School-Based Dogs,
their Use and Effectiveness:
A Phenomenological Study

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Abstract
According to the research, full-time school-based dogs can contribute significantly to a positive environment as well as have a positive impact on children and young people's social and emotional development, behaviour and enthusiasm towards academia. The research comprised of mixed method approach, phenomenological study. Findings support past research.

Keywords
School-Based Dogs; animal assisted therapy; social and emotional development; mental health; holistic approach.

Introduction
The researcher's interest in this area of study was influenced by witnessing a number of local schools recently introducing full-time dogs. After hearing a number of anecdotes about the dog's successes this became the chosen area of study. The purpose of this research was to explore the motives for and benefits of introducing a full-time canine into an educational setting. In particular, the research was concerned with the benefits of this introduction for the settings with children and young people. A phenomenological study was chosen to explore the experiences of those introducing dogs full-time into their schools. Semi-structured interviews, online questionnaires and observations formed a mixed method approach. Building upon the success of animal assisted therapy (Nimer and Lundahl, 2007; McDowell, 2005; Heimlich, 2001) and animal assisted activities (Thigpen, Ellis and Smith, 2005; Howie, 2000) the analysis revealed success when introducing a school-based dog. Full-time canines appeared to have a positive impact on the setting's children and young people's social and emotional development, behaviour and enthusiasm towards academia as well as corresponding benefits for parents and staff. To a certain extent this will highlight the pressures currently facing students and teachers by focusing upon how the introduction of a school-based dog may contribute to a positive environment.

Literature Review
Today our children and young people are growing up in a society where they are facing an intensified amount of expectations and demands. Concerning, yet not surprising, these pressures are leading to academic failings (Grant *et al*., 2012). 1 in 8 children and young people suffer from a mental health condition (NHS Digital, 2018). Consequently, schools are being charged with the progressively difficult task of supporting both the academic as well as the social and emotional development of those in their care (Elias, Arnold and Steiger Hussey, 2003; Cefai, 2008). Compared to those who can regulate their emotions, those who cannot when facing these challenges are at an academic disadvantage (Graziano *et al*., 2007) as links are made between mental health and academic success (Brännlund, Strandh and Nilsson, 2017).

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Self-awareness, social awareness, self-management, relationship skills and responsible decision making are all traits that help children and young people succeed at school and in wider life (Weissberg, Durlak, Domitrovich, and Gullotta, 2015; CASEL, 2003). It is vital that we see increased efforts to ensure our children and young people are supported at both school and in society. 'A positive school environment can [lead to] greater well-being and happiness, an improved sense of belonging and better quality of life for those engaged' (WHO, 1999, pp 5), in turn having an effect on academic success (Neely, Walton and Stephens, 2015). Accordingly, schools are seeking further ways to provide early interventions that cultivate the desired and necessary social and emotional skills in their children and young people (Huppert and Johnson, 2010; Napoli, Krech, and Holley, 2005) while reflecting upon the emotional influences they adopt in school (Shen *et al*., 2009).

In recent years, our national newspapers have been frequented with stories of an 'epidemic of stress' (Asthana and Boycott-Owen, 2018) leading to a number of teachers quitting or going off sick (Tapper, 2018). Contrary to the popular belief that teachers finish at 3 o'clock and have copious amounts of work free holidays the 44, 000 respondents to the workload challenge revealed that the three areas that impact teacher workload the most are marking, planning and data management (DfE, 2018). This pressure and stress is causing 73% of newly qualified teachers (NQTs) in the UK to consider leaving the profession (ATL, 2017). We cannot ignore this or its potential to cause negative consequences for our children and young people (Roeser *et al.*, 2012). Paired with the pressures faced by students it is no surprise that schools are seeking alternative ways, such as school-based dogs, to enhance their environment.

For an indeterminate length of time, we have welcomed pets into our homes, with owning a pet seemingly being linked to benefits such as lowered blood pressure and strengthened immunity (Anderson, Reid and Jennings, 1992). Concerning man's best friend Cohen (2002) suggests that often owners feel very close to their dogs and see them as an important source of social support. This is a relationship that does not appear to be restricted by age as Bowers and MacDonald (2001) found that even children as young as 5 turn to their dog when they are feeling stressed or are in need of unconditional affection.

