Engaging with animal-assisted interventions (AAIs): exploring the experiences of young people with ASD/ADHD diagnoses.

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Abstract

Animal-assisted Interventions (AAIs) have been used as therapeutic interventions aimed at improving psychological wellbeing, often for young people with mental health and educational difficulties. This qualitative study explored how three students (male and female), aged 12-15 and with ASD and/or ADHD diagnoses experienced AAI at an alternative education provision. Semi-structured interviews with each participant were conducted and analysed using constructivist thematic analysis. Three themes and four sub-themes were identified. The themes were: (1) *Self-esteem*, with sub-themes *motivation and reward*, and

self-awareness, (2) *Emotional benefits* with *strategy building*, and *support* and (3) *Identification*. Participants valued AAI as a positive intervention which aided their psychological well-being. Findings emphasise the effectiveness of AAIs for young people with neurodevelopmental disorders in both a therapeutic and educational context.

Key words: *animal-assisted interventions, autism spectrum disorder, attention deficit hyperactivity disorder, alternative education provision, qualitative*

Introduction

Providing education for young people with complex developmental and emotional needs within a typical classroom setting is challenging. (Ferrin & Taylor, 2011; Geist, 2011; Goodall, 2015). Individuals with Autism Spectrum Disorder (ASD) and Attention Deficit Hyperactivity

Disorder (ADHD) often have complex needs and as a result can have difficult classroom experiences (Goodall, 2019). Difficulties for individuals with ASD may include communicative and social deficits, limited and repetitive tendencies and heightened sensory sensitivity (Shepard, Bedford, Milosavljevic, Gliga, Jones, Pickles & Charman, 2019). Defining behaviours of ADHD include impulsiveness, inattentiveness and restless activity which may result in the likelihood of isolation and an increased rejection from others, often leading to aggression, social difficulties and distress (Ferrin & Taylor, 2011).

Evidence suggests young people with ASD and/or ADHD experience isolation and dread in classroom settings and feel both misunderstood and unsupported in mainstream education (Goodall, 2018). Living with ASD and/or ADHD and having painful classroom experiences may explain the frequent observation of elevated levels of anxiety (Giuliani & Jacquemettaz, 2017; Simonoff et al, 2018), depression (Davidsson, et al., 2017), and low self-esteem (Spain, D., & Blainey, 2017) in individuals with ASD and/or ADHD.

Mainstream school exclusions are eight to twenty times more likely for those living with neurodevelopmental disorders such as ASD and/or ADHD compared to young people with no Education, Health and Care Plan (EHCP) (Goodall, 2015., p.307). This may reflect an issue of educational settings being insufficiently resourced to adapt classroom measures and curricula to fulfil the needs of young people with ASD and/or ADHD (Goodall, 2015). Kraftl (2014) suggests for young people with such difficulties, credence should be given to unconventional methods of education. Unconventional methods of learning, or *alternative education provisions (AEPs)*, enable those with varying needs and educational complications

with an opportunity to access tailor-made packages based around student-centred learning (Goodall, 2019; Kraftl, 2014).

The use of animal-assisted interventions (AAI), animal-assisted therapy and animal-assisted activities (collectively referred to as AAI in this paper) in clinical and educational settings are increasingly employed to promote improvement in human performance, social, emotional, physical and intellectual health (Harris, Williams & Mawson, 2017; Lubbe & Scholtz, 2013). AEPs may include and/or promote access to AAI alongside education, and social and psychological support programs, depending on the needs of the young person.

A systematic review conducted by Maujean, Pepping & Kendall (2015) showed AAIs were associated with improvements in social functioning, self-efficacy, anxiety, depression and quality of life to a wide range of populations including children with neurodevelopmental disorders. Increased wellbeing has been shown to be associated with increased exposure to companion animals (Fine, 2006; Maujean, Pepping & Kendall, 2015; Podberscek, Paul & Surpell, 2000). Although AAIs may benefit a range of populations, it is important that future research explores the value of AAIs to specific populations, both to move the field forward, and to support the appropriate application of AAIs in therapeutic and educational contexts (Maujean, Pepping & Kendall, 2015).

