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A canine pedagogy: what can dogs teach us?

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degree of Master of Science (MSc.) Teaching Adults

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Preface

Throughout this journey I have been inspired by many images, they have connected my thoughts and helped me make sense of the complexities of writing.



This Dawn Redwood tree grows in a small botanic garden near my home. The Dawn Redwood was thought to be extinct until a small group of trees were found growing in China in 1948. This example was the first tree to be grown in Scotland, for me it symbolises the discovery of something that was always there, something that was waiting to be found. (picture source: author's own)



I have always been fascinated with the fragile, yet complex structures that grow together to form coral reefs. Nature's ability to create living organisms that can co-exist in such a way has inspired my interpretation of the theoretical structure of this research framework. (picture source: wikicommons)



This picture was taken at a 2018 art exhibition in Kelvingrove art gallery museum in Glasgow. The artist, Sophie Cave, depicted emotion through an arrangement of floating heads. This image inspired my methodology, having seen the power of emotion conveyed through facial expression. (picture source: author's own)

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Thanks to all the participants for giving up their time to take part in this study. They allowed me to step into their worlds and for that I am extremely grateful.

Finally thank you to Harris...a very special little dog.

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Abstract

The use of animal interactions designed to promote student wellbeing in further and higher education has become a popular pre-exam strategy utilised by many colleges and universities in the UK. This study explored the influence of an animal intervention on perceived wellbeing and was conducted with final year paramedic students prior to undertaking clinical assessments. Drawing on the works of Wilson (1984), Latour (2005), and Nussbaum (2011), the study was designed using a qualitative approach that centred on the narrative of lived experiences supported by observation, video footage and still photography. Eight participants were invited to engage in a structured play session with a dog. Following this interaction participants shared their personal experiences in a focus group setting.

All participants involved in the study reported feeling an improvement in their perceived sense of wellbeing after playing with the dog. These promising findings suggest there are additional benefits associated with animals in this learning environment, further research in this area would be of great help in establishing more conclusive results.

Chapter 1 Introduction

“I’m teaching until 4:00pm, could you bring Harris along to my office later?”

**“I wish you had been in yesterday, I failed my exams. I could have done with a cuddle
from Harris”**

“I miss my dog, I’ve not seen him for three months”

“I work in the campus life office, could you sneak him up for a visit?”

The sight of a dog on a university campus is, more often than not, met with smiles and conversations, shared experiences, photographs, and a general feeling of happiness. The sight of a dog in a school of health and life sciences is more unusual. In what is an austere clinical environment, one that is home to staff and students of various health disciplines, the appearance of a warm, happy dog with a wagging tail is an unexpected but not entirely unwelcome surprise. This research is inspired by a single teaching experience, its consequences and its resolution.

Since early 2011, paramedic education in the Scottish Ambulance Service has been conducted at the Scottish Ambulance Academy in Glasgow, Scotland. This programme of education consists of a two-year academic journey and culminates in the academic award of Diploma of Higher Education in Paramedic Studies (Scottish Ambulance Service, 2012). Students undertaking this course are in a position of having a dual identity, they are all full-time employees of the Scottish Ambulance service but adopt the role of full time students for the duration of their course. As a result, there is an employment consequence should they fail to complete the course. This additional pressure can have a significant impact on student well-being.

The paramedic programme is made up of a range of modules covering subjects spanning from Pathophysiology to Developing Paramedic Practice (*ibid*). Two of the clinical modules: Clinical Skills and Patient Assessment & Management, are assessed through a traditional medical assessment strategy known as the objectively structured clinical examination (OSCE). This form of assessment relies on students performing clinical examinations in a high fidelity simulated environment while being observed by an assessor. The OSCE is recorded on a digitally networked camera for quality control and evaluation by an external examiner. Determination of OSCE outcome depends on the accuracy of the students' performance, which is measured against a marking rubric. This study will be conducted during a five-week period which will culminate in a series of OSCE assessments.