It is important to consider how long we have turned to animals as a source of support. Boris Levinson described the positive effects of companion dogs on severely withdrawn children as 'pet therapy'; Levinson (1962) explained that he could 'reach' the children when his dog Jingles was present. Levinson went on to write widely about pet therapy with children in residential homes (1968, 1969, 1970, 1971, 1972; Levinson and Mallon, 1996). This insight was furthered by Walsh (2009), who suggested that we see dogs as friends and therefore consider they provide a safe place for sharing. Today trained therapists make use of the human-animal bond by introducing animals into their treatment plan as they see fit (Chandler, 2011). The presence of an animal during therapy has been proven to motivate participation (Fine, 2000) and reduce the amount of stress a person is experiencing (Burton, 1995; Flom, 2005). Children and young people are more likely to disclose in the presence of an animal (Lefkowitz, *et al.,* 2005; Reichert, 1998). Animal assisted therapy (AAT) has been applied to a range of difficulties as well as a variety of individuals including children, adults and the elderly (Nimer and Lundahl, 2007) across a number of settings such as hospitals (McDowell, 2005) and schools (Heimlich, 2001). AAT employs a range of animals including horses, dolphins and dogs, however, dogs are proven most popular due to their trainability, availability and predictability (Glenk, 2017). Marcus (2011) describes therapy dogs as being 'trained, tested and certified to be able to consistently and safely provide comfort and affection to people in nursing homes, assisted living facilities, hospitals and schools' (pp. 5), although this description is perhaps more akin to animal assisted activities (AAA).

Animal assisted activities (AAA) include a broad range of activities where animals assist humans (Mills and Hall, 2014). AAA is less formal than animal assisted therapy (Thigpen, Ellis and Smith, 2005; Howie, 2000); interactions can be spontaneous, rather than directed (Kruger and Serpell, 2010). These activities are meant to promote human well-being (Nimer and Lundahl, 2007). Nebbe (1991) explains how working with dogs can also boost self-esteem and social skills in children. Arguably, the less formal approach of animal assisted activities would be a school's intention for getting a dog. Studies have shown a quick attachment between children and animals (Alvord, Zucker and Grado, 2011). Children are given another source of physical connection where they are able to hold and stroke the animal and experience comfort (Geist, 2011). Rud and Beck (2000) explain that animals can be used to motivate pupils with emotional and behavioural difficulties, furthermore, he describes an increase in responsibility as pupils are given the opportunity to care for a living thing. Encouraging them to consider their behaviour around the dog (Firmin *et al.,* 2006) increases the chances of this respectful behaviour elsewhere (Siegel, 2004).

Animals have been used successfully with those with autism spectrum conditions (Redefer and Goodman 1989; Sams*,* 2006; Kern *et al.,* 2011), medical conditions (Havener *et al*., 2001), social and emotional difficulties (Barker and Dawson 1998), behaviour difficulties (Nagengast *et al.,* 1997) and physical conditions (Nathanson *et al*., 1997; Hooker et al., 2002). A source of non-verbal, non-judgemental companionship, dogs have a positive impact on the social skills of children with autism (Soloman, 2010; Grigore and Rusu, 2014) which provides an opportunity to rehearse social skills without the stress of other people. Even the presence of a guinea pig compared to just toys improved social behaviours in children with autism (O'Haire, 2013).

The academic benefits of dogs in educational settings cannot be ignored; dogs are being used to develop reading skills in schools (Filiatre, Millot and Montagner, 1986; Marcus, 2011). Pets are considered a source of support (Van Houtte and Jarvis, 1995) providing children with qualities that people cannot (Bueche, 2003). Reading dogs promote acceptance and trust (Thigpen, Ellis and Smith, 2005; Anderson and Olson, 2006). Furthermore, reading to a dog can reduce the amount of stress experienced compared to reading to a friend or adult (Jalongo, Astorino and Bomboy, 2004). Children describe reading to dogs as exciting and enjoyable (Lane and Zavanda, 2013). Bueche (2003) argues that dogs that can 'pay attention' to children reading make the best therapy dogs. Additionally, Nebbe (1991) explains that animal assisted activities can promote learning in a range of subjects as well as reading.