Some research has explored the benefits associated with exposure to animals for those living with ASD and/or ADHD (Bass, Duchowny & Llabre, 2009; Dilts, Trompisch & Bergquist, 2011; Harris, Williams & Mawson, 2017; Harwood, Kaczmarek & Drake, 2019). However, the evidence largely relies on data collected from parents and professionals who have observed behaviours throughout a young person's exposure to intervention animals (O'Haire, 2013), meaning the views of young people with ASD and/or ADHD are not yet understood.

The aim of this study is to explore the experiences of AAI with young people diagnosed with ASD and/or ADHD, how they construct their relationship with intervention animals and how they describe their anxiety, self-esteem and confidence after participating in AAI within an educational and therapeutic environment.

Methods

Research design: A qualitative methodological approach using semi-structured interviews was the method of data collection.

Setting: The research was conducted at an AEP within a therapeutic farming and education setting in the East Midlands, UK that supports young people with complex needs. AAI is embedded in the daily education received by the young people.

Sampling: The participants were purposefully selected through suggestions from AEP directors, based upon the young person's diagnoses, and suitability for research participation (e.g., communicative ability, time spent engaging with AAI, duration of attendance.

Participants:

Kathryn (a pseudonym)

Kathryn was a 13-year-old adopted child with diagnoses of ADHD, ASD, Dyslexia and Dyspraxia. She attended the provision for three days a week due to complications in mainstream school. Kathryn had been attending the provision for 18 months.

Holden (a pseudonym)

Holden was 15 years old and in his final year of secondary education. He had a variety of complex learning needs and mental health diagnoses including ASD, ADHD, Dyslexia, Anxiety and Tourette's Syndrome. Holden attended the provision three days a week due to his complex needs and the breakdown of his last school placement. Holden had been attending the provision for 5 months and hoped to study Animal Care at college aspiring to one day own and manage his own farm.

Evie (a pseudonym)

Evie was 15 years old, was a looked after child, and had a diagnosis of ADHD. She attended the provision due to an inability to cope in a mainstream environment as a result of early years trauma. She attended for three days a week. Evie had attended the provision for 12 months.

Consent: Full written consent was obtained prior to interview from AEP directors, parents/carers and the young people.

Data collection: Semi-structured interviews were conducted with each participant, to explore the ways in which young people discuss their relationship with intervention animals. A semi-structured interview schedule comprised of questions themed towards exploring the participants' understanding of their own social and academic/learning anxiety, self-esteem, confidence, and their general feelings towards working with animals (example questions included: what do you do to try to relax? If an animal was with you in that situation, how would that make you feel?). The focus was on how the young people described their anxiety, self-esteem and confidence after participating in AAI at the provision.

Procedure: Following written consent, all participants engaged in a routine AAI session which encouraged participants to train, walk and groom the donkeys for 30 minutes, and to interact with and groom the pig for 15 minutes.

Interviews were conducted in an area of the farm specifically designed for calming and quiet activities.

The young people were interviewed individually following the same interview schedule and structure, with questions adapted to each participant's communication level. All participants were debriefed at the conclusion of interview. Interviews were audio recorded and lasted for approximately 20 minutes. Interviews were transcribed verbatim.

Analysis: A constructivist thematic analysis was employed to identify codes and themes capturing meaning or language related to the research aim (Braun & Clarke, 2006; Braun, Clarke, Terry & Hayfield, 2018). Themes were developed using both latent and semantic codes as 'building blocks' (Braun et al, 2018., p.12), collating similar codes into a candidate theme. This process was consistent across the entire data set. Candidate themes from each participant were compared, building an overall candidate framework of themes. Themes were tested and refined against the 15-point checklist developed by Braun and Clarke (2006) and a final thematic map was developed (Figure 1).

