

Using Animal-Assisted Therapy to Treat Children with Autism Spectrum Disorder

Introduction

- What is Autism Spectrum Disorder?
 - ASD is characterized by a range of challenges regarding basic social skills, repetition of certain behaviors, as well as challenges with verbal and nonverbal communication (Autism Speaks).
 - There are many forms of therapy to treat children who have been diagnosed with ASD. Within animal-assisted therapy there are many treatment methods.
 - This interest of this study is to see within animal-assisted therapy, which animal has the highest success rates in terms of treating children with ASD.
 - In order to do this, the study will look at using horses, dogs and guinea pigs as therapy animals in animal assisted therapy.

Literature Review - Horses as a Therapy Animal

In the studies, which were previously reviewed before the start of this experiment, that used horses in animal-assisted therapy the participants with ASD were able to ride horses and in some cases groom the horses for the duration of the therapy time.

The results of the studies showed improvement in the participants who interacted with the therapy horses. However, the results weren't conclusive. One study done wasn't sure if it was the interaction with the horses that influenced the improvement, or if it was just the fact that the participant was spending time doing a leisurely activity that resulted in improvement of symptoms (Ward, 2013). In the second study the children who interacted with the horse showed improvements, but the children in the control group also showed some improvement by the end of the experiment, making the results inconclusive (Borgi, 2015).

Literature Review - Dogs as a Therapy Animal

Past studies reviewed using dogs as therapy animals all reported that interacting with dogs has increased social behavior in children with autism spectrum disorder.

Tests done in groups (Becker, 2017), as well as tests done individually in a therapy setting (Fung, 2014) showed that interacting with a dog improved social behavior and benefitted other therapy goals.

Even when a dog is not trained in animal assisted therapy, studies show that children with ASD who have bonded with a dog are significantly more social than their non-dog-owning peers (Carlisle, 2015).

Literature Review - Guinea Pigs as a Therapy Animal

Many of the studies that included guinea pigs were set in a classroom setting. The initial hypothesis was that the introduction of the guinea pig in the classroom would prompt those with an autism spectrum disorder to be more social especially when personally interacting with it.

Results of these studies compared to the control group that did not interact with the therapy animal lead to the conclusion that guinea pigs did have a positive impact on those affected with autism spectrum disorder as they show a significant increase in the frequency of social interactions (Grigore, 2017).

Method - Purpose

The purpose of this study is to determine what kind of animal is the most effective companion for animal-assisted therapy for children with ASD.

We intend for the results of this study to be added to the body of work done on this subject and used to inform future treatment for children with autism spectrum disorder.

Method - Research Questions/Hypothesis

Our main research question was to determine how effective therapy animals such as dogs, horses, and guinea pigs in treating those who have been diagnosed with an autism spectrum disorder.

From the research that has previously been done regarding these different animal therapies it was concluded that dogs are the most effective. This is due to their increased flexibility and accessibility compared to horses or guinea pigs.

Method - Participants/Sampling

For the purposes of this study, the Developmental and Behavioral Health Clinic, located on USU Campus in the Sorensen Center for Clinical Excellence, which performs testing for clients who believe they may have ASD. After the Developmental and Behavioral Health Clinic finishes the testing, they will refer the clients who test positive for ASD to our study, and those clients will make up the participants for this study.

We will recruit a total of 30 participants before starting the study.

Method - Instruments/Variables

The Developmental and Behavioral Health Clinic will test the participants before, to ensure participants with an ASD diagnosis, as well as test the participants after the experiment to see if there was any improvement with any of the subjects who participated, and if so, was the improvement related to a specific therapy animal.

The methods that will be used are:

Autism Diagnostic Observation Schedule (ADOS-2)

Wechsler Intelligence Scale for Children (WISC-V)

Sensory Processing Measure (SPM)

Clinical Evaluation of Language Fundamentals (CELF-5)

Oral and Written Language Scales (OWLS-II)

Method - Data Collection Procedures

In a pretest-test-posttest design, the participants will first establish a baseline by taking the tests listed on the previous slide before beginning the treatment period.

The participants will then be randomly assigned to one of the three groups: Horse, Dog, and Guinea Pig. Each individual in the groups will spend one hour three days a week with their assigned animal type, supervised by a parent or caretaker and a trained observer.

After a total of 24 sessions, or 8 weeks, the participants will retake the assessment tests and their scores will be compared to determine whether and how much their behavior improved.

Method - Data Analysis

In order for the data collected from this study to be statistically significant, the random chance that those who were involved in the therapy had a decrease in the negative behaviors as well as an increase in the amount of time spent socializing with others, needs to be less than 5%. Secondly, the chance that dogs were chosen to be the most effective therapy animal over horses and guinea pigs, needs to be less than 5% as well.

If the data shows a p-value of more than that, the result gathered from the data could have been due to chance rather than dogs being the more effective therapy animal, and the results from the study are inconclusive.

Limitations

Many of the control group also had mild improvement, meaning that there may have been some confounding variables.

Due to the nature of this procedure, it is not possible to for it to be blind. This allows for some possible bias, and placebo effects.

References

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