When involving animals, such as dogs, with children and young people the risks and challenges must be considered. Obvious risks may include the possibility of biting, scratching and kicking (Thigpen, Ellis and Smith, 2005), allergies (Heimlich, 2001), cultural differences and fears (Jalongo, Astorino and Bomboy, 2004; Thigpen, Ellis and Smith, 2005). Nevertheless, the associated challenges and risks may be minimised by careful consideration by the school regarding breed, training and care. Animals are often also selected due to their breed, life expectancy and temperament (Fredrickson-MacNamera and Butler, 2010). A number of scholars (Serpell and Hsu, 2005; Notari and Goodwin, 2007; Duffy *et al.,* 2008; Hsu and Sun, 2010) have identified behavioural differences between dog breeds which should be considered when a school is deciding upon a breed. Earlier experiences can influence an adult dog's behaviour (Dwyer and Lawrence, 2005), therefore, emphasising the importance of training approach. There are a number of training types available to train dogs (The Kennel Club, 2018). However, benefits and drawbacks must be considered. Punishment based training can cause stress, suffering and fear (Schalke *et al*., 2007; Beerda *et al*., 1997; Blackwell and Casey, 2006) and has been linked to increased aggression, excitability and distraction (Arhant *et al*., 2010). Less abrasive, positive reward training has been proven to encourage higher performance and obedience in dogs (Hiby *et al*., 2004; Haverbeke *et al.,* 2008). Heimlich (2001) argues that children with allergies should not be included in animal assisted activities, however, Nebbe

(1991) explains even those allergic to dogs can still be captivated by them. Schools may select a dog that is hypoallergenic, although no dog is 100% hypoallergenic choosing a breed that does not shed may be helpful concerning allergy sufferers (America Kennel Club, no date). It must always be decided if animal interaction is appropriate for those with fears (Netting, Wilson and New, 1987). To negate these fears children should interact with calm, mild and sensitive animals (Jalongo, Astorino and Bomboy, 2004; Thigpen, Ellis and Smith, 2005). Watching peers interact positively with therapy animals may also help (Bandura, 1977).

Similarly, to the welfare of our children and young people we must acknowledge the importance of the dog's safety and welfare. It is important that the dog is not overworked and has time to exercise, eat and drink, rest and relieve itself (Chandler, 2005; Granger and Kogan, 2006). Moreover, the dog should not be over scheduled (Jalongo, Astorino and Bomboy, 2004). The dog must also be treated with respect. Jalongo (2006; 2008) explains that children must learn to be empathetic towards the dog and how to behave appropriately towards them, this behaviour should be modelled by the adults working in the setting (Jalongo, Astorino and Bomboy, 2004).

So, we are gradually building a picture of what having a dog in school may look like. The literature suggests that dogs have the ability to reach a range of individuals in a range of settings. This research aims to evaluate the degree of success schools have found through introducing dogs into their settings full time.

Methodology

The philosophical standpoint underpinning this research comes from an interpretive paradigm (Crotty, 1998; Burr, 2003; Gergen, 2009; Denzin and Lincoln, 2005). Willis (2007) explains that interpretivism seeks to understand a particular context, in this case the use of dogs in educational settings. This implies a subjectivist epistemology (Crotty, 1998; Grix, 2004; Ratner, 2008) and therefore the ontological stance of relativism (Guba, 1990, Guba and Lincoln, 1994). The researcher is concerned with the lived experiences of the participants (Kruger, 1988; Kvale, 1996; Robinson and Reed, 1998), interpreting and understanding a socially constructed phenomena (Howell, 2013) by adopting a phenomenological approach (Schutz, 1962; Husserl, 1970; Bryman, 2004).

