PERCEIVED INFLUENCES OF EQUINE ACTIVITIES ON INDIVIDUALS WITH DISABILTIIES

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Abstract

Background and aims: There is a widespread stigma surrounding disabilities. To tackle this stigma, emphasis must be placed on the abilities of these individuals. To date, there is inadequate research directed towards the topic of impacts of equine-activities on those with disabilities. Particularly in Ireland, there has been no qualitative studies conducted in this area. The aim of this study is to explore what impacts the equine presence may have in the lives of those with individuals. this research will look at the physical, social and psychological benefits that may arise. **Method:** participants were recruited using non-probability sampling. The target population was individuals who have experience in the equine environment and have also worked alongside those with disabilities. The sample size was six healthy participants (N= 6). The age range was 18-64 years (M= 35.17). Interviews were conducted with each participant via Microsoft Teams. Each interview lasted approximately thirty minutes. See Appendix B for potential questions. The data was then analysed using Braun and Clarke's six phased thematic analysis. **Results:** Five main themes were extracted: 1) Cognitive Abilities, 2) Self-concept, 3) Emotional Transformation, 4) Social Advancement and 5) Physical Development. **Conclusions:** Equine-related activities has been deemed to have a positive impact on individuals with disabilities. It has been said to transform them personally and their lives. It benefits them physically, socially and psychologically. This is thoroughly discussed in this thesis.

Hoof Prints on the Heart: A Qualitative Study on Staff Perceptions of the Influence of Equine-related Activities on Individuals with Disabilities

Introduction

According to a census completed in 2016, 643,131 individuals in Ireland are living with a disability. That is every 1 in 7 individuals in Ireland. A disability is an impairment that limits one's ability and opportunity to perform (Ninivaggi, 2008). Disabilities may be innate or developed overtime **(**Sadock & Sadock, 2003**).** Disabilities influence the extent to which individuals can participate in daily activities (Centres for Disease Control, 2008). No disability affects everyone the exact same (Ecks, Malcolm & Pickersgill, 2018). Although different disabilities affect people in various ways, individuals share the same struggles. According to previous literature, equine activities has been beneficial in improving lives of individuals with different physical disabilities, mental disabilities and many other conditions. Developmental disabilities consist of a group of conditions caused by mental or physical impairments that may occur from birth to the age of twenty-two (Centers for Disease Control, 2008). Individuals with disabilities are greatly susceptible to emotional distress due to barriers that limit their abilities to partake in daily activities (Taylor et al, 2009). This may lead to a decline in physical and mental health for those individuals. These factors exemplify the need for suitable interventions within communities that can aid in ensuring the individuals physical, psychological and social status is optimal (Wing & Gould, 1979).

Challenges faced by Individuals with Disabilities

Individuals with disabilities face many struggles. Many people have expressed that ableism has negatively affected them socially and psychologically (Winchester et al, 2002). Ableism is discrimination and prejudice against people with disabilities (Lehrman & Ross, 2001). For example, individuals often feel shunned by their peers and co-workers, being

made to believe they are not as capable as other individuals or lack of community inclusion, which may result in them leading isolated lives due to their low self-esteem (Myers and Johnson, 2007). Individuals with various disabilities have a common condition which is fear of social interactions. This leads to academic and occupational underachievement (Sadock and Sadock, 2003). There is a need for effective interventions as these individuals must understand their abilities in order to live their life with optimal health. The acquisition of organizational skills, for example, following directions and task completion can help ensure the child is prepared for success in the classroom (National Research Council, 2001). That is the main goal when working with individuals with disabilities, to allow them to lead a life that allows them to feel comfortable and not different. Some common interventions to help improve the lives of individuals with disabilities are speech therapy, occupational therapy, psychological counselling, vision therapy and physical therapy (Bond, Galvin, Holloway, & Roddies, 2018). There is no doubt that this is beneficial, alongside with various medications, however this does not suit every individual. Some individuals do not like the setting or environment of one-to-one therapy sessions (Taylor et al, 2009). From examining previous research, it appears equine interventions may provide support to the individuals in ways that traditional therapy lacks, such as forming a true, meaningful bond with an animal, learning how to trust and develop at one's own pace, with no guidelines or boundaries. They have more control over themselves and their progress.

The Potential of Equine Interventions

Previous literature has supported the notion that equine interventions are a step in the right direction towards helping individuals leads independent and full lives. The positive impacts of equine interventions go as far back as the ancient Greeks. Horse riding was recommended to raise the spirits of the terminally ill (Macauley & Guiterrez, 2004). The horse was viewed as a healer, it was recommended as a rehabilitation programme for the

wounded Roman soldiers in battles (Benda et al, 2003). However, the first known occurrence of an individual with disabilities competently taking part in equine activities was in a competition in 1952 in the Helsinki Olympics. Liz Hartel won a silver medal in this competition, she was a former polo victim (Bertoti, 1988). This sparked an interest in the impacts of equine activities and began to shift the attitudes of the world towards the capabilities of individuals with disabilities (Cassady & Nichols-Larsen, 2004). Previous research has been in support of the idea of equine activities as a form of therapeutic pleasure for individuals with disabilities (Berk, 2004). Equine activities can improve attention, engagement, reciprocal interaction, and communication (Grandin, 2019). Positive equine interventions can cause the brain to process sensory data more effectively, it also enables the brain to release chemical that help reduce stress and relaxes muscles (Bass, Duchown & Llabre, 2009). The animal can be viewed as a multi-sensory component that aids the individuals with absorbing and comprehending their senses (Naber et al, 2019). The warmth, smell, and appearance of the furry coat of the animal sends a plethora of sensory signal to the central nervous system, which effects the motor, visual, proprioceptive, tactile, and vestibular systems (Benda et al., 2003). This encourages the individual to be in touch with their surroundings. This promotes a sense of gratification as they may learn things about themselves, they did not previously know, and raises their confidence levels. Sams, Fortney and Willenbring (2006) explored the effects of therapy incorporating animals versus traditional therapy in autistic children. The results determined that the individuals using animal assisted therapy elicited significantly more social interaction and language use in comparison with the traditional therapy. A case study outlined how an autistic teenager had a tough childhood as she had always been bullied. She had a severe speech impediment and used to be nicknamed “tape recorder”. This individual believed horse-related activities improved her life significantly as she was surrounded by people with the same interests

