiatric
  - e. ABA Services
  - f. Other
    - i. \_\_\_\_\_
10. What impact has COVID-19 had on your child's academics?
  - a. Profound
  - b. Moderate
  - c. Mild
  - d. None
11. How does your child's current quality of education during the COVID-19 Pandemic compare to the quality of education they were receiving before the pandemic?
  - a. Same quality
  - b. Better quality
  - c. Worse quality
12. What impact do you feel therapeutic horseback riding has on your child's academics?
  - a. Greatly improved
  - b. Moderately improved
  - c. Mildly improved
  - d. Mildly worsened
  - e. Moderately worsened
  - f. Greatly worsened
  - g. None
13. What do you feel is the largest contributing factor in therapeutic riding's effect on your child?
  - a. Horses
  - b. The act of riding
  - c. Trainers/Facility staff
  - d. Environment
  - e. Structure of schedule
  - f. Socialization
  - g. Vocational Skills
  - h. Other
    - i. \_\_\_\_\_
14. How has therapeutic riding affected your child's level of autonomy?
  - a. Greatly improved

- b. Moderately improved
  - c. Mildly improved
  - d. Mildly worsened
  - e. Moderately worsened
15. Please feel free to elaborate on your perspective on your child's experience with therapeutic riding:
- a. Elaborate here:
    - i. \_\_\_\_\_