Performance outcomes in this type of assessment are dependent on a number of factors such as student preparation and practice prior to the assessment, student skill, and underpinning knowledge. Looking beyond these straightforward factors there are more subtle

circumstances that can influence the outcome of the OSCE, in many cases anxiety associated with undertaking assessment is a significant factor (LeBlanc, et al., 2012; O'Carroll & Fisher, 2013; Lotz & Sparfeldt, 2017). As academic educators, we have a responsibility to prepare students to undertake OSCEs and we do so by facilitating clinical scenarios that test the students' clinical decision-making skills in a safe, but challenging, environment. This type of situational training allows the student to develop the skills required to cope with both task-contingent stress associated with the clinical intervention, and peripheral stress associated with the environment (LeBlanc, et al., 2009). While we are effective at preparing students academically to cope with these difficult situations, we often place less emphasis in preparing them emotionally, both for undertaking OSCEs and also for the emotional challenges that face them in the real world of pre-hospital care (Sartori & Fave, 2014).

The purpose of this study is to explore the relationship between humans and dogs in an educational setting. The main areas of focus will explore the influence dogs have over our perceived sense of wellbeing especially while working in an emotionally challenging situation. Participants in the study will come from a cohort of student paramedics entering the final phase of their academic programme at the Scottish Ambulance Academy in Glasgow.

To fully appreciate the influence dogs can have over our sense of wellbeing and our ability to flourish, it is helpful to have some understanding of the historical evolution of our affinity with dogs as a companion species. Dogs and humans have co-existed in a symbiotic relationship for over 15,000 years (Pearson, 2013; Morey & Jeger, 2015). Throughout history, dogs have played a part in the civilisation of humans throughout the world. The earliest evidence of the importance of their relationship can be seen in a Russian burial site, dated

from over 14,000 years ago, where the skeleton of a man was found alongside the skeleton of a domestic dog. The early link between humans and dogs suggests a strong emotional and spiritual bond that binds these two species together. The development of this relationship provided many benefits to both species from protection to companionship. As the human-canine relationship evolved, dogs became a fundamental part of our working lives in agriculture, the herding instinct of many breeds of dog was harnessed, leading to the development of large scale cattle and sheep farming (Marshall-Pescini & Kaminski, 2014).

The use of dogs in the field of education is a much more recent concept (Jalongo, et al., 2004; Beetz, 2013). Their presence in and out of the classroom has been shown to add an additional dimension to both the teaching and the learning experience (Hergovich, et al., 2002; Daly & Suggs, 2010; Correale, et al., 2017). Many different programmes exist across the scope of education from the introduction of dogs into pre-school nursery settings, to dog assisted interventions that take place in colleges and universities. Popular interventions often involve student wellbeing services, for example, where informal animal therapy sessions are facilitated for students prior to undertaking examinations (Grajfoner, et al., 2017).

Despite the large body of evidence that exists in this area, little is known about the effects of an animal intervention conducted with paramedic students. Therefore, the aim of this dissertation is to explore this unique area and contribute to the wider understanding of emotional wellbeing in pre-registration paramedic students. The overall structure of the study will be presented in six chapters, including this introduction. Existing literature will be explored by conducting a literature review in chapter two and examining the current knowledge in this field. Chapter three outlines the theoretical framework that forms the

foundation of the study. The research study itself will be approached using a qualitative method of enquiry with the purpose of conducting empirical research in the specific field of paramedic education, this will be explored in chapter four. The fifth chapter will present on the findings of the study and focus on the shared experiences of those participants who took part. The sixth and final chapter will give a brief summary of the study and consider the implications of the findings in relation to the future of paramedic education.

This study offers unique and important insights into the emotional experiences of paramedic students as they prepare to undertake stressful assessments. Having a deeper understanding of these inner, personal experiences allows for a greater awareness of the challenges faced by these learners and will contribute to the development of paramedic education in the future.

Chapter 2 Literature Review

2.1 Introduction

This chapter will review the current body of literature that exists across three areas that are relevant to this research project. These are animal assisted therapies and interventions, student wellbeing and simulation in paramedic education. This review will not consider literature out with these areas but will focus on the key themes that influence paramedic student wellbeing in relation to clinical assessments.