which made her feel included. This developer her communication and interpersonal skills, which in turn made her more confident. Also, she mentions how the responsibility of caring for horses and cleaning their stables daily taught her essential work skills (Grandin, 2019). Her anxiety was calmed when she was in the barn communicating with horses through just physical contact, which can mean a lot more than words can at times. Bertoti (1988) examined the standing posture of eleven children with cerebral palsy. This was a ten-week programme of therapeutic riding. There was statistically significant evidence obtained from the study to support the idea that therapeutic riding promoted a decreased fear of movement, lessened hypertonicity and improved balance and co-ordination.

The work of Piaget is important for this study as it helps convey the ideas of how equine activities has suggested to work in improving the lives of individuals (Murray et al, 2009). Piaget proposed four stages of predictable levels of thought processing that prosper through sensory, physical and neuromuscular activities in which one interacts and experiments with their environments (Edelman & Mandle, 2002; Murray et al, 2009). Similarly, this study aims to explore how individuals with various disabilities, can develop through interactions and experimentation. Jean Piaget was interested in how children went through stages of life by discovering the world through making mistakes and arriving at solutions (Piaget, 1952, 1970, 1977). He defined a scheme as an internal cognitive structure that enables people to proceed in certain circumstances. Piaget proposed that everyone begins life with a minuscular range of sensory and motor schemes. As individuals re-use these schemes, they become more efficient. Piaget defined three processes explaining how individuals develop their schemes into complex mental processes due to their environment. This is relevant to this study as individuals are also required to develop their interactions with their equine environment into thoughts. Assimilation is when schemes are used to make sense of experiences. For example, an individual would be assimilating to their touch scheme by

rubbing down a horse. Accommodation is when a scheme is developed after acquiring new information. An example in this study would be an individual discovering where the horse likes to be rubbed down. This is a key to developmental change. Here the individual would begin to feel like they could understand the horse. This would help them feel more capable and become significantly more confident in other situations. Finally, equilibration is when accommodation and assimilation is balanced to create schemes suitable for different environments. Here, individuals would be more aware of how to act around horses and begin to develop a sense of what is right and wrong. For instance, they would know they are allowed to stand in-front of the horse and pet his face, however they are not allowed behind the horse in-case he kicks. This illustrates the significance of learning through immediate contact with one's environment, which previously literature has suggested equine activities does (Berk, 2004).

Present Study

The aim of this qualitative study is to explore the perceived health benefits of equine-related activities for those living with disabilities. There are gaps in literature in the topic of impacts of equine activities on individuals with disabilities, particularly in Ireland. Although there has been little research in this area, existing research has suggested that there are positive impacts from equine interventions. This study attempts to explore these impacts in terms of the effects it has on the physical, social and psychological aspect of an individual's life. This is an important area to examine as the stigma behind disabilities are constantly attempting to be tackled. Gaining an insight into the effects horse riding may have on the lives of individuals with disability may provide the foundations for future research to develop

the ideas further. This could lead to a promotion of the awareness of the positive effects, encouraging riding schools to get involved with their local disability centres.

Methodology

Study Design

This study adopts a qualitative approach. A qualitative approach is beneficial as it allows the researcher to live through experiences being explained to them through language (Kalu & Bwalya, 2017). This methodology refers to various data collection and analysis techniques that use purposive sampling and semi-structured, open-ended interviews (Dudwick, Kuchnast, Jones and Woolcock, 2006). Semi-structured interviews are conducted using open-ended questions. A list of these guide questions can be observed in Appendix B. The questions are flexible however, the discussion must omit information regarding the research questions aiming to investigate the benefits of equine-related activities These interviews will take place on a one-to-one basis. This is beneficial as it allows for a lack of bias or influence from other parties (Choy, 2014). This will allow for a reliable and valid formation of themes. These techniques are suitable for this study as it enhances understanding of the topic through human experiences (Holloway & Galvin, 2016).

Ethical Considerations

Ethical approval was granted by the National College of Ireland for this study. This study encompassed information that may have inflicted anguish, ergo attentiveness was prominent in designing the study. This distress may have stemmed from participants discussing sensitive topics about friends or family members with disabilities. To endeavour to rule this out, participants were provided with an information sheet, Appendix A and interview schedule, Appendix B, so they could accustom themselves with the essence of the study. Participants were also reminded to use fictitious names, this also covered ethical grounds of

privacy. Participants emailed copies of signed consent forms Appendix C prior to their interview to reinforce their willingness to partake. Helplines were provided in the debriefing form Appendix D for those who may have required assistance post-participation. This ensured participants felt supported and cared for.

Sample/ Participants

The sample size of this study was six healthy participants (n=6). The age range is from twenty years old to sixty-four years old (M=35.17). There are six females. All participants in this study met the inclusion criteria, which stated that they must have experience in an equestrian environment with having worked with individuals with disabilities.

Participants were recruited using non-probability, purposive sampling. Convenience sampling was used to determine who and where the participants originated from. The participant recruitment poster, see Appendix E, was posted on various Facebook groups. It was also promoted on the researchers Instagram page. Participants contacted the researcher registering their interest to participate. From there, dates and times were finalised through email. The target population were experienced equestrians who have also worked alongside individuals with disabilities in an equine-related setting. The small sample size was justified due to the conceptual model. This asserts that sample size is reliant on the scope of the research questions, the topic and the study design (Choy, 2014). As each interview lasted approximately thirty minutes long, they provided enough information to generate rich, fruitful and comprehensive dialogue, which also justifies a smaller sample size (Malteurd, Siersma & Guassona, 2016). Despite the small sample size, the study adopted the principle of saturation. This asserts that data can be deemed saturated when the incorporation of new information ceases to be necessary as it will not modify the comprehension of the phenomenon (Kalu & Bwalya, 2017).