The methods used during this research are both qualitative and quantitative. Choosing mixed methods of research combine the strengths of the approaches while diminishing the weaknesses (Plano Clark and Creswell, 2006; Andrew and Halcomb, 2006; Greene and Caracelli, 1997). Scholars (Kvale and Brinkmann, 2009; Marshall and Rossman, 2010) argue that semi-structured interviews suit a phenomenological approach, so, they were carried out with a convenience sample (Plowright, 2011) of three contacts made during teaching placements. The semi-structured interviews were complemented by online questionnaires. The questionnaire was shared with educational establishments known to have dogs, with the option to share with others, anticipating a snowball sample as described by Blaikie (2000). Additional insights into the phenomenon were gained by observations of dog training sessions. These observations also took advantage of already existing contacts, therefore, also consisted of a convenience sample (Plowright, 2011).

Golafshani (2003) and Seale (1999) explain that researchers should both examine and maintain trustworthiness to ensure reliability and validity in their work. Ways to achieve trustworthiness include: considering personal biases (Morse *et al*., 2002); engaging with other researchers to reduce bias (Sandelowski, 1993) and data triangulation (Sandelowski, 1993; Long and Johnson, 2000; Creswell and Miller, 2000). Therefore, the researcher adopted the stance of 'the stranger' as described by Schutz (1962), a form of bracketing that supports phenomenology, allowing the researcher to be unencumbered

by their assumptions. Furthermore, the research methods were carried out contemporaneously, with the data being used iteratively to attempt to ratify findings within the research (Denscombe, 2014) as part of a concurrent triangulation design (Greene et al., 1989; Morgan, 1998; Steckler et al., 1992). A further bias that should be considered is that of the participant; due to the Hawthorne effect (McCambridge *et al*., 2014) participants were guaranteed anonymity. Accordingly, the researcher is striving for both reliability and validity.

Inductive analysis allowed themes to emerge from the data (Strauss and Corbin, 1998; Bryman and Burgess, 1994); manual methods such as those described by Saldaña (2009) and Elliott and Gillie (1998) were used to carry out this analysis. In order to reduce bias during the analysis a minimum of two others, both of whom are neutral, were asked to read the data to see if similar themes emerge (Sandelowski, 1993). Kitto *et al.* (2008) explain that due to their nature, the generalisability of qualitative findings is often viewed as unattainable and irrelevant; here the researcher is not claiming generalisability due to the studies aim to understand, through their accounts, the experiences of the individuals (Groleau *et al.,* 2009; Mishler, 2000).

This research adheres to the University of Cumbria Research Ethics Policy (2018) and has been approved by the researcher's supervisor. Participants were provided with an information sheet (Blaxter *et al.,* 2006). Those participating in the interviews were asked to sign a consent form and consent was implied by the completion of any questionnaires and by those who do not choose to withdraw during observations. All data was kept on a secure flash drive and was encrypted. All participants were anonymised and could withdraw at any time without reason. The research would not cause any harm (Densombe, 2014). The value of the research is personal to the researcher as it will assist their professional development.

Results

The researcher carried out three semi-structured interviews with staff at three different educational settings with a full-time dog. An online questionnaire was sent to schools known to have a full-time dog with an invitation to send this on to other settings; there were 10 respondents to the questionnaire. Finally, the researcher carried out observations at two dog training sessions.

The four themes identified during analysis were: school dogs have social, emotional and behavioural benefits for pupils; school dogs have educational value; school dog's welfare and training; and introducing a dog to school.

Themes and subthemes	**Evidence from interviews, questionnaires and observations**
<u>Theme 1: School dogs have social, emotional and behavioural benefits for pupils</u> 1a. Social and emotional support	All interviewees gave examples of their dogs calming upset children (interviews). One interviewee talked about the engagement team working closely with their school dog (interviews). Interviewee commented on their dog having an impact of children up to key stage 5 (interviews). All interviewees mention physical comfort such as cuddles (interviews). All interviewees had the intention to use their dog for pastoral support (interviews) Two interviewees talked about the presence of their dog easing tensions between children and parents (interviews). 100% of respondents use their dogs to calm and comfort pupils (questionnaire). 100% reported improved social interactions between pupils due to the school dog (questionnaire).
1b. Improved behaviour	Children must behave respectfully when the dog is in class (interview). 100% reported improved behaviour (questionnaire).

