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## **Experiences of Equine Assisted Therapy for Females with Autism Spectrum Disorders**

### **Abstract**

#### *Purpose*

Current research indicates females with autism spectrum disorders (ASD) have a diverse clinical presentation compared to males. Furthermore, females with ASD are often diagnosed later and typically experience greater levels of mental health difficulties. Evidence suggests that clinic-based verbal interventions for ASD have limited efficacy; therefore, alternative therapies, such as Equine Assisted Therapies (EAT), are gaining recognition. The purpose of this study was to directly explore the experiences of females with an ASD who have undertaken EAT.

#### *Design and Methodology*

Five female participants with a diagnosis of ASD were recruited from two equine therapy centres. Participants were aged between 15-30 years old and undertook semi structured interviews, which were analysed using interpretative phenomenological analysis.

#### *Findings*

Three superordinate themes emerged: (1) *the difficult experience of the social world*, (2) *the process of EAT*, and (3) *the emotional impact of horses*.

#### *Originality/Value*

Directly exploring the experiences of females with ASD highlights benefits from engaging therapeutically with horses; building confidence and independence and transferring this into more effective social communication with other people. Offering emotion-focused therapeutic

complementary interventions for females with ASD should be fore-fronted to help remediate the impact of difficult and sometimes traumatic earlier experiences in the social world. This requires increased funding for EAT, combined with larger-scale research projects to evaluate this.

*Keywords:* *autism spectrum disorder; females; intervention; equine assisted therapy,*

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition, characterised by early difficulties in social communication, and repetitive and restricted behaviours across multiple settings (Sharma, Gonda & Tarazi, 2018). Compared to typically developing peers, individuals with ASD also demonstrate an increased risk of anxiety and depression (Lopata, Toomey, Fox, Volker, Chow, et al., 2010). A consistently higher proportion of males are diagnosed with ASD over females (4:1; Baio, Wiggins, Christensen, Maenner, Daniels et al., 2018). However, with females more likely to go undiagnosed, a ratio of 3:1 may be a more accurate male to female ratio (Loomes, Hull & Mandy, 2017).

To account for discrepancies in diagnosis rates, it is suggested that females present with a different set of ASD symptoms, compared to males (Wood, Downie, Wong, Kovshoff, Cortese, & Hadwin, 2020); displaying higher internalising symptoms and fewer repetitive behaviours (Mandy, Chilvers, Chowdhury, Salter, Seigal et al., 2012; Lai, Lombard, Auyeung, Chakrabarti, & Baron-Cohen, 2015; van Steensel & Heeman, 2017). Higher repetitive behaviours were associated with self-harm in a predominantly male sample with ASD, alongside low mood and elevated levels of impulsivity/overactivity predicting self-harming behaviours (License, Oliver, Moss & Richards, 2020). However, there is variability in the estimated prevalence of self-harm for those with ASD ranging from 50% of adults (Maddox, Trubanova, & White, 2017) to 24% of adults and young people (Licence et al., 2020). This variability also extends to gender differences, with some studies reporting females being less likely to self-harm (Mandy et al., 2012; Lai et al., 2015) whereas others report no gender differences potentially due to the larger representation of males in samples (License et al., 2019). A higher risk of internalising problems may account for why many more females with ASD experience poorer mental health and higher psychiatric hospitalisation rates compared to males (Rynkiewicz & Lucka, 2018). Furthermore, evidence suggests females often receive an ASD diagnosis at a later age than males (Green, Travers, Howe & McDougle, 2019). Over and above their male counterparts, late diagnosis for females can have a significant impact on multiple facets of life, again resulting in poor mental health and emotional wellbeing (Rivet & Matson, 2011; Petrou, Parr & McConachie, 2018).

While it is theorised that females use compensatory strategies to mitigate social situations and expectations making them more adept at camouflaging or masking their difficulties (Tubío-Fungueiriño, Cruz, Sampaio, Carracedo & Fernandez-Prieto, 2020; Pearson & Rose, 2021), they still show an assortment of social difficulties. For example, compared to males with ASD,

they may struggle to maintain mutual engagement and social reciprocity (Tierney, Burns & Kierby, 2016), may characteristically enter and leave social groups, and may struggle to maintain in-depth friendships (Dean, Harwood & Kasari, 2017). Specifically, females with a late ASD diagnosis struggle to forge and maintain their identity and are more likely to experience exploitation and sexual abuse, acting as further risk factors for co-occurring mental health issues (Bargiela, Steward & Mandy, 2016). Moreover, compared to males, females with ASD show more difficulties in managing their emotions (Wieckowski, Luallin, Pan, Righi, Gabriels et al., 2020). Crucially few existing therapies for ASD tackle the ability to manage emotions, despite research showing that impaired emotional regulation within younger years predicts diminished social skills later in life (Beck, Conner, Breitenfeldt, Northrup, White, et al., 2020).

Whilst several interventions are offered for ASD, gaps are implicated in evidence-based interventions (Weston, Hodgekins & Langdon, 2016; Walters, Loads & Russell, 2016). Typically, ASD-adapted Cognitive Behavioural Therapy (CBT) has been more effective in reducing anxiety scores than non-ASD adapted CBT; and those in both types of CBT group fare better than the treatment as usual group (Wood, Kendall, Wood, Kerns, Seltze et al., 2020; Kim, McKay, Cepeda, Schneider, Wood, et al., 2022). Nevertheless, there is a lack of specialised knowledge about effective interventions for females with ASD (Stadnick, 2013), with typical interventions having been formulated and evaluated according to a male ASD profile (Kopp & Gillberg, 2011). Clearly, interventions are warranted for females with ASD which specifically address the issues they face, alongside redressing the longer-term impact of a late ASD diagnosis.

Alternative, complementary therapies in ASD are gaining recognition with families (Brondino, Fusar-Poli, Rocchetti, Provenzani, Barale & Politi, 2015). For example, the use of horses in therapeutic settings (Burgon, 2014) has witnessed a recent annual surge in individuals undertaking it (Trzmiel, Purandare, Michalak, Zasadzka, & Pawlaczyk, 2019) with ASD services incorporating horses and other equines into therapeutic work (Srinivasan, Cavagnino & Bhat, 2018). Several terms are used describing these methods, such as Equine Assisted Learning, Equine Assisted Psychotherapy, Equine Facilitated Psychotherapy or Equine Assisted Therapy. Moving forwards Equine Assisted Services (EAS) has been recommended in the USA as the optimum term for any services incorporating horses (Wood et al., 2020). That said, to conceptualise the interventions currently being offered by organisations within

the UK, such as Equine Assisted Growth and Learning Association (EAGALA) and Leading Equine Assisted Psychotherapy (LEAP), the term Equine Assisted Therapy (EAT) has been most commonly used, thus, this term was adopted in the current study.

In EAT, the horse is utilised for therapy, either through horseback riding or on the ground; the aim is to improve socialisation, engagement and emotional wellbeing in ASD (Burgon, 2014), and can involve verbal and non-verbal interactions. Consequently, EAT is an experiential intervention which facilitates growth and learning by combining the horse with principles of education (Mandrell, 2006).

Evidence for efficacy in EAT for ASD is growing, and a recent systematic review indicates improvements in behaviour and social communication skills (Srinivasan, Cavagnino & Bhat, 2018). There are also positive improvements in socialisation, engagement and problem-solving reaction times (Trzmiel et al., 2019). Caregivers indicate a reduction in difficult to manage ASD symptomatology and improved quality of life throughout the EAT intervention (Kern, Fletcher, Garver, Mehta, Grannemann, et al., 2011). Evidence further suggests longer-term benefits for EAT compared to a social communication intervention; with social, emotional and physical wellbeing all improving at six-month follow up (Lanning, Matyastick, Ivey-Hatz, Krenek & Tubbs, 2014).

From the perspective of parents and EAT staff, several therapeutic factors within EAT have been identified, including the physical embodiment, personality, and specific movements and rhythm of the horse (Malcolm, Ecks & Pickersgill, 2017). Similarly, parents identified improvements in their child's self-concept, emotional wellbeing, self-regulatory abilities, family relationships and ability to bond (Tan & Simmonds, 2017). Thus, the potential longer-term benefits of EAT for ASD seem promising compared to other interventions. However, many of the studies focus on staff and parent perspectives (Lanning et al. 2014; Kern et al, 2011; Tan & Simmonds, 2017; Malcom, Ecks & Pickersgill, 2017), with relatively few focusing on the perspective of the person undertaking the therapy.

Females with ASD are particularly underrepresented and understudied in EAT, with a recent meta-analysis showing that 79% of participants in the studies were male (Trzmiel et al., 2019). This makes it unclear if EAT is as effective for females, particularly for those with mental health issues. Additionally, females may find more value from EAT compared to traditional therapies, as participation in EAT can increase self-awareness and self-efficacy, both of which could mediate the effects of EAT on emotional regulation (Burgon, 2013; Hallberg, 2008).

Exploring ways in which individuals with ASD view and experience interventions is required (Bottema-Beutel, Mullins, Harvey, Gustafson, & Carter, 2016). To our knowledge, this is the first qualitative study exploring this phenomenon directly with a young group of females with ASD. We aimed to explore the benefits of EAT directly from the perspective of young autistic females undertaking the intervention and whether these were similar to factors already identified in the literature.

## **Method**

### *Design*

An ideographic qualitative approach, interpretative phenomenological analysis (IPA) was used to explore the lived experiences of females with ASD undertaking EAT; this allowed for an in-depth exploration of experiences (Smith, Flowers & Larkin, 2009).

### *Procedure*

Participants were recruited via posters sent to two equine therapy centres in the UK and word of mouth via the directors of the centres. The centres are designed to assist young people struggling with mental health issues, emotional and behavioural problems and/or learning difficulties.

One of the therapy centres had 300 referrals in a year, 25% of which were from individuals with an ASD diagnosis. Both centres deemed themselves working within an Equine Assisted Therapy framework, as described by EAGALA. Within the sessions, equine specialist facilitators and mental health professionals work in teams of at least two people facilitating, exploring and observing the processes that occur within the sessions, alongside ensuring the safety of the participant. For example, activities undertaken in sessions include observing the horses in their natural environment and reflecting on the horses' thoughts, emotions, and body language. Participants also have opportunities to work with the horses directly through set tasks and challenges, such as moving the horses at different speeds using only their body language. This allows experiential learning and reflection to take place. Moreover, participants

engage in practical tasks associated with the horses, such as brushing the horses and cleaning the stables. Each of these activities affords opportunities to note the horse's responses to the participant and allows the participant to witness the patterns of cause and effect generating a multiplicity of interactions. EAT is centred upon the client's needs and requirements; thus, specific goals and objectives are outlined prior to the sessions.

To ensure validity, on reviewing the literature the semi-structured interview schedule was developed in collaboration with an expert by experience and consultation within the research team. The expert by experience noted that the questions allowed for balanced, comprehensive responses, and were accessible for participants to answer. Questions included:

- How do people make you feel safe and happy, or unsafe and sad?
- What do you like or struggle with about equine therapy?
- Even though horses do not talk can you tell me how you know that they feel safe or unsafe, happy or sad?
- What have you gained or learned about yourself from going through this experience of being with horses?
- From your experiences what could be done differently to help support you in your life and to achieve your dreams?
- Have you or other people noticed anything different about yourself and how you experience life since being around the horses, for example, at home, school or friends?

Interviews took place in a confidential space of the participant's choice; participants opted for their home or the equine therapy centres. Interviews were audio recorded and deleted on transcription.

### *Participants*

Five females aged between 15-30 years old were recruited. All participants had to have (a) an ASD diagnosis, (b) no significant difficulties with verbal ability or comprehension (due to the verbal nature of the interviews) and, (c) undertaken or were undertaking Equine Assisted Therapies. All had attended mainstream education but were moved to specialist education (see Table 1). No exclusions were made on the basis of age or co-occurring issues.

INSERT TABLE 1 HERE

### *Ethical Considerations*

Ethical approval was obtained from the institutional Ethics Committee (protocol number: aLMS/PGR/UH/03289(3)). Participants received an information sheet with study details.

Confidentiality was ensured throughout, pseudonyms applied on transcription, and informed consent was obtained from all participants, and their parent or carer if they were under sixteen years old (British Psychological Society, 2014). Participants were given the opportunity to ask questions, made aware of the secure storage of information, anonymisation and publication, and debriefed with details of further support provided at the end.

### **Data Analysis**

IPA was used to elicit rich detailed accounts to understand how individuals experience a phenomenon from their own context (Smith, Flowers & Larkin, 2009). Transcripts were read multiple times and analysed individually by the first author. Saturation of themes was achieved by undertaking careful line-by-line analysis of the text to elicit emerging themes which were cross examined between transcripts and explored for convergence and divergence to build the superordinate and subordinate themes. Convergences were predominant, with commonalities within themes present across all participants, particularly around difficult experiences in the social world and the emotional impact of the intervention; when a theme was not in a participant's transcript it was because they did not talk about it. To ensure validity, reflexive conversations were conducted between first and second authors throughout the analysis to facilitate a deep and nuanced understanding of the data, and a process of triangulation was used through discussion with all researchers. To ensure the interpretation of data was close to the participants' words and meanings, member checking was employed by contacting all participants, two of whom responded, agreeing with the themes (Treharne & Riggs, 2015; Nizza, Farr & Smith, 2021).

### **Results**

The IPA analysis yielded three superordinate themes, and eight subthemes (table II):

INSERT TABLE 2 HERE

## **The Difficult Experience of Living in the Social World.**

Participants experienced an overwhelming sense of distress when around other people, struggling to get their voices heard by their peers and people in positions of authority.

### *The Emotional Impact of Other People*

Four participants described difficult experiences in relation to others. For example, Natasha could not recall a time where being with other people had made her feel safe or happy; particularly in school, which was experienced as an unsafe place:

*Interviewer: Have there ever been times where people or friends or school have made you feel safe or happy?*

*Natasha: No (long pause- laugh) Yeah- no, no. There's just no answer to that...I've never been...felt safe, happy or even content enough to stay in that building in school. Like in school, is like...even when I drive past it now I feel sick so...yeah, no, I've never felt safe or happy.*

For Natasha, anxiety was experienced as all-encompassing to the point it almost defined her. The physical response to driving past the school emphasised the magnitude of the environment's impact on her, a place where she '*never felt safe or happy*'. Sarah also spoke about the emotional impact of being around other people, and the loneliness she experienced:

*Interviewer: So, what is it like when people walk off and ignore you? Is it hard? Is it easy?*

*Sarah: Hard.*

*Interviewer: ...Why is that hard? What does that make you feel like?*

*Sarah: Lonely.*

Sarah only said two words in this powerful exchange, yet still highlighted the impact being ignored had. The implication of feeling ignored and lonely suggested she had a desire to talk and interact with people but was not given the opportunity.

### *The Suppressed Voice*

All participants described disappointment about the inaction of people in authority, a lack of protection, a sense of vulnerability or feelings of frustration around these experiences. For example, following an experience at school, Natasha's frustration, sadness, disappointment, and confusion were clearly expressed:

*... Also erm in Year 7 I suppose because of my lack of social skills erm I can't pick up on safety cues I suppose ...I told him that I had autism and he was like 'oh yeah me too' and it was a lie...and I spent the whole entire day with him. He made me sneak out of school you know, he bought me pizza you know, he walked me all the way back to the school- this was during lunch hour and no teachers knew that I'd gone. No one knew if I was safe or not you know what I mean? No-one even questioned where I was....I'm supposed to be under their care erm anyway so he walked me back to school and and he started asking me erm sexual stuff and then...and them...erm blackmailing me saying he's got pictures of me and stuff and that he's going to send them to my dad and stuff, so the police got involved, so this was all under the school's care and it's like and you've let me down there.*

Melanie shared similar views when she talked about a lack of recognition around her social communication difficulties, leaving her feeling overlooked and ignored by her teachers:

*Interviewer: And did the teachers do anything to help when you were mixed in with other people you didn't know?*

*Melanie: Not really, I just thought like well I can just get on with, I just get on with my work, and then yeah I just didn't really...*

It seemed that Melanie did not know how to express her need for support, and others did not notice this. In the context of this sentence, her hesitancy when she concluded, '*I just didn't really*', seemed to suggest that she did not know how to ask for support, or even believe she could. Perhaps this further perpetuated the internalisation of her experience of being overlooked by teachers. This concept of feeling silenced and invisible around other people, where people did not listen, believe them, or want to be around them, was not limited to the school environment. It had become so entrenched for many of the participants that it impacted all talking relationships. For example, Natasha's experiences of counselling seemed to reinforce her previous experience of feeling unimportant to those in a position of power:

*...And honestly you just feel like...you just...feel like being- not a burden but who really wants to sit and...I mean I would hate to sit there and just listen to your problems... And that's what I feel like. I feel like why do you want...why am I important enough for you to- for you to sit there and talk- listen to me.*

The truthfulness in her perspective and experience was emphasised when she said '*honestly*'.

### *The Impact on Sense of Self*

With such difficult experiences around others, all participants experienced their inner self as being manipulated or shaped by other people, triggering an unstable, unhelpful sense of self. For example, Claire felt she had to act in ways to keep people on side:

*I don't know, it's...sometimes I feel like I have to act a certain way otherwise they'll go off me or something....like for example when you're around people you can't just erm...there are certain things you can't just talk about...*

Anna's inability to comprehend what others seemed to understand also impacted her very core:

*I just used to- in maths I used to just feel really stupid (laughs). Just because I couldn't understand why I couldn't do it....My teachers would give me some of the maths work that this boy who comes from Hungary who couldn't speak English was doing because they thought that I couldn't do the other work that other people were having...Urm it was a bit humiliating (laughs)*

Despite English being her first language, the humiliation, confusion, and comparisons to people who could not speak English left Anna with a resounding sense that she was '*really stupid*'.

Natasha also spoke on several occasions about how others impacted her inner self, both at school and within the family unit, intensely feeling that she was at fault:

*Yeah and also making me feel like I'm the problem. You know, you're not coping at school, that's your fault. You should be because everyone else your age is. And you- it makes you feel like you really feel like you're in the wrong (whispers) and I hate that (laughs).*

Natasha was acutely aware of her struggles compared to others, and this impacted her deeply; perhaps if she '*hates that*', this also meant that she hated herself conveying a sense that this view of herself was carried through into every future experience and interaction with others.

### **The Process of Equine Assisted Therapy**

With the backdrop of typical talking relationships and interactions having a profound negative impact, participants entered an alternative arena of EAT.

#### *The Characteristics of the Horse*

The characteristics of the horse were viewed as important to all participants. The concept of the horse as an entity who was free from the constraints of verbal language was powerful for participants, providing a non-judgemental space, as noted by Claire:

*Interviewer: What is it about being around the horses that's so good?*

*Claire: That you don't have to worry about them making fun of what you say or do... you just get there, they don't understand what human language is...well they know some words not all of them. So if you said uhm to a horse 'my teacher's an effing idiot' they wouldn't say 'mind your language' because they don't know how to.*

Similarly, through non-verbal communications Natasha spoke about the horses' responsiveness to her needs, offering solutions:

*Yeah because they (the horses) don't just sit there and go 'mmmm'. They give you erm practical solutions and er they don't just sit there. So they actually respond and go well actually I think this is wrong and this is right...*

For the participants, the absence of verbal dialogues with the horses seemed to provide a space where they did not feel constrained to moderate their discussions and actions.

Whilst it seemed important to participants that the horse was a non-judgmental entity, free from verbal language, the horse's physical characteristics and appearance were also valuable. For example, Sarah stated:

*Interviewer: What is it about the horses that you really like?*

*Sarah: I just think they are beautiful...lovely colours.*

*Interviewer: What is your favourite horse colour?*

*Sarah: I like black. Black and white, and brown and white.*

*Interviewer: So, you like quite a lot of the colours of the horses. And, if the horses are beautiful, how does that make you feel inside?*

*Sarah: Happy.*

In direct contrast to how people made her feel '*lonely*' and unhappy at school, just the physical presence of the '*beautiful*' horses made Sarah feel '*happy*'.

#### *Therapeutic Distance in Indirect intervention*

Four participants spoke about the more visual and experiential processes within EAT as a method of enhancing understanding and learning different ways of coping. It seemed interventions within EAT were indirect and this distance allowed it to be therapeutic. For example, Natasha described the mechanisms behind the horse acting as a mirror to her behaviours:

*....but like being explained my behaviours and being shown through the horses and it's right in front of you...like the horses will like replicate some of your behaviours you can see how it impacts them negatively and you're like 'oh yeah that's my life*

For Natasha, the horse allowed her the experience of identifying her own emotions and body language in a safe, containing space. Similarly, Anna reiterated how important the visual aspects of EAT were, showing her difficulties rather than someone telling her about them:

*....And it's very visual so it's like and this your anxiety and this is the horse's anxiety. It's more obvious rather than people telling me if you feel like this then 'nananana'. I dunno, it's just easier. And cos it's there, looking at the horse...because I can't see myself...*

It seemed the therapeutic distance the horse afforded assisted Anna in cultivating the foundation for emotional connection to the horses, an ability which was not fostered with most people due to her previous experiences of them. Parallels between horse and human behaviours, and emotions were also highlighted as a helpful way of making sense of

interactions which evoked emotion; as Anna noted when recounting an episode during her therapy sessions when one of the horses interacted with harassment:

*Erm.... Thomas I think his name is? Thomas is erm, well he was...erm harassing Princess or something in all of- in the session erm I think I told you about this, and it was erm...he was harassing Princess and Princess was... and he was nipping the back of her, and they were just- they were both... Princess was very distressed and Thomas was very uhm sort of angry....so we had to leave them until they'd calmed down.*

The terminology Anna used to describe the horse's emotional reactions were human-like in nature ('distressed' and 'angry'); here the quality within the interaction seemed like the perceived bullying behaviour she had experienced in peer relationships, yet with the horses she seemed better able to manage it.

Extending this further, the ability of the horse to normalise difficult emotions was also important for Anna within the process of EAT:

*Anna: Erm ... I can sort of just relate to the horse if the horse is- because sometimes when there are lots of people around horses they can get anxious. So it's just like relatable.*

*Interviewer: How does that help?*

*Anna: Uhm... you just feel like you're not the only one that just feels anxious.*

*Interviewer: So you can relate to them- does that mean that it helps you to know it can be normal to be anxious sometimes?*

*Anna: Yep*

## **The Emotional Impact of Horses**

All participants spoke about their experience of the horse permitting them the space to develop internal confidence in previously hidden areas. Furthermore, most spoke about greater confidence and independence which filtered through into their human social world.

*Finding Stability in the Self*

Often participants discussed a transformed experience of themselves following EAT as Natasha described:

*We spent like two, three years... maybe like two and a half years or whatever just...working ... at the person. The person I was and the person I am now ... like I would say the old Natasha is a completely different person and barely exists anymore.*

Whilst Anna found it difficult to verbalise what exactly had changed, she similarly discussed the impact EAT had:

*I know it but I can't explain it, like I feel very different to what... to who I am now like I thought I found myself a bit and I understand myself a bit more.*

This transformation seemed to implicate greater clarity and understanding, perhaps in the ability to express themselves. For example, Claire spoke about finding a voice through being with the horses:

*Yeah, when my- because I pick up my- say when a horse is angry they kick and bite- like I've learnt to mimic their behaviour.... Yeah cos when I... when I pick up... Yeah say when a horse is angry they kick or bite like I've learnt how to mimic their behaviour.*

The imitation of the horses' body language, and the physical expression when they were 'angry', presented a physical image of the impact of EAT for Claire; she repeated almost verbatim the same point twice, providing emphasis around the acceptability of expressing anger in the way a horse could. She was expressing herself yet, in a horse's world, anger was neither impolite nor inappropriate, evoking a sense of confidence and empowerment when asserting herself more generally.

#### *The Emergence of Confidence and Independence*

EAT seemed to give a new frame of reference for four participants, which also filtered through into their social world to varying degrees; indeed, the acceptability of the horse's world seemed to enable a sense of liberation through an emerging confidence and independence:

*Natasha: Now I can do everything you know, I can make them (the horses) walk forward I can make them walk back- I will- I will tell them to get out my space. I will run with them, I will pick up their hooves. I will literally do anything, yeah.*

The impact of demonstrating confidence and direction with the horse, also had a significant impact on Natasha's blossoming independence within the family:

*.....Even at home I make my own decisions now where mum and dad used to be literally- like you can imagine me, tiny little thing and mum and dad were like you know this is- you're going to wear this, er you're going to eat this. Any little tiny decision like that do you know what I mean, and 'ok, ok ,ok' . Now, I make my own decisions, you know. And I even control my own money now.*

Through her work with horses, Melanie stated she had noticed a shift in herself, making her reflect upon her goals and hopes for the future:

*Melanie: I feel like I'm more confident yeah.*

*Interviewer: How do you know that you're more confident?*

*Melanie: Because like I think because like I know what I'm doing I'm kind of like yeah. It's hard to explain... I don't really think- I think just trying to make choices and not trying to like do the thing where you feel like you have to please everyone it can be a bit- I feel like I want to be a bit more independent. Yeah. I feel like I want to try and be a bit more independent because I'm like the oldest. Yeah.*

Melanie's desire to be more '*independent*' and less of a people pleaser seemed a significant empowering change. She had started to demonstrate the ability to feel confident enough in herself to express her views, recognise and put her needs first, and consider what she desired from life.

## **Discussion**

The current study emphasised the utility of experiential interventions for ASD which incorporate non-verbal interactions, particularly around assisting the development of self-awareness and more positive self-identity through interactions with the horses. Additionally, earlier social experiences established a core negative identity, substantiating evidence that females with an ASD experience the social world, and the relationships that play out in them, as traumatic (Tierney, Burns & Kilbey, 2016; Bargiela, Steward & William, 2016). Indeed, compared to those without a diagnosis, exploring the social-emotional health of females with an ASD highlights a disparity in self-worth with greater negativity experienced (Jamison and

Shuttler, 2015). Given the negative impact masking has on mental health for those with ASD (Pearson & Rose, 2021) and the propensity for disempowered relationships for females with ASD (Bargiela, Steward & Mandy, 2016), indirect experiential interventions where this is not perpetuated could be fruitful. The study's findings highlight that one such arena is a horse's world, where EAT may help to remediate the impact from previous difficult experiences.

Several studies of EAT reveal the characteristics of the horse as important in the process of therapeutic change (Malcolm, Ecks & Pickersgill 2017; Chandler, 2011), a key finding noted by participants in this research within their interactions with the horses. These characteristics can also be a valuable method to develop secure, healthy attachments (Burgon, Gammage & Hebden, 2018), which the participants seemed to emulate with the horses. Participants noted a greater surety and independence in their own decision making derived through these horse related interactions which seemed liberating for the participants in this study. As children with ASD can form secure attachments with selective caregivers (Teague, Gray, Tonge & Newman, 2017), perhaps the experience females with ASD have with others in the social world, particularly within schools, triggers insecurity rather than this stemming from caregiver attachments. As this study highlighted, EAT seemed to provide a forum to remediate the impact from earlier social experiences, where the characteristics of the horse emulated a safe space for attachment and emotional connections to occur even with difficult horse/people interactions. Given successful generalisation of learning can occur for young people with ASD across settings, people, and/or activities (Carruthers, Pickles, Slonims, Howlin & Charman, 2020), perhaps such learning with horses could generalise into the wider human social world for females with ASD.

Given clinical service preferences for verbal interventions, such as CBT, acknowledgement should be given to how these are experienced by young females with ASD. Verbally based interventions may perpetuate previous negative experiences extending and exacerbating the difficult social experiences females with ASD face on a daily basis. For example, the demands of attending to fast paced conversations can be psychological challenging for females with ASD, which can be detrimental to outcomes (Cridland, Jones, Caputi & Magee, 2014). In contrast, this study highlighted the development in confidence for females with ASD, and the impact this had on independence and emotional wellbeing. Given the high level of mental health difficulties in females with an ASD (Baldwin and Costley, 2016; Mazefsky, Connor & Oswald, 2010; Sukhodolsky, Scahill, Gadow, Arnold, Aman, et al., 2008) perhaps the

development of confidence and empowerment through EAT may mitigate risk. This could be a crucial factor in the improvement of emotional wellbeing in social situations for females with ASD. It would be valuable for health and social care agencies to take this into account when considering guidelines for ASD interventions, especially as a key outcome within these initiatives is the encouragement of individuals with an ASD to obtain meaningful employment or education (Department of Health, 2010; HM Government, 2021). Further, EAT could facilitate successful transitions into adulthood for females with ASD.

### *Strengths and Limitations*

There was variability in the dosage of the EAT intervention within this sample potentially impacting on the ability to identify if the specific outcomes were due to the EAT intervention itself or other factors. However, as the first study to obtain perspectives directly from females with ASD who have undertaken EAT, one of its key strengths is the initial building of an evidence base for interventions for an underrepresented clinical population. Whilst the numbers of participants could be viewed as a limitation the sample size in this qualitative study is appropriate for a rigorous, in-depth IPA analysis which accurately reflects the context and nature of this group of participants (Smith, Flowers & Larkin, 2009). Member checking was incorporated with positive responses; however, only two out of the five participants responded impacting the validity of the results. That said, with minimal divergence in experiences despite the diversity in age ranges and intellectual functioning of the group, commonality across interviews suggested that there is real scope for future clinical and service level transformations to occur across diverse presentations of females with ASD. Importantly, most of the females in the current sample, had co-occurring anxiety and had undertaken EAT upon leaving mainstream education early. A mixed method study directly comparing ASD with other clinical diagnoses in males and females, would help highlight the exact benefits of EAT as an intervention, particularly for those with ASD. It would also provide a comparison for whether males and females find different or similar benefits. More data on levels of ability and co-occurring conditions in a larger sample would also help define the sample who would most benefit from EAT.

### *Conclusion and Future Directions*

This research highlighted the value of EAT and the importance of funding complementary interventions for females with ASD, particularly as funding tends to occur through private

funds, charity grants, or local borough grants. It would be beneficial for the National Health Service and local Clinical Commissioning Groups to extend funding for research and interventions for ASD into areas incorporating non-verbal aspects, such as EAT, where research is in its infancy, and larger scale studies are needed. In particular, the comparison between therapeutic horseback riding, EAT and traditional talking therapies would be beneficial. Extending this research to therapies utilising other animals (Animal Assisted Therapies (AAT)) could increase the range and options of animal sizes and temperaments reflecting the individualised presentations in ASD. Each of these AAT modalities has a common goal of alleviating distress; however, the mechanisms behind how they are undertaken are all diverse (Schuck, Emmerson, Fine & Lakes, 2015). Preliminary research is positive (O'Haire, 2013; O'Haire, 2017) and given recommendations have been made to utilise Equine Assisted Services (EAS) as a more optimum term (Wood et al., 2020), services in the UK could critically consider terminologies, and explicitness in their method(s) moving forward, to support the building of a more robust and cohesive evidence base. Indeed, further in-depth explorations would ingrain understanding around experiential interventions which incorporate non-verbal interactions and work towards an overarching therapeutic model for AAT and EAT for ASD across all genders.

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**Table 1:** Participant Information

Participant Pseudonyms	Age in years	Ethnic Background	Age officially diagnosed with ASD	School Attendance	Co-occurring Issues	Intervention Details
Natasha	22	White British	4	Mainstream school until age 14	Anxiety Depression	Undertaking individual EAT for two years
Claire	15	White British	14	Mainstream school until age 14	Mild Intellectual Disability	Undertaken individual EAT for a year
Melanie	15	White British	15	Mainstream school until age 15	Anxiety Disorder Mild Intellectual Disability	Attended 12-week group program
Anna	16	White British	15	Mainstream school until recently	Anxiety Obsessive Compulsive Disorder Depression Eating Disorder	Attended 12-week group program and accessed individual EAT
Sarah	30	White British	4	Mainstream school with specialist support unit	Depression Mild Intellectual Disability	Undertaken individual EAT for 6 months

Table 2: Superordinate and Subordinate Themes

<b>Superordinate Theme</b>	<b>Subordinate Themes</b>
The Difficult Experience of Being in the Social World	The Emotional Impact of Other People The Supressed Voice Feeling stupid: The Impact on Sense of Self
The Process of Equine Assisted Therapy	The Characteristics of the Horse Therapeutic Distance in Indirect Intervention
The Emotional Impact of Horses	Finding Stability in the Self The Emergence of Confidence and Independence