Materials

An iPhone 13 and an ASUS laptop was used throughout each interview. The iPhone was used to audio record the interviews. The ASUS computer was used to conduct the interviews and was used as a second form of recording of interviews. The recordings on the voice memory application on the phone was used to transform audio to text on Microsoft word. A notepad and pen were used during the interview to attain notes. A poster was created on the PicCollage App, to promote the study on social media.

Data Collection

A pilot study was conducted prior to the interviews. This ensured the researcher experienced a sense of the interviewer environment. Additionally, this pilot study exemplified the validity of the questions being asked and enabled the researcher to revise questions that did not retrieve sufficient or relevant information from certain questions. The imitation study allowed the researcher to obtain feedback and ensured that the questions were easily understood and ethical, with no invasions of privacy from the participants perspective. This was also beneficial as it allowed the researcher to acknowledge the internet connection deficit prior to the real interviews.

Six interviews were conducted via Microsoft Teams between the dates of the twenty-second and twenty-third of January two-thousand and twenty-two. Each participant was interviewed for an approximate timeframe of thirty minutes. Once recording began, participants verbally consented and were reminded of their rights to withdraw at any point. Each interview possessed a flexible set of questions Appendix B**.** Questions were asked in order to acquire information regarding the social, physical and psychological effects of equine activities on individuals with disabilities. The aim of the questions was to understand the impact horse-riding may have on overall quality of life. These interviews were semi-

structured in nature as there was an urge to allow the participants to convey their own feelings and thoughts in a natural sense. When enough data was believed to be obtained from each interview, the researcher expressed their gratitude to the participant for their willingness to partake. Debriefing forms were then emailed with an in-depth rundown on the whole experience and supports available to them. See Appendix D for Debriefing forms.

Data Analysis

Thematic analysis is a foundational method for qualitative analysis and was proposed by Braun and Clarke (2006). Thematic analysis is a method for identifying, analysing, and reporting trends within qualitative-generated data. Stage one of the analysis involves familiarising oneself with the data at hand. This involves transcribing data, reading and re-reading data and jotting down any initial thoughts. Stage two involves generating the codes. This is when one codes interesting features of the data in a systematic tone across the complete data set. Data relevant to each code is collated. Stage three is the search for themes. Codes are then collated into potential themes. Data is then gathered relevant to each individual potential theme. Stage four is reviewing the themes. Here, themes are tested to examine if they work in association with the coded extracts and the entire data set. A thematic map of the analysis is created. Stage five is when the themes are defined and named. Analysis is performed to refine the components of each theme and the overall idea that the analysis reveals. This generates clear definitions and names for each theme. Stage six is the final chance to analyse. Vivid extract examples are selected. There is the final analysis of these selected extracts, which all relates back to the research question and literature, providing a detailed account of the analysis.

Results

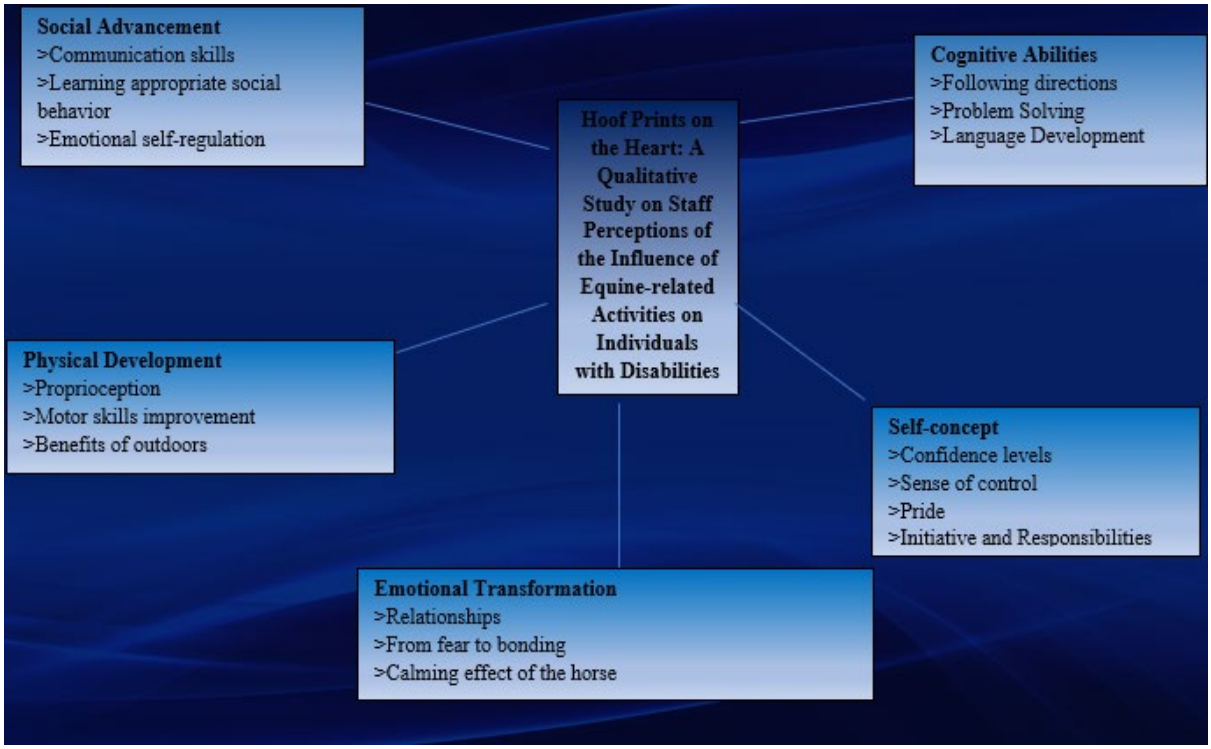

Figure 1. Themes extracted using Braun and Clarke's (2006) thematic analysis

Braun and Clarke's (2006) thematic analysis method was used to develop themes and subthemes. As shown in Figure 1, five themes were extracted from the data. These are self-concept, emotional transformation, social advancement, cognitive abilities and physical development.