1c. Overcoming fears	All interviewees gave examples of children who had overcome their fear of dogs due to their school dogs (interviews). One respondent described how a number of children at their school have overcome their fear of dogs due to the school dog (questionnaire).
1d. Ease transitions	Dog used to settle children who arrive early (interviews). Two children walk the dog as part of their morning routine (interviews). Dog wears school uniform and accompanies staff while children arrive and leave on school buses (interviews). Two told children about how their dog doesn't always want to come to school but they do (interviews).
1e. Dogs are used as rewards	All interviewees use their dogs as a reward (interviews). Dogs take part in school celebration assemblies including preforming tricks and delivering prizes (interviews). 80% of respondents use their dog as a reward (questionnaire).
1f. Positive impact on pupils with ASC	Interviewees gave examples of how having a school dog has benefited four autistic pupils (interviews). Two respondents described positive experiences of autistic pupils with the school dog (questionnaire).
1g. Improved interactions with parents/ carers	Two interviewees described how having the school dog has encouraged

	interaction with parents at the end of the school day (interviews). One respondent identified improved interactions with parents as an unexpected benefit (questionnaire).
1h. Human-canine bond	Dogs are more responsive (interviews). Dogs and more interactive and encourage physical activity (interviews). Trainer talked about the importance of relationship-based training with owners (observation).
<u>Theme 2: School dogs have educational value</u> 2a. Dogs are used during formal lessons	All interviewees stated that dogs are used as part of lesson plans (interviews). A teacher used designing an obstacle course for instructions writing - the interviewee stated the children's work was of a very high standard due to being able to design the course and take part with the dog (interview). 60% of respondents use their dogs as part of formal lessons (questionnaire). 100% of respondents use their dog to motivate pupils (questionnaire). 80% reported improved academic performance due to the introduction of a dog (questionnaire). 70% reported improved participation due to their school dog (questionnaire).
2b. Dogs can support reading	All interviewees have used their dogs to encourage reading (interviews).

	Dogs have been trained to nudge the book to encourage the children (interviews).
2c. Dogs can be used to teach animal care and training	Children's confidence improves as dogs are non-judgemental (interviews). One respondent is training their dog to be a reading dog (questionnaire). 70% of respondents use their dog to teach animal care (questionnaire). Children must behave respectfully when the dog is in class (interview).
<u>Theme 3: School dog's welfare and training</u> 3a. Dogs must experience consistency	All school dogs have one staff member who is responsible for them and who takes them home (interviews and questionnaires). All interviewees described how their dogs have regular timetabled breaks and will be removed early if necessary (interviews).
3b. Dogs must have regular breaks	Dogs have their own space where children are not allowed (interviews). 50% of respondents' dogs have their own space free from the children (questionnaire). One respondent's dog only works part time as they believe it is better for their welfare (questionnaire). Trainer encourages regular breaks from training. Owners give dogs regular breaks (observations).
3c. Children are taught how to behave around/ interact with the dogs	All interviewees explained how children are taught how to behave

	around the dog including approaching them and classroom noise (interviews). Children know they dog will be removed if their behaviour is not appropriate (interviews). 100% of respondents introduced rules regarding how to behaviour around and approach the school dog (questionnaire).
3d. Training is important	All interviewees had untaken both basic and specific training with their dog (interviews). 100% of respondents have undertaken training with their dog (questionnaire). 50% have attended training specific to their dog's role (questionnaire). 50% have attended obedience training (questionnaire). 30% have only attended basic training with their dog (questionnaire). Only force free training used (observations).
3e. Dogs are introduced to setting as puppies	All interviewees brought their dogs to school as puppies before formal training (interviews). 30% of respondents introduced their dogs to school as a puppy (questionnaire). During 'puppy class' trainer comments on the importance of introducing