Initially literature was sourced through academic databases including British Education Index and CINAHL. Search terms related to the nature of the study such as “animal interventions and higher education”; “student wellbeing and animal interventions” and “animal interventions and paramedic education” were used to establish relevant studies. Results from these initial searches led to further academic journal articles that allowed a conceptual plan to be formed. This plan allowed for more detailed organisation of the literature, ensuring each article was reviewed in context.

2.2 Animal Assisted Therapies and Interventions

Humans have established co-dependent relationships with animals for thousands of years (Lupo & Janetski, 1994; Rick, et al., 2008; Grandgeorge & Hausberger, 2011). This relationship has long been known to have a positive influence on the health of individuals in both a

physical and mental health context (Anderson, et al., 1992; Trotter, et al., 2008; Hoagwood, et al., 2017). Therapies of this nature have found a place in history, Florence Nightingale was known to introduce small animals as part of her care of the chronically ill in the late 1800's (Nightingale, 1860). The therapeutic benefits associated with this engagement with other species have gained popularity in recent years and have become known as animal assisted therapies (AAT). AAT can be defined as "A goal-directed intervention integrated into a treatment programme that intentionally incorporates animals" (Society for Companion Animal Studies, 2013, p. 3).

While AAT has been shown to have significant value to individuals in clinical settings such as patients with long term medical conditions (Bert, et al., 2016; Chubak & Hawkes, 2016; Yap, et al., 2017), the benefits can be experienced and enjoyed by a much wider population. The introduction of animals in to care homes has been shown to have a significant, positive benefit on older individuals. Studies have shown that AAT programmes involving dogs, cats, birds and fish can improve problematic behaviours in patients with dementia and can lead to improvements in social connectedness, eye contact and verbal interactions (Richeson, 2003; Cherniack & Cherniack, 2014).

The benefit of AAT can also be experienced in more acute clinical settings. Willens (2013) discusses the improvements seen in patients attending a pain management outpatients' clinic when a therapy dog was in attendance. Those waiting with the dog reported significant improvement in pain and mood compared to those who waited without the dog. This reduction in pain associated with AAT was further demonstrated by Braun, et al., (2009) who investigated the benefits of ATT as an alternative intervention in the management of pain in

children. Their study of 57 children showed a strong correlation between reduction in perceived pain and ATT. This evidence reinforces the use of ATT as a complementary therapy, delivered alongside pharmaceutical interventions, in healthcare settings.

The use of ATT extends beyond a singular clinical purpose. In recent decades animals have been introduced to prison environments with the intention of assisting in the rehabilitation of offenders (Strimple, 2003; Allison & Ramaswamy, 2016). These prison-based programmes serve a dual purpose, they provide the physical and psychosocially therapeutic effects associated with animal interaction combined with humanitarian benefits which can improve violent and disruptive behaviours (Furst, 2006). Many prison animal programmes involve the rehabilitation and training of rescue dogs, often these dogs are trained to undertake service animal roles within the community such as companion animals for military veterans (Turner, 2007; Mulcahy & McLaughlin, 2013). These prison-based dog training programmes have been shown to improve the cognitive skills of prisoners which leads to greater employability on release. Leonardi, et al. (2017, p.10) found that young male offenders in a Scottish prison setting experienced positive benefits from engaging in a dog training course stating, “some participants described how the responsibility and affection they felt for the dogs, and the rewarding nature of these interactions, fostered a sense of commitment that helped them rise to the challenges posed by animal training and care, or educational activities”. This study in particular articulates the overall holistic effect of human-animal interaction. Participants reported an increased sense of achievement, improved self-confidence and a new found feeling of aspiration.