Theme 1: Cognitive Abilities

Developments cognitively due to equine activities were emphasised in each interview. Cognition is the mental process of perceiving, recognizing, judging, reasoning and imagining (Lehrman & Ross, 2001). Participants acknowledged how individuals flourished in aspects of problem solving, following directions and language development,

> From a mental stimulation point of view, it was good because he had to remember a course. He had to know what number fence comes next and whether to turn left or right. A lot is going on at once and learning to deal with that and process everything is magnificent for development (Participant 1).

Problem solving is a major process when in an equine environment. This setting requires attentiveness. A lot of problem solving is dealt with using memory and aids the instructor has given,

> They are shown how to hold the reigns correctly to not hurt the horse's mouth, they learn how to place their feet in the stirrups, so they remain balanced. Consequently, they then learn how to stop the horse, and make the horse move faster. You know, they must figure out what action leads to what consequence (Participant 2).

Certain games are carried out with the individuals to make learning seem fun (Winchester et al, 2002). Individuals with disabilities are taught how to follow directions through activities that require them to process everything on their own (Saywell, 1988). This was said to be beneficial as it was a light-hearted environment and there was no scrutiny if they completed something wrong, instead they would be greeted with giggles,

> The red light, green light game is very popular. As you know, in an arena there are letters on the outer railings for dressage and such. In this game, the instructor shouts out a letter that the children steer the pony to. Simultaneously the instructor may shout "Red light" or "Green light". Red means stop, green means go. I really see an improvement in children overtime in terms of their processing speed which enables them to follow directions (Participant 6).

Participants proposed the idea that as a result of this cognitive development, language development also blossomed. A participant detailed how a child with autism spectrum disorder originally communicated mostly non-verbally,

> He initially used very little verbal cues to let me know when he was upset. He would throw his hands around the place and grunt… I remember a horse walked away from the gate when he approached it. He began stomping his feet on the ground and shouting-purely in confusion. However, overtime, he learnt to deal with these situations more appropriately while also developing his language…. We went on a trail ride and his horse put his head down to eat grass, jerking him forward. Instead of reacting in anger he responded with "That was bold Basil!". I can still see his mother's face; I would call it disbelief (Participant 2).

Theme 2: Social Advancement

Equine activities were reported to nourish social development. There were cases discussed of how individuals enhanced their communication skills through working alongside these animals. Individuals were asserted to have conveyed their feelings where before they struggled to,

> A parent told me that her daughter found expressing her feelings difficult prior to equine interventions. However, she recalled struggling to get her child away from the barn. She noted that she observed her child one time whispering to the pony, hearing her say "I love you Sparkles" (Participant 3).

Horse riding was said to encourage individuals to open up and come out of their shell. Four participants mentioned that eye contact improved with exposure to the equine environment,

> I taught a boy who had autism. He was very shy and closed off, he would not even look in my direction. As soon as he was on that horse, he transformed. He would make strong eye contact and really absorbed every single thing I told him. I think it came from his utter passion for the activities he was doing, he loved it so much and wanted to be the best (Participant 5).

When asked if individuals with disabilities knew how to communicate with the horse, every participant agreed that they are capable of communicating to the horses through their actions and calm tones,

> An animal is not going to talk back to you, you know. And that's something you must understand. I have yet to meet someone that doesn't know how to communicate with the horse. It almost comes natural to them; they pet the horse to reward it. This non-verbal communication is good for them as it can be a relatable experience for them. For example, sometimes children with autism do not communicate verbally, so they have that in common with the animal (Participant 6).

A very common response was that individuals with disabilities understand that their actions affect the horse. They know the correct ways to act around the horse, although it was noted some people need more reminding than others, generally each person acted in a subtle way as soon as the horses were in their presence,

> They absolutely understand that how they behave affects the horse. Action has consequence is the first thing they are told when they step foot in the yard. They know stuff for example, not to stand behind the horse or it may kick. Take an example off the top of my head, child A wanted to plait a horse's tail. Child B told them they could not do this because standing behind the horse means they could get kicked. Child A's response was "not if I am gentle"(Participant 4).

It was greatly suggested that people with disabilities learnt how to act appropriately and manage their emotions. There was a belief that horse riding helped children deal with their inward feelings which consequently benefits their behaviours,

> Child X had ADHD. He was very excitable when he first came to the centre. Once he got a feel for the environment and relaxed, he built that relationship with the horse. This turned into him presenting a calm presence around the horse, as it seemed he didn't want to frighten it (Participant 1).

Theme 3: Self-concept

Participants stated that being on top an animal that weighs thousands of pounds gives individuals a sense of control. Many deemed this crucial as those living with disabilities do not have control over many aspects of their life, thus for the first time they have complete power,

> They're on top of this huge animal, you know, they are in control and have a sense of freedom. They have power and it changes how they view themselves. The feel important and even strong (Participant 3).

All six participants stated that horse riding completely raises confidence levels. Apparently, it teaches the individual things they did not previously know about themselves. They learn that they are great, and they can do impressive things,

> Once they realize that they are actually doing this cool and scary activity, they become unstoppable. The sky really becomes their limit they just want to do more and more. "Faster, faster" is a common phrase you'd hear at the yard. I guess the best way to explain it is they like believe in themselves (Participant 5).