	expectations of puppy as early as possible (observation). Interviewees described boisterous behaviour effecting training and meaning the puppies had to be removed (interviews). Toilet training in a school is difficult (interviews).
<u>Theme 4: Introducing a dog to school</u> 4a. Influenced by other settings experiences	All three interviewees described how seeing the success of dogs in other settings influenced their decision (interviews). One interviewee talked about now visiting other setting to show them the benefits of having a school dog (interviews).
4b. Dogs require a responsible adult	One interviewee both owns and takes responsibility for their school dog as it was her idea initially (interviews). Two interviewees volunteered to take responsibility for the dogs, however, these dogs are school owned (interviews). Costs are split between the responsible adult and schools dependant on what they are for (interviews). All interviewees talked about owning dogs previously (interviews). All respondents where the staff member responsible for their settings dog (questionnaire).
4c. Carrying out research	Research was carried out by members of SLT and the adult responsible for the dog (interviews).

	All interviewees recommend schools carry out research before considering a dog (interviews).
4d. Choosing a breed	All interviewees' dogs are cross breeds that all include Poodle (interviews). 30% of respondents' dogs were cross breeds that included Poodle and 30% had Golden Retrievers (questionnaire). All interviewees stated a reason for choosing Poodle was because they are hypoallergenic (interviews). One respondent stated they chose Poodle due to them being hypoallergenic. Two interviewees stated they chose Poodle due to their intelligence (interviews). Poodles used for demonstrations, also, Poodles were first to carry out tricks successfully (observations).
4e. Introducing policies and risk assessments	All interviewees talked about the importance of introducing policies and carrying out risk assessments (interviews). All respondents introduced rules and policies (questionnaire).
4f. Staff 'spoiling' the dog	Staff members accept undesirable behaviour and encourage jumping and kissing by fussing the dog (interviews). 30% of respondents listed this as an additional challenge (questionnaire).
4g. Practicalities	Trainer repeats throughout classes the importance of marking the correct

	behaviour otherwise the dogs will become confused (observations). School responsibilities such as meetings can be difficult for those responsible for the dog (interviews). Two respondents commented on the difficulties of being responsible for the dog and having to attend meetings (questionnaire).

Discussion

Throughout this research the participants' enthusiasm and satisfaction was apparent. Those involved have had overwhelmingly positive experiences of introducing a dog into their educational setting, and this is reflected in both the data and their willingness to share their stories. As identified in the results chapter, four central themes were established. This discussion will prioritise the examination of some themes and sub-themes due to their significance in our current education system and wider society. The dogs have been described as having a positive impact on the setting's children and young people's social and emotional development, behaviour and enthusiasm towards academia, consistent with other research.

During the research, the useful impact on children and young people's social and emotional well-being from the introduction of a school dog was apparent. As expected, interviewees and respondents shared a number of stories illustrating the benefits. One participant described a young girl who 'talks about self-harm' and 'can't process this' and how this sometimes leads to 'tantrums and throwing things' but how a morning walk with the school dog can 'get the day off to a good start' allowing the 'opportunity to talk' and 'boost their self-esteem because they are doing something special' (appendix B.1). With 1 in 8 children and young people suffering from a mental health condition (NHS Digital, 2018) and the increasing amount of research supporting the link between mental health and academic success (Brannlund, Strandh and Nilsson, 2017) we must take advantage of the fact that schools are uniquely placed to support children and young people with their social and emotional development. If skills are taught and applied in supportive environments it is possible we can contribute to pupils developing resilience and coping strategies. So how do school dogs contribute to this? The study's finding are consistent with past research in that dogs in schools have demonstrated effectiveness in supporting children and young people socially and emotionally. Perhaps here it would be appropriate to invoke the well-known saying 'prevention is better than cure', why would we allow children and young people to reach such levels of anxiety without intervening? Here, through the use of their school dog this interviewee illustrates how school-based dogs can be used to reduce the chance of incidents, something that is critical as the pressure for schools to support pupils other than just academically increases.