In the field of education, animals have increasingly been used to facilitate learning in a variety of educational settings. One particularly innovative scheme involves children reading to dogs, this activity has been shown to improve reading fluency, decrease reading-associated frustrations, and increase motivation to continue reading (Hall, et al., 2016; Kirnan, et al., 2016; Noble & Holt, 2018). Much of this benefit appears to originate from the calm, gentle, and non-judgemental presence of the dog (Friesen, 2010). Friesen also explores the catalytic effect a dog can have when it comes to developing a relationship between an adult and a child, “it draws attention away from him or herself and onto the dog and allows the child to feel accepted and trusted by the dog who is allowing itself to be touched” (Friesen, 2010, p27). While the focus of this article is on child and adult relationships, the concept of a dog facilitating a relationship between humans would be of significant benefit in the paramedic education environment, where time constraints can potentially prevent the development of trusting relationships between students and educators. A simple animal interaction may allow these bonds to be formed.

The introduction of animals into colleges and universities has become a popular strategy to mitigate the stress associated with exam periods. Haggerty & Mueller (2017) studied the prevalence of these programmes within higher education institutes in the United States and discovered 62% of the 68 responding institutes had an animal-assisted stress relief programme. In recent years, a number of studies have shown the effectiveness of these programmes in significantly reducing stress and improving wellbeing in students (Binfet, 2017; Muckle & Lasikiewicz, 2017; Binfet, et al., 2018; Delgado, et al., 2018; Wood, et al., 2018). While these collective studies have demonstrated a positive outcome in a traditional academic setting, they do not reflect the programme structure currently used by the Scottish

Ambulance Service for paramedic training. The use of a non-traditional programme, one that does not follow an annual exam calendar, results in paramedic students missing out on the opportunity to attend animal-assisted interventions offered by universities. As a result, there is limited evidence of the benefits of animal-assisted interventions for paramedic students. Collectively these studies indicate that animal interventions can play a critical role in the mitigation of stress and anxiety, they are beneficial in forming the foundation of a unique intervention designed specifically for paramedic students.

2.3 Student Wellbeing

The wellbeing of students is a primary concern for all academic institutes as it can have a direct impact on a student's ability to complete their academic studies (Stallman, 2010). Support services are usually provided through university student welfare services where advice, guidance, and support are available. Often these are delivered in collaboration with a multi-disciplinary team of professionals, each offering a specific skill relating to the pastoral care of students.

The notion of wellbeing is, in itself, ambiguous and would benefit from a clear definition. Finding this definition is a challenge as the considerable amount of literature published on the concept fails to agree on a singular interpretation (Dodge, et al., 2012). Despite this lack of a clear definition, Huppert and So (2013) suggest that wellbeing co-exists with mental health and these two individual states combined together create the concept of flourishing. Flourishing itself is associated with Aristotelian perspectives of feeling good and functioning

well, encapsulated in the concept of *eudaimonia* which suggests happiness is linked to the attainment of life goals (Helliwell, 2003; Elwick & Cannizzaro, 2017).

In an educational environment, flourishing can be fostered through wellbeing interventions that promote a positive psychology (Jayawickreme & Forgeard, 2011; Wilson-Strydom & Walker, 2015). Seligman, et al. (2009) refer to this concept as “positive education” in reference to successful outcomes being achieved when positive factors are promoted. The connection between positive psychology and flourishing has been linked to higher academic achievement and greater happiness in life (Peterson, et al., 2005; Datu, 2018). Evaluating student wellbeing has its own challenges. Student surveys are often used to capture the sense of feeling among student populations but terminology relating to wellbeing is often ambiguous. Questions often rate satisfaction rather than happiness and it can be argued that these are both important values in their own rights and future surveys should be adapted to reflect this. In recent years the validity of these types of student satisfaction surveys have been called into question (Porter, 2011; Porter, et al., 2011). This casts doubt on a survey as a reliable measure of student wellbeing.

There are many strategies available that promote student wellbeing. One that is gaining in popularity is a structured approach of mindfulness (Bamber & Scheider, 2016; Galante, et al., 2016; Kelly, 2016; Schwind, et al., 2017). Mindfulness is a practice, based on Buddhist philosophy, that aims to increase an individual’s awareness of their existence in the moment (Kabat-Zinn, 2015). This conscious awareness allows the practitioner to ground themselves in a non-judgemental and compassionate way. This approach is particularly helpful to

students experiencing anxiety and stress due to personal and academic problems (Rosenzweig, et al., 2003; Aherne, et al., 2016).