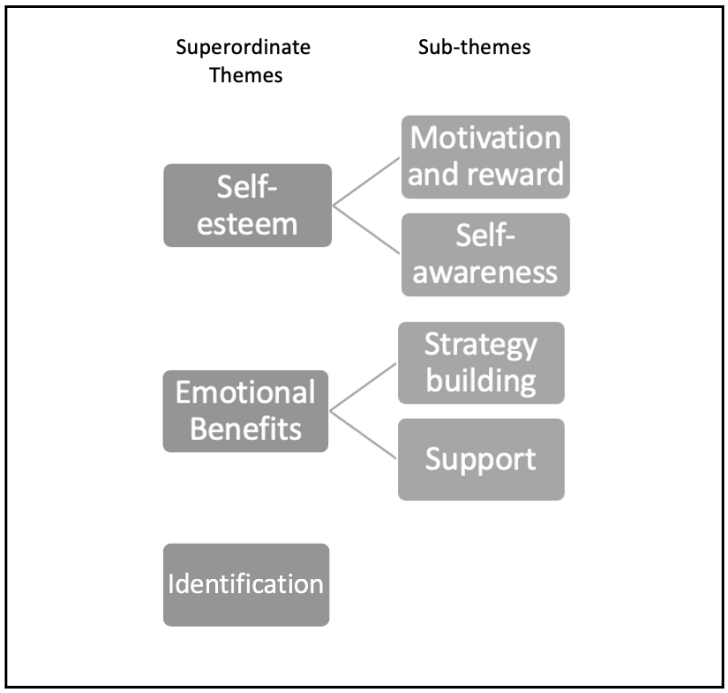

Figure 1. Final thematic map of superordinate themes and sub-themes

Ethics: The study obtained ethical approval from Nottingham Trent University Social Sciences Research Ethics Committee.

Results

The aim of this study was to explore the experiences of AAI as reported by young people with ASD/ADHD. Qualitative analysis found three key themes and four sub-themes. These themes were labelled: (1) *Self-esteem*, with sub-themes *motivation and reward*, and *self-awareness*, (2) *Emotional benefits* with *strategy building*, and *support* and (3) *Identification*, as illustrated in Figure 1.

Superordinate Theme 1: Self-esteem, with subthemes *Motivation and reward* and *Self-awareness*

The superordinate theme **self-esteem** represents the ways in which all participants described their motivation to help the animals and how this shapes their self-esteem, feelings of worth, awareness of and ability to manage emotions.

Participants discussed the ways in which their sense of duty has encouraged them to empathise with the physical and psychological needs of the animal and had allowed them to fulfil their role as caregiver. Each participant described an improvement in their self-esteem and empathy through interactions with animals.

Motivation and reward

Evie believed she had found purpose through her relationship with intervention animals, which in turn created a sense of success through her motivation to work and care for animals, allowing her to feel proud when she had done the job to the best of her ability:

> *'I feel proud of myself more with the animals then doing anything else really, 'cause... even if I do fail, I know that I've tried my best and I'm happy with what I've done... 'cause it's like when an animal's like ill or something, I may not do it exactly right, but I know that I've tried my best'*

Evie was motivated to continue to fulfil her role of caregiver, as the reward of helping an animal was greater to her than the pitfalls associated with failure. By trying to fulfil her role to the best of her ability, she was able to feel pride, despite having issues with low self-esteem. Evie positively compares the work she does with animals to the thoughts she has approaching other tasks:

> *'I've quite low self-esteem, I often think that I won't be able to do something or I'll be too weak to be able to do it or I can't do it, or I'll try to do something and then I'll end up quitting very easily 'cause I just can't do it... doing things with animals I find quite easy'*

Evie suggested that in comparison to her attitudes towards everyday tasks, she perceived animal-related tasks, as a part of her engagement with AAI, to have a positive impact on her self-esteem. Evie further suggests the way in which AAI is delivered, enabled her to grow and feel confident in her own abilities:

> *'if I've done it slightly wrong, then someone will tell me about it and I'll be able to change it for next time and I don't feel like that the knock of confidence or anything'*

Evie's perception of developments in her self-esteem and confidence were apparent in both motivating and rewarding her through her work with intervention animals, allowing her to become more resilient to error without it impeding her self-esteem.