The introduction of a school dog provides support for children and young people when expressing themselves. A questionnaire respondent comments on how 'seeing a student open up to the dog when in crisis is phenomenal, there's no way to create that with a human' (appendix D.1), echoing Levinson's ability to reach children with the help of his dog Jingles (1962, 1968, 1969, 1970, 1971, 1972; Levinson and Mallon, 1996) and corresponding with the findings of Walsh (2009) who explains dogs are seen as friends and therefore provide a safe place for sharing. Moments like this mirror AAT where children are more likely to disclose in the presence of an animal (Lefkowitz, *et al.* 2005; Reichert, 1998). However, the

difference here is that school dogs are not being used alongside a trained therapist. School staff are uniquely placed to build trust with their children and young people, with the support of a dog this may be enhanced. Interviewees described how they use their dog to support pupils in this way when necessary. One explained their intention to 'introduce a system whereby [teachers] make a request if they've got a child that would benefit from working with one of the dogs and they say what they would like to help them with and then we'll just put a little program in place and for them to spend maybe a time daily or weekly with the dog to work on a particular issue' (appendix B.2). All of the interviewees have only recently introduced their dogs with the oldest at 18 months, and only one has completed their training so, accordingly, they are all still exploring how they can use their dogs most favourably in school. It is interesting to consider how in the future they may adopt an approach similar to AAT, a feasible area for further research.

A dog's ability to calm and comfort children and young people is an important factor to consider. According to the interviewees, school dogs console upset pupils through physical comfort, in line with the findings of Burton (1995) and Flom (2005) who make it clear that dogs can reduce the amount of stress we are experiencing. 100% of questionnaire respondents also use their dogs to calm and comfort pupils. The dogs have comforted physically hurt children, grieving children and those who have fallen out with friends. One interviewee described the dogs effect as 'absolutely incredible' and 'immediate' (appendix B.3), offering a useful tool for schools as physical contact between teachers and children and young people is increasingly deemed inappropriate and unprofessional. Both safeguarding our pupils and protecting ourselves is a priority, however, as teachers take an increasingly hands-off approach to contact school dogs may provide the comfort and support children require.

School dogs also strengthen the school climate. Both the interviews and questionnaires indicate that introducing a school dog contributes to a positive school environment. Comments include 'great addition to the coldness of the school building' and 'a massive part of our everyday school life' (appendix D.1). This is an important contribution, as a sense of belonging and connectivity in school can have an impact on social and emotional development and in turn academic success (Neely, Walton and Stephens, 2015).

Children and young people who are afraid of dogs must be considered. Agreeing with previous research this study illustrates the potential for pupils to overcome their fears by interacting with the school dog. Each interviewee gave examples of how pupils had overcome their fear of dogs such as a '14-year-old who was absolutely terrified of dogs [who] now just loves Penny' (appendix C.1) and a little girl who wouldn't 'have anything to do with dogs but that completely changed when we got Buddy in school' and she will now 'happily stroke him' (appendix B.4). One questionnaire respondent also gave an example of a child overcoming their fear. It would appear the schools have found success here by introducing their pupils to calm, mild and sensitive dogs as recommended by Jalongo, Astorino and Bomboy (2004) and Thigpen, Ellis and Smith (2005). The children interact with the dogs once they realise the dogs are 'very calm' (appendix A.1). However, all interviewees express how they would never force the dog upon any pupils, in line with the thoughts of Netting, Wilson and New (1987) who explain that we must also consider what is appropriate for children with fears. The potential for a child or young person to overcome their fear is valuable, yet, the advantage here is the chance for the pupils to now gain from the other benefits provided by a school-based canine.

The examples brought up throughout this study illustrate a positive impact on pupils with autism. A number of positive relationships between autistic pupils and the school dog were described by all interviewees and two questionnaire respondents. However, this is hardly surprising as a number of studies have that found animals have a beneficial impact on those with autism (Redefer and Goodman 1989; Sams