A certain aspect of equine-related activities that was prevalent in the interviews is a sense of pride. This is how they react to different activities they participate in, they become ecstatic and overwhelmed with a sense of achievement,

> My aunt rode in the RDS, the smile on her face the entire time was indescribable. She knew how amazing she was in that moment. She kept looking at us to make sure we were watching her; she knew we were all so proud, and she loved it. Her eyes still light up when she talks about it (Participant 6)

Horse riding provides individuals with a sense of responsibility. They are given tasks that they must navigate and complete on their own. They must understand how to go about completing these tasks correctly,

> Horse riding has given him responsibility and independence. Like, the nights before competitions, he is up late gathering all his bits, like his helmet and that. He knows every single item he needs and always has them ready- with no help. To be honest, this has helped improve his personal hygiene. He told us before that he was going to get a bath to be "clean like his saddle and bridle" (Participant 2).

Theme 4: Physical Development

Once again, all participants uttered the importance that equine activities have on the physical developments of people. Moving in beat with the horse and being in the presence of horses in the air is excellent for growth physically and even simultaneously, mentally. Individuals develop strong motor skills through weekly activities,

> Her muscle mass has increased, and body fat decreased… exercise has made her stronger and improved her posture and co-ordination, even outside of the centre. Like, she sits up correctly in chairs now, she doesn't slouch. It is a great benefit because she

> actually used to suffer from frequent back pain, but it has dramatically declined since learning how to sit and maintain a correct posture (Participant 6).

Another key factor that half the participants were able to speak significantly on was endurance. This is said to play a big role in their equine activities and their daily lives, outside of the equestrian environment,

> Participant 2: Before they begin riding, they tend to be weak, and a bad way to explain it is floppy.
>
> Researcher: Floppy?
>
> Participants 2: They aren't strong enough to support themselves like, there would be two or three members of staff walking alongside them holding their legs to keep them balanced. Overtime the improvements you would see are remarkable. They really are life changing for the individuals. They go from being the so called, floppy, to having the ability to mount the horse on their own. They line up the horse at the mountain block and haul themselves up.

Proprioception is the body's ability to acknowledge its surroundings. The participants made it clear that this is an important factor in the psychological developments of individuals,

> It really helps their proprioception. Coming into the yard originally, I would say not many have strong proprioception. You see major improvements after two or three weeks. They understand boundaries, obviously sometimes they need help, but generally they can take in their surroundings and process them. For instance, here, they know which horses not to get too close to because they are more temperamental (Participant 4).

Activities were mentioned that help manage proprioception. A common one, was the course walk. This helps people recognise their presence and awareness, while also using problem solving to calculate their steps and speeds,

> We do bring the children around the course before competitions. Here we teach them how to count their steps between each jump to determine what speed they need to go at. They count out their steps from jump to jump, this gives them a sense of awareness of their body in the arena (Participant 3).

There are evidently many benefits of being outdoors. Of course, every participant reiterated the importance of oxygen and outdoor activities on the mind, body and soul. It can help them wind down and discover new things,

> Being out in the air, soaking up the oxygen in the lungs releases endorphins. It releases stress. These factors on their own are amazing health opportunities…. They are adapting to different noises, smells and sights (Participant 5).

A common thesis is that individuals with disabilities tend to be apprehensive about participating in sports as they may not feel as capable as others. For this reason, many people seclude themselves,

> Horse riding in a way is different to other sports as you move at your own pace. You aren't at a soccer session, where everyone does the same activity all at once. With horse riding, you do not have to keep up with anyone but yourself, I think that's the beauty of it. Its why they love it, there's no pressure. Yet no matter how slow you move, it is still good for you (Participant 1).

Theme 5: Emotional Transformation

The final theme in this research study is the emotional enhancement from equine activities. Some children with disabilities have trouble with the emotional aspect of their lives, they struggle to open up and trust people and find it hard to form relationships. Horse riding provides them with a building block to forming connections and trusting,

> I think it begins with them putting their trust into the horse, that's where the magic happens. It is one of the deepest bonds they form in their lives, with never a word being spoken back to them. You often walk by and hear children telling the horse their problems (Participant 2).

In order to trust, they must overcome the fear. One participant mentioned that there is nothing you can actually say to stop someone from being afraid- it is something they feel and must figure out on their own. It was widely stated that individuals had to overcome fear in order to trust the animals. This is good for their development as they learn to be brave and daring,

> Participant 4: Some children arrive, and they are petrified, they wont even rub the horse down. Fast forward three weeks and they are kissing the horse, leading them, washing them and swinging out of their tails haha
>
> Researcher: Not literally I hope haha
>
> Participant 4: no, metaphorically, most of the time hahaha… once they overcome that fear they are unstoppable

Relationships are built and nourished in equestrian centres. Individuals are surrounded by people that enjoy the same things as they do, they have common interests. Relationships for the individual is in an environment with perfect conditions for development,

> Parents or guardians watching the children from outside the arena strengthen their relationship with the individuals as there is a feeling of pride. This gives them

something to discuss, you know when they are at home or that. The children often run up to their parents after lessons to receive praise and attention. The individuals with disabilities feel, like noticed, and heard (Participant 1).

Discussion

The aim of this qualitative study was to examine the perceived health impacts of equine-related activities on individuals with disabilities. There was a desire to investigate the influences these activities may have on one's quality of life in terms of social, physical and psychological benefits. The qualitative nature of this study allowed the researcher to understand subjective experiences, which determined the success of this intervention. Using Braun and Clarke's thematic analysis, five main themes were produced. These are Social Advancements, Emotional Transformation, Physical Developments, Self-concept and Cognitive Abilities.