Holden, like Evie, had low self-esteem which influenced his ability to both openly accept praise and think about himself positively:

> *'I'm not very positive all the time so if I hear people being positive about me then... err... I kind of like say that I don't accept it, but I really do'*

During the routine interaction session prior to the interviews, Holden described the donkeys as 'a pain' and although they were misbehaving, which 'annoyed [him] at some points' he was still positive about his experience, as he was able to manage the donkey training session, stating:

> *'I'm confident yeah, I'm not bothered [about the donkey's behaviour] they can't speak to us... like when the donkeys were like trying to pull me away and take me places... I want to work with them so I just feel like an injury's an injury... it's just part of farming really'*

Holden not only was able to meet task requirements by understanding and prioritising the needs of the donkeys but was able to do so with confidence, as he was motivated to work

with animals. And despite a difficult session, he was able to reflect positively on his experience:

'*it was cool, I liked it... I love animals so I can't really say I hate them, can I? ((laughs))*'

This was also reflected in Evie's extract where the young people suggested the manner in which the provision delivers AAI allows them to develop skills that not only encourage them to recognise their achievements, but also to positively acknowledge a mistake or error without negatively impacting their confidence and self-esteem.

Self-awareness

This theme describes the language used by young people when reflecting on their experience of their own negative behaviour, and how negative outbursts may affect their interactions with the animals. As a result, they were able to develop self-awareness and reflective capacity in order to achieve positive and valuable interactions with animals.

In this extract, Evie positioned herself in a caregiver role, acknowledging the need to be calm to fulfil her role and do her job successfully by prioritising the needs of animals over the demands of her 'worries':

'I'm able to get rid of some of that worry because I know that I need to like, look after the animal, help the animal and if they're injured or something. I need to be able to be calm, show them that I'm calm even if I'm not, just so then they're calm'

Evie highlighted that she recognised her ability to position herself empathetically and understand the impact her emotions and behaviour may have on animals, as a result, she was able to prioritise their needs over those of her own. This allowed her to shift from being

agitated to being a calm caregiver. Evie also credited her placement at the provision for her improved emotional regulation:

> *'Since I've been coming here. I've not been bottling things up as much, I have been bottling them up but it's [the AAI] a way of letting them go without causing harm to anyone or myself'*

In this extract, she suggested that since engaging with AAI, she was able to regulate her emotions and relieve her 'worries' in a productive manner, keeping her and her peers safe. By actively managing her emotions, she was able to prioritise the needs of the animals to ensure she provided them with effective care, even when she was fearful of the animal:

> *'even like with Roderick...I am a little scared of him sometimes, but I would actually give him a health check, do everything that I need to do. I know that he needs it and if even though I'm a little frightened of him, I know that he means no harm and I know that he's a nice animal'*

In contrast, Kathryn struggled to prevent her outbursts. Despite this, she was aware that those outbursts may be harmful to animals or her peers and was fearful of the impact they may have on others:

> *'I think my blood level would definitely err rise because like erm technically I'm already feeling tense at that time because I don't know, am I going to lash out at this person? Hurt the animal in the process? Or say something that I shouldn't?'*

Kathryn showed awareness of how her moods may affect her interaction and relationship with animals at the provision. Furthermore, she talked about her ability to understand the ways in which negative behaviours may impact an animal:

'I think [the animals] feel, erm, at first quite cautious. I don't blame them. But then as we get more into it, they're more relaxed around me. Erm, but it depends on the mood that the human is feeling because some animals can sense me feeling bad. Upset. So yeah. It depends on the person's mood really.'