et al., 2006; Kern *et al*., 2011), particularly on their social skills (Soloman, 2010; Grigore and Rusu, 2014). One participant mentioned a girl with autism who is 'a reluctant speaker, but, when she came to meet the dog spoke all the way back to the classroom', and explained how 'spending time with an adult and talking to the dog will help with her speech' (appendix B.5). Another participant described a gradual development of a relationship between a once 'very unsure' autistic boy who after encouragement 'spoke to Bella… and even stroked her' which is a 'big achievement and he's looking forward to' next time (appendix A.2). Also, a questionnaire respondent explained that 'an isolated ASD student comes to see her every morning, walks her [during] recess and lunch, and, as a result, has [a] social interaction that she otherwise wouldn't' (appendix D.2). We have established that these relationships flourish due to the dogs being a non-verbal, non-judgemental source of support, however, with O'Haire *et al.* (2013) finding that even the presence of a guinea pig can improve social behaviours in children with autism we cannot conclude this impact solely belongs to canines and is in fact most likely due to the animal attributes that they share with fellow mammals.

The school dogs have also proven to have a favourable impact on staff. With the focus of the study on the effects on children and young people the benefits for staff were unforeseen. Interviewees described how their dogs have brought joy to their staff, one mentioning how a member of staff volunteers to walk their dog up to three times a day. Four questionnaire respondents referred to the impact on staff, with one commenting 'the positive impact on staff morale is also immeasurable' (appendix D.1). Although unforeseen, these results should not be surprising as the physical benefits of a relationship with a canine (Anderson, Reid and Jennings, 1992; Cohen, 2002) are undisputed. Moreover, the staff may benefit indirectly from the changes noted for the children such as social and emotional development, behaviour and enthusiasm contributing to an improved environment for teaching and learning.

100% of the questionnaire respondents reported that having a school-based dog improved behaviour. Each interviewee explained how their pupils are taught how to behave respectfully around them, in line with the advice of Jalongo (2006; 2008). All questionnaire respondents also use their dogs to teach respect. As we encourage positive behaviour compared to just the absence of 'bad' behaviour, teaching the children how to behave around the school dog is an opportunity to encourage and support positive behaviour. Pupils become aware of their behaviour around the dog (Firmin *et al.,* 2006) and expecting this behavior around the dog increases the chance of it being replicated elsewhere (Siegel, 2004). Although this explicit teaching is not the only influence on behaviour linked to the introduction of a school dog. It could be argued that the beneficial impact of the school dog on the social and emotional development of pupils also contributes to improved behaviour, however, we cannot make this conclusion as there are a number of other possible influences. Still, in line with earlier research (Rud and Beck, 2000) keeping a dog has shown an increase in pupil's responsibility. The interviewees recalled pupils walking, training and feeding their dog, and 70% of the questionnaire respondents used their dogs to teach animal care allowing the pupils an opportunity to care for a living thing (Rud and Beck, 2000) another important skill.

Introducing a dog into school has the potential to improve educational outcomes. Earlier research largely favours the impact on reading (Filiatre, Millot and Montagner, 1986; Marcus, 2011). Providing qualities people cannot (Bueche, 2003), reading dogs promote trust (Buechem 2003; Thigpen, Ellis and Smith, 2005; Anderson and Olson, 2006). All interviewees discussed using their dogs to support reading. However, not all had yet had success with one having a dog taking books off pupils compared to another who has 'trained [them] to nudge a book when the children are reading it' (appendix B.6). A questionnaire respondent also commented that their pupils read to their dog, all of which corresponds with previous research. Aligned with the research of Nebbe (1994) who explains that animals can promote learning in a range of subjects 60% of questionnaire respondents said they involve their dog in formal lessons and 80%

reported their dog had improved the academic performance of pupils. Interviewees gave examples of their dogs inspiring lessons, such as pupils designing and using an obstacle course followed by instructional writing. Indeed, this study has highlighted the opportunity to use the schools dog as a stimulus for lessons. Nevertheless, it could be argued that this is a bonus rather than an intention for getting a dog as capable teachers are able use a range of means to inspire their students.

This research points to the positive impact of a school-based through improving social and emotional development, behaviour and enthusiasm towards learning. As well as promoting a positive school climate. Plus, there are what may be considered extra benefits. However, given the limited sample these results can only be considered as indicative. A beneficial impact seems possible with the continuing support of a school-based dog and this may be confirmed with further research, possibly using a larger sample, that follows the progress of those involved over a longer period of time.

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