The first theme that will be discussed is social advancements. Developing social skills enables individuals to interact effectively and appropriately in social situations (Saddock & Saddock, 2003). Participants discussed how they have observed individuals with disabilities to open up, as they would express their feelings more through socialising at the yard and interacting with the horses. Appropriate socialisation is vital for one's future functioning and positive mental health (Murray, Zentner & Yakimo, 2009). Communication is not limited to verbal language, it is also facial expressions, body movements and nonverbal behaviours (Murray et al, 2009) such as eye contact. This study found that eye contact increased after the children began horse riding. This may be as a result of the increase in confidence levels from horse riding.

Another theme that will be discussed is emotional transformation. Being in the presence of the horses provides individuals with a safe space, they do not feel judged (Naber at al, 2019). Through various fun equine activities, individuals learn how to respond to situations more appropriately (Pan & Frey, 2006). Participant 2 discussed how one child arrived at the equestrian centre very excitable. He always wanted to be on the go, however through class participation with a group of individuals, he began to learn to calm down. Participant 2 reported how his mother reported that he had calmed down in the school and started to put his hand up when he wanted to talk instead of shouting out. This may be due to the nature of the equine group lessons. Children wait their turn to perform around the arena, and cheer others on when it is not their turn. Erik Erikson's eight step theory of psychosocial development is said to be assisted through equine activities as many constructs are positively reinforced, such as trust and identity (Burgon, Gammage & Hebden, 2018). Participants urged the importance of equine activities as a result of the shift from fear to bonding. Having the ability to put their trust into such a large, powerful animal (Gardin, 2019) result in an increase in their confidence and self-esteem. Self-esteem can be defined as the belief of one's worth in themselves physically and socially (Berk, 2004) this enforces positive behaviour patterns.

An important theme produced was physical development. Physical development is vital as it stimulates expansion of cognitive abilities (Cassady & Nichols-Larsen, 2004). Individuals with disabilities tend to exert a lack of interest in participating in interactive activities (Pan & Frey, 2006). They often choose to isolate themselves due to feelings of embarrassment, low self-esteem and inability to recognise their capabilities (Myers & Johnson, 2007). This isolation ultimately affects their health physically and mentally. Every participant urged the tremendous impacts horse-related activities had on individuals with disabilities physically. They reported cases of weight loss, increased muscle mass, and

overall strengthening. Activities such as holding the reigns, keeping their heels down in the stirrups, squeezing with your calves to encourage the horse to move forward and retaining a good, upright posture all strengthen the body. A key factor too is being outside in the air, increasing oxygen intake. This increases energy levels, releases endorphins, reduces stress and improves concentration (Edelman & Mandle, 2002). Participant 5 mentioned how many parents have reported that their children always experience the best night sleep of each week the night of the lessons. These findings were found to correlate with many other studies (Ecks, Malcolm & Pickersgill, 2018; Grandin, 2019). Participant 6 described how her aunt has improved posture wise since participating in equine activities. This has been found to improve her quality of life as she tends to experience significantly less back pain. The constant rhythm of the walking gait of the animal, at one hundred impulses per minute, causes the rider to move back and forth acting like a walking stimulator for them (Bertoti, 1988). Participant 1 explained how the limb displacement of the horses causes the rider to match their pelvic rhythm with the speed of the horse which improves their balance, co-ordination and proprioception. This was also found in a study by Cheing, Liao, Leung and Hwang (2004). Individuals are required to accommodate to the changes in order to stay on board and maintain their centre of gravity (Casady & Nichols-Larsen, 2004). This is physically beneficial as it enables them to be in touch with their spatial awareness while simultaneously working on their balance and co-ordination. This develops their multi-task skills which they can utilise in other endeavours of their lives such as school and work (Winchester et al, 2002).

Self-concept is another theme that emerged from the data. Participants collectively asserted that horse riding maximises the individual's functional independence while minimising features of their disabilities through developments of their self-concepts (Myers & Johnson, 2007). According to participant 3, horse riding provides people with a sense of

achievement. They externally recognise their accomplishments (Berk, 2004). Once they acknowledge that they are in control of a huge animal, they develop feelings of superiority (Bass, Duchown & Llabre, 2009). Through working with such a large animal, and realizing their strength, one's self-perception shifts from a "I am not good enough, not worthy, or cable" to an "I am unstoppable" mentality. Each participant recognised the importance of pride in an equine setting. Participants reported that children would run to their parents after lessons and competitions smiling from ear to ear asking, "did you see me", "wasn't I good". Not only does this build a sense of self-worth but it helps develop relationships between parent and child. This happens through the pair being able to connect and relate on a deeper level than they would previously be able to achieve (Kern et al, 2011). The child would be excited, talking about the fun they are having, whilst the parent is proud and excited to see their child develop and flourish. Participant 6 reported seeing the sense of achievement in her aunts face when she rode in the RDS and reported her "eyes lit up in the arena". This provides evidence to support the idea that equine activities allow people to take credit for their successes and enables people to receive support through words of encouragement from the side-line, from peers, from instructors and audiences clapping (Macauley & Guiterrez, 2004). Participants 2, 5 and 6 discussed how equine activities develop a sense of initiative and provides people with responsibilities. Initiative involves learning, planning and conducting appropriate behaviours. For example, individuals are given tasks each week such as grooming the horse, cleaning the stable and giving the horses oats and hay. Individuals must remember where items are, they must select the correct brushes, correct feed, correct stable-management tool. They are constantly thinking thus stimulating their frontal lobes. The responsibilities they have at the barn give them a feeling of control and independence (Cherng et al, 2004). Participants 2 mentioned how as a result of being provided with responsibilities such as cleaning tack, stables and the horse, they understood the importance

of cleanliness. This in turn improved their personal hygiene, as one individual reported to have to "get a bath so he could be clean like his saddle and bridle".