Kathryn constructed her relationship with the animals from the perspective of herself as the responsible party and discussed that she needs to be aware of her outbursts and control her emotions to do her job successfully, even in times where she may feel upset:

'[I feel proud of myself] when I feel like I've done something so say, erm, I've, erm, pffft if one of my animals felt unwell and I took him to vets erm and they had get put to sleep but I wouldn't, I would be upset, but I'd be proud of myself because I gave them a good life I've tried the best I could so in those times I feel proud'

Both participants were able to understand the implications outbursts have on animals and indicated that they believe successful experiences can be achieved through regulating emotional outbursts, as reinforced through the delivery of AAI. With clear self-awareness, they positioned themselves as caregivers and reflected on developing the empathy that enabled them to prioritise the needs of animals, before their own adverse emotional responses. The findings suggest the young people experienced pride, and improved self-esteem through AAI, defining themselves through the ways in which they helped animals.

Superordinate Theme 2: Emotional benefits with subthemes *strategy building* and *support*

Throughout the superordinate theme **emotional benefits**, participants described the ways their engagement with AAI aided them in building strategies to manage adverse emotions.

Strategy building

In the first subtheme, Evie described the ways working with animals affected her anxiety:

'...being with the animals like petting them and that, it's quite calming. It's quite calming erm and I'm able to get rid of some of that worry'

She felt she could let go of any adverse emotions by interacting with the animals. Similarly, Kathryn perceived engaging with the animals as a strategy during times of distress, as she actively sought the animals to help her to relax:

'I sometimes have some time on my own, or I punch something just to err release that negative energy, or I go see the animals cause the animals really help me calm down'

Kathryn interacts with animals to alleviate negative emotion, suggesting once a positive relationship with an animal was established, AAI provided Kathryn with a space to relieve negative thoughts, feelings and perceptions. Furthermore, Kathryn had learnt that at certain levels of distress, AAI was not an appropriate strategy without her also implementing her own calming strategies:

'a different situation... effects the way I behave, and it takes me longer to calm down even if I'm with the animals, not like punching or kicking or anything just like you know controlling my breathing and stuff'

Holden had similar reflections to Evie and Kathryn, further emphasising the calming effects of AAI:

'The members of staff here, they've helped me quite a lot and err I'd say err quite a lot the animals as well, have helped me and ma and just like that I love the sheep, so, they've helped me yeah. I love the sheep, that's where I usually go down there and chill out with them for a bit'

Support

Participants discussed ways animals offer ***support***, a concept they seemed to position differently to strategies they can actively seek. Holden described how he believed his thoughts and feelings changed when he was with the animals, as they silently support him:

> *'I don't really know to be honest because just animals are animals, they, they, they can't tell you to 'shut up, you're annoying me', can they? So, it's, it's one of those sorts of things where they can't tell you to go away and you can't really tell them to go away 'cause they can't understand you, so they will sit there and just listen to all your rubbish basically so, so, it's a pretty good feeling when err, when you're not getting told to shut up'*

Holden felt he was able to project all of his 'rubbish' onto the animals in a positive manner, positioning their relationship as something that can support him emotionally. Holden also compared his positive relationship with animals to his relationships with humans, which he alludes to being negative in the above extract.

Kathryn credited animals for supporting her to learn and understand interactions with her peers and suggested that animals could help others to learn too:

> *'They [the animals] teach me a lot about humans. Erm, 'cause it's not, as, some people will find it very hard to communicate with other people, but people can definitely learn a lot from animals.'*

Similarly, Evie credits the structure of AAI at the provision in supporting her to develop interpersonal relationships, despite struggling in social situations:

> *'I struggle to be in huge groups of people, and I struggle to make friends but, here... it's a lot easier, when you pick a project, they're in smaller groups so you get to know everyone'*

Furthermore, she suggests that in the presence of animals her social anxiety would reduce, enabling her to stay present in uncomfortable situations like meeting new people:

> *'I'd feel a lot more calmer and a lot more like centred (hand gesture) as in there 'cause sometimes I disassociate or go into my own world... [I'd feel] quite a bit comfortable cause having the animal with me would make it like make it a lot easier and I'd be able to talk about it a lot easier as well'*

Participants therefore suggested relationships with AAI animals support them both socially and emotionally, positively influencing their social experience and understanding.

Superordinate Theme 3: Identification

The final superordinate theme **Identification** highlights the ways in which young people develop perceptions of themselves in light of AAIs. This theme describes ways in which the participants give the animals human attributes and that this helps them to construct how they perceive themselves. Evie was able to see similarities between herself and Charlie the donkey:

> *'When walking Charlie, when I walked him for the first time, that was easy and because we kind of clicked, 'cause we're both the same, like we're both when we're in a mood we're in a mood and when we're not, we're basically, we deal with things very similar... I think that's why he's my favourite'*

Evie further described Charlie as her 'favourite' animal at the farm, and despite his flaws, she still enjoys time with him, nonetheless. She further describes Charlie as 'cheeky' and 'moody' but accepts him the way he is.

Evie described her self-esteem as being very low but through interactions with animals she identified with, she found comfort as those animals help her to feel 'centred' and in control. The participants were asked to describe themselves through the eyes of animals, and in doing so, they were able to recognise the good qualities they have through a different perspective. Holden stated:

> *'I hope they like me to be honest, 'cause err, I like giving them food and I give them attention, so I don't see why they don't like me... animals can tell your personality and how you're feeling and that so, they're quite good with that so that's another side of animals that I like'*

Holden emphasised that he feels that there is more to his relationship with animals than just providing them with food and attention, which he enjoys, and suggests animals can perceive who he really is.

Evie conceptualised her relationship with Charlie as special, and individual to them both, which enabled her to describe their interactions as positive. Evie suggests that they have a mutual understanding which helped her to develop a sense of identity through interactions with him as she perceived similarities between them:

> *'I think we kind of just clicked on the first day that yeah, we're both the same and I will often tell him off if he's doing something wrong, but I'll tell him off gently...It makes me feel a lot better, cause, I'm getting on with him and he seems to understand, I understand him and he understands me'*

Holden too discussed ways in which he identifies with the sheep:

> *'They don't flippin' move quick enough so yeah erm all they do is eat so it's basically me in an animal form... so, I get on with them quite well to be honest'*

Holden was able to relate to the sheep, seeing similarities between them and himself in a humoured and positive manner. In contrast to how he perceived himself during an earlier stage of the interview in stating *'I wouldn't really say anything nice about myself'*, he was now able to attribute some humour to his identity.

Discussion

This research set out to explore the ways in which young people with neurodevelopmental disorders make sense of their experience of AAIs within an educational setting. In summary, the participants were motivated to care for the animals and gained a sense of pride and reward from AAI. They developed new emotional regulation skills and were able to regulate emotions in order to fulfil their perceived role as caregiver to the animals, which in turn, relieved symptoms of anxiety and allowed them to grow and feel confident in their own ability. Young people perceived intervention animals as a source of support, enabling them to feel calm and supported. Overall, the findings of this study concur with existing literature that suggests AAIs are beneficial to some individuals with ASD/ADHD diagnoses (Becker, Rogers & Burrows, 2017; Busch et al, 2016; Harris, Williams & Mawson, 2017; O'Haire, 2013; Maujean, Pepping & Kendall, 2015).