While there is a considerable body of literature relating to student wellbeing, there are far fewer studies focusing a research lens on students undertaking clinical disciplines. The research that has been conducted in this field pays greatest attention to medical and nursing students. Previous studies have overlooked the question of wellbeing in paramedic students, this is an area that would benefit from further investigation.

2.4 Clinical Simulation in Paramedic Education

Paramedic education relies on high fidelity clinical simulation to portray realism in a teaching environment. Since the development of the paramedic role in the early 1970s, education has evolved in tandem with the technological and professional advances made in medicine. Most paramedic programmes are delivered through universities in the form of a three-year undergraduate course, many of which involve placement elements in clinical and community settings. To prepare for these placements, practical skills, critical thinking and decision-making abilities must be assessed in simulated, but realistic, scenarios. This realism helps students make cognitive connections between the simulated environment and clinical findings (Boyle, et al., 2007; Williams, et al., 2016).

Taylor (2014, p. 557) explores the concept of role play in ambulance simulation, comparing it to a theatrical performance. They argue that a student's acting ability can be a significant obstacle that needs to be overcome to achieve success on their course. Taylor highlights one

of the fundamental challenges associated with simulation, “Taking a pulse on a manikin is not like taking a pulse on a warm, moving human being and talking to a manikin can prove understandably difficult”. Performing this play-acting interaction in a training situation is challenging but when there is an expectation to perform it under assessment conditions it can become overwhelmingly difficult for some paramedic students. This would indicate a potential point of increased anxiety for paramedic students, one that is not associated with clinical ability or underpinning knowledge. Roberts & Greene (2011) share this view, relating it to the transformational journey students take from novice to expert (Benner, 1984). While it is important for students to be convinced of the clinical presentation of their simulated patient, it is of equal importance that they invest emotionally in the experience. Katona (1952 p. 89) contextualises this, saying: “...we must compliment the intellect with emotions. The mind is not enough; the heart is equally important in the acquiring of understanding of others”.

Overcoming the challenges associated with engaging with simulation can be difficult, this may be exacerbated by a tendency to overuse clinical simulation for assessments. When faced with a pass or fail assessment scenario, students can associate this experience with anxiety, perceiving the simulation as a way of identifying fault rather than identifying ability (Jones, et al., 2011). This increased state of anxiety can have an impact on the students’ ability to *perform* in the role of an actor in these immersive, simulated environments, reducing the value of the experience for the paramedic learner.

2.5 Conclusion

Together these studies identify an existing relationship between paramedic student anxiety and clinical simulation, acknowledging this relationship highlights a need for change. Examining the literature has revealed a complex mix of barriers and drivers in the context of paramedic education that can potentially have a significant outcome on student performance. This suggests there is an opportunity to explore a new approach to enhancing and maintaining a positive sense of wellbeing in paramedic students. This research study will explore the possibilities of developing a novel approach to an established pedagogy. Through the medium of play, it will place an animal within the learning environment at a crucial time, known to be a point of heightened student anxiety.

Chapter 3 Theoretical Framework

3.1 Introduction

Three distinct theoretical areas contribute to the framework of this research. Before discussing each of these in detail, it is important to consider how these theories fit together to provide a network of support where each one compliments the others. Unlike a traditional concept of a multi-layered, hierarchical structure, where a base foundation theory underpins the others that follow, this alternative concept of intertwined support originates from a more organic three-dimensional format. Drawing inspiration from the natural world, comparisons can be made with naturally occurring formations such as the vast, and seemingly random, structure of a coral reef. This analogy considers each individual concept that forms these theories as elements woven together with each other to create a strong and robust framework similar to individual corals growing together to form an expansive, singular reef. It is apt that this conceptualized structure reflects the naturalistic foundation of the theories themselves, where lived experiences, the surrounding