The final theme to be discussed is cognitive abilities. Language deficits is common in many disabilities (Edelman & Mandle, 2002). This can act as a barrier for communication and social interactions, causing people to develop secondary disorders such as anxiety (Naber et al, 2019). The significance of language development through equine activities was mentioned by most participants. This idea has been widely supported by previous literature. Macauley and Guiterrez (2004) highlighted how equine therapy and traditional therapy were compared in terms of levels of language development. Individuals that participated in equine therapy appeared to have a greater motivation to using vocalisation. Lehrman and Ross (2001) outlined how a child with visual impairments began to increase their vocabulary through experiences with horses. According to participants in this study, children use phrases around the horses that they would not usually say out loud such as whispering, "I love you", "you are my best friend" to the horse. This appears to acknowledge the sacred bond between horse and human, that changes the individuals. Through repetition and reinforcement of various equine activities, individuals' mental processing speed improves (Winchester et al, 2002). They begin to understand themselves and how they function through their abilities to problem solve (Saywell, 1988). Exercises in the equestrian centre require cognitive efforts (Bass, Duchown & Llabre, 2009). Participant 1 detailed how lessons are structured to suit the individual. They are structured in a way to challenge the individuals, while also enjoying themselves through problem solving and rewards. Participant 2 mentions how she would reward her clients with rosettes when they complete a new personal achievement such as balancing on their own for a lap around the arena. These various activities target and develop their problem-solving and follow direction skills as they are constantly listening to orders of the instructor such as "move faster". The individual must associate the action of moving

faster with squeezing the horse's tummy with their legs. The development of these skills was also supported in previous studies (Naber at al, 2011; Gardin, 2019).

Strengths and Weaknesses

Qualitative research relies on data retrieved through first-hand experiences (Kalu & Bwalya, 2017). It is descriptive and conceptual (Choy, 2014). This particular study utilised interviews to collect data. Due to the subjective nature of data obtained, deductive quantitative mainstream tends to attack the credibility of qualitative measures (Guassora, Malteurd & Siersma, 2016). It is difficult to determine the reliability of linguistic data, however a result that is supported by previous literature from other countries was achieved. Non-probability, purposive sampling was used to recruit participants. This may appear as a weakness due to the possible selective bias of the samples, however there was a target population that had to be reached. In a way, this method of sampling was not a total weakness as there is not a need to generalise the sample of a qualitative study to the larger population (Choy, 2014). Positively, there was a lot of interest in this study, with participants being turned down due to perceived data saturation. A limitation of this study is that when interviews were conducted, covid was rampant, thus interviews had to be conducted online. This may have impacted the interviews as there was no face-to-face interactions, so it was more difficult to determine the atmosphere. Also, qualitative research focuses on observing body language and expressions, which was difficult to do via a video call. A strength of this study is that it has taken the first steps in filling the gaps in the literature in terms of the effects of equine activities on individuals with disabilities in Ireland. No research in Ireland to date has investigated the opinions of equine staff so it provides data involving previously unexplored aspects that may generate a broader foundation for future research. It can be asserted that the researcher brought a personal bias to this study as they have years of experience with horses and have volunteered in the equestrian Special Olympics. However, this may also be seen as a benefit

as it would allow for the researcher to completely understand and correctly interpret the data received from participants.

Implications and Future Research

This study suggests the notion that according to equestrian staff, equine-related activities have a significantly positive impact of the lives of individuals with disabilities. It benefits them cognitively, physically, socially and psychologically. This has an influence on their quality of life. To clarify, this in turn effects their relationships, their self-concept, their skills and their emotion regulation. Individuals learn a lot about themselves through equine activities (Bertoti, 1988). It is important that one acknowledge their abilities to achieve their maximum potential (Bond, Galvin, Holloway & Roddies, 2018). Horse riding helps individuals do things they never knew were possible. As a Ukrainian quote states “Людина створена для щастя, як птах для польоту” which translates to, “man is for happiness like bird is for flight”. This outlines the importance, and the need humans have for positivity in their lives, it can be said to be vital. According to this study, it was found that horse riding brings people to a level of excitement, and yet tranquillity that is difficult to reach.

Future studies should narrow down their research and set a specific disability to analyse. This would allow for more accurate and reliable data. It is difficult to place numerous disabilities in one category and study them. That is where this study can be improved upon.

Also, future studies should aim to observe first-hand the effects of equine-related activities on individuals with disabilities. As this was an undergraduate study, it would have been difficult to gain ethical approval to do this. However, future research should focus on physically observing developments overtime, for example, attending weekly lessons for a month and taking notes each time.

Conclusion

This study suggests that equine activities are perceived to have life changing impacts on participants physically, social and psychologically. The research findings of this study not only outlined the importance the impact has on the life of the individual with disabilities, but of the lives of those around them such as their parents. This study recognises that not enough emphasis or awareness is placed upon the importance of equine activities. This is an area that needs to be taken more serious in the world of medicine. This research poses a lot of interesting questions, for example, could partaking in equine activities mean that individuals would potentially be able to reduce their intake of certain medications, such as anxiety medication or muscle relaxation medication. Although there is not much literature or research into the area of the impacts of equine activities, studies that have been completed have been in support of the notion that equine activities are beneficial, life changing even.

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Appendices

APPENDIX A

Information Sheet

Thank you for your interest in taking part in this research study. This document provides information about the study and what taking part would involve. Please take the time to read this information and decide whether you would like to take part in the research.

Purpose of the Study:
My name is Ava Delaney, and I am a final year Psychology student at National College of Ireland. As part of my final degree, I am required to conduct an independent research project. For my research project I am conducting the current study, which aims is to investigate the influence of equine-related activities on individuals with disabilities. The research questions are what are the social, physical, and psychological benefits of these activities on individuals with disabilities.

- Social benefits are those such as interpersonal skills, communication skills, and self-esteem levels.
- Physical benefits are those such as improvements in balance, co-ordination, and movement.
- Psychological benefits are those such as awareness, motivation and feelings.

This research is being supervised by Dr Caoimhe Hannigan, Lecturer in Psychology at National College of Ireland.

What will the study involve?

The study will require participants to partake in an interview with the researcher. Each interview will be approximately thirty minutes long. Interviews will be carried out via Microsoft Teams. You will be asked a list of questions to seek information regarding the impacts equine activities may have on the lives of individuals with disabilities. An interview schedule with potential questions can be provided to you upon request.

Who has approved this study?

This study has been reviewed and received ethical approval from NCI Research Ethics committee. You may have a copy of this approval if you request it.

Why have you been asked to take part?

You are within the target population. You are an experienced equestrian who has worked alongside individuals with disabilities in equestrian settings. This is the type of participant required as they will provide sufficient information about the research topic. All participants must be aged 18 years and over.

Do you have to take part?

No, you are under no obligation whatsoever to take part in this research. However, we hope that you will agree to take part and give us some of your time to allow us to explore the effects of equine relationships on children with disabilities. It is entirely up to you whether you would like to take part. If you decide to do so, you will be asked to provide consent. If you decide to take part, you are still free withdraw at any time without giving a reason during the entire study. A decision to withdraw at any time during your participation, or a decision not to take part, will not affect your relationships with the researcher, the supervisor or the University.

Will your participation in the study be kept confidential?

The information that you provide will be completely confidential. Interviews will be audio recorded to allow the researcher to analyse the data however utmost care will be taken to ensure participant privacy is always upheld. All interviews will be transcribed, and the recordings will be destroyed once transcription is complete. Any identifying information (such as names or locations) will be redacted from the transcripts. Only the researcher and the research supervisor will have access to the data collected. Some quotes may be used when presenting the findings, but these quotes will be anonymous and not contain any identifying information.

Any files relating to this study and participants data, such as audio-recordings and transcripts will be stored in a secured two-factor authenticated google drive account. Only the researcher will have access to this account.

What will happen to the results?

The research will be written up and presented as a in a thesis for examination and may be presented at National and International conferences or be published in scientific journals. A copy of the research findings will be made available to you upon request. Data will be stored for at least 5 years.

What are the possible disadvantages of taking part?

I don’t envisage any negative consequences for you in taking part however, you are constantly reminded that you are eligible to withdraw at any point if you feel uncomfortable.

What if there is a problem?

If you experience any distress during or following the completion of the study, you may withdraw immediately. Your well-being as a participant is more important, do not hesitate to call for a break or terminate your participation if you feel uncomfortable.

Should you experience further distress, you are urged to contact your general practitioner or text “TEXT 50808” to avail of a free helpline service.

Any further queries? If you need any further information, you can contact the researcher or supervisor at any time.

Researcher: Ava Delaney, Undergraduate student in National College of Ireland

Email address: x19739141@student.ncirl.ie

Supervisor: Dr Caoimhe Hannigan

Email address: caoimhe.hannigan@ncirl.ie

APPENDIX B

Interview Guide

1. How long have you been involved with horses?
2. How much experience would you say you have with individuals with disabilities?
3. Would you be for or against the idea that equine activities have a positive impact on their lives? Why or why not?
4. Are there separate groups for disabled and non-disabled in lessons? Why?
5. What activities appear to be most beneficial to them? How?
6. What are physical changes you have observed in the individuals?
7. What skills do they develop while horse riding?
8. How does this impact their social skills?
9. Have you any examples of an individual that underwent major character development? If yes, why do you think this happened?
10. Have you observed language development? Examples.
11. What was communication between the individual and the horse like? Explain.
12. Could you describe any changes of the relationship between the individual and the horses, their instructors, family that watched them ride?
13. Is there any impact on confidence and self-esteem?
14. Do you believe horse riding effects the individuals cognitively? Examples.
15. Do you believe there should be more awareness around the impacts of equine activities on Individuals with disabilities?

APPENDIX C

Informed Consent of Participation in the Study

I, _____ consent to part-taking in the study "Staff Perceptions of the Influence of Equine-related Activities on Individuals with Disabilities".

- I understand I have the right to withdraw at any time point without penalty.
- I have read the information sheet thoroughly.
- My decision to be a participant is 100% voluntary.
- I consent to being audio-recorded during the interview.
- I understand that my data will be stored on the researcher's behalf for up to five years.

Participant Signature

_____ _____

Signature *Date*

Investigator Signature

_____ _____

Signature *Date*

APPENDIX D

Debriefing Form

"Hoof Prints on the Heart: A Qualitative Study on Staff Perceptions of the Influence of Equine-related Activities on Individuals with Disabilities"

Thank you so much for your participation.
The aim of this study is to investigate the influence of equine-related activities on Individuals with Disabilities. This is an important area to study as we live in a society that is relentlessly fighting to break down a stigma surrounding individuals with disabilities, and with your participation, you are helping! Individuals with disabilities are just as capable as anyone to complete activities, even those involving unpredictable animals weighing approx. 500kg! Investigating this topic will provide researchers and the public with an insight into the possible positive effects of equine activities for improving quality of life. If positive results are generated, awareness may be made and attempt to contact riding schools around Ireland encourage them to set up a programme for riding for the disabled.
The research questions are examining to see what the social, physical, and psychological benefits of equine-related activities on individuals with disabilities are. The data generated from each interview will be compressed and analysed in my thesis. This will be completed by the 14th of March 2022. There will be no breaching of participant privacy in this thesis, no names or identifying data will be discussed.
You may still choose to withdraw at any point prior to the date outlined above. To do this, please contact me directly through my email provided below. If you wish to seek personal assistance, please contact the helpline listed.
Thank you for your participation, not only in my research project, but in tackling the nationwide stigma behind disabilities.

Text "TEXT 50808" for any immediate emotional support should it be required.

Researcher: Ava Delaney
Email: x19739141@student.ncirl.ie

Research Supervisor: Dr Caoimhe Hannigan
Email: caoimhe.hannigan@ncirl.ie

APPENDIX E

Participant Recruitment Poster