To support the application of AAI, Geist (2011) developed a theoretical framework to give credibility to the approach, and to recognise the importance of an anthrozoological influence in both educational and clinical facilities, working with young people with psychological and neurodevelopmental disorders. Geist applied attachment (Bowlby, 1969 in Geist, 2011) and cognitive (Patterson, 1989 in Geist, 2011) frameworks to underpin an empirical root appropriate to AAIs, suggesting in populations subject to an 'insecure attachment' during infancy, animals may provide a safe 'holding environment' and aid

working to 'resolve insyncrony' caused by insecure attachment in young people. Those with neurodevelopmental disorders also struggle to develop and maintain appropriate social relationships and self-awareness due to the complex nature of their disorder, mirroring deficits observed in young people with insecure attachment (Ferrin & Taylor, 2011; Furlano, et al., 2015; Geist, 2011). Geist (2011) suggests AAI encourages vulnerable individuals to become more self-aware as the animal acts as both a mirror and *a safe haven* for the young person to explore themselves, enabling them to develop emotionally (Geist, 2011). Lubbe and Scholtz (2013) also reflect this notion, highlighting animals may function as transitional objects whereby individuals may safely explore their internal emotions and experiences. Ultimately, accentuating the notion that the use of animals in supportive environments, can encourage and allow young people to become more comfortable and emotionally aware, in contrast to unsuccessful interactions in similar therapeutic or educational settings with clients and adult professionals alone (Beetz, 2013; Lubbe & Scholtz, 2013).

These findings support Geist's (2011) developing framework, as participants discussed how they understand their experience and their interaction with their environment; statements such as '*so it's basically me in an animal form...*' were consistent across participants and allowed individuals to make sense of themselves through the perceived personalities of the animals. Moreover, Geist (2011) advocated interactions with dogs improve self-awareness and emotional development in young people, as an individual can utilise the animal as a transitional object that allows them to 'integrate themselves with the environment' (Geist, 2011., p.252). This was also reflected in the findings of this study as young people too have discussed ways in which the animals aid their understanding of themselves, confronting qualities they deemed both positive and negative. The participants also expressed that the

presence of animals allowed them to be 'more centred' when confronted with meeting new peers, suggesting that they too perceive the animal as a transitional object that facilitates social growth and confidence. Geist (2011) highlighted that a dog is able to mirror the behaviour of the student and this is where they are able to explore themselves. However, the participants of this study suggest other animals, such as sheep and donkeys are able to pose as a 'holding environment' for self-exploration – a notion that is not represented in the current literature as intervention animals are usually species-limited to dogs, horses and dolphins (Nimer & Lundahl, 2007).

Strengths and limitations

It is acknowledged that as a result of professional relationships established prior to this study, the validity of this research may be compromised by researcher bias. However, although the initial analysis was led by the first author, all authors contributed to cross-checking themes and the discussion of the findings.

This study represents only a small population of individuals with ASD/ADHD that attend a specific provision in England. It is recognised that AAIs may not be appropriate for other individuals with similar diagnoses. This paper attempts to facilitate the contextualisation of findings by providing detailed descriptions of participants. O'Haire (2013) highlights that this is a necessary component to determining which individuals may benefit from AAI suggesting that this will aid the 'ability to predict who will benefit to enable efficient and effective allocation of AAI services' p. 1621).

Conclusion

The findings of this study suggest for certain individuals, the experience of AAI was valuable and should be considered as an alternative option for those who struggle within mainstream education. The participants of this study described how they have found purpose and positive experiences within a unique environment that was suited to their specific and individual needs. In conclusion, the findings suggest relationships with intervention animals enabled young people to develop a sense of 'duty' and 'responsibility' towards the care and wellbeing of these animals, which, in-turn, has led to improved emotional regulation within social and emotional situations at the provision. Participants discussed ways in which animals have allowed them to feel calm and supported. Furthermore, participants highlighted they were able to understand their own thoughts, feelings and traits through continued exposure to the same intervention animals. Findings from this study are consistent with current literature that emphasises the effectiveness of AAIs, and why this may be beneficial for young people with complex neurodevelopmental disorders. However, although findings are largely positive, it is worth noting that AAI may not be beneficial for everyone, and particularly not as a *stand-alone* intervention as placement at this provision was not the only source of support in place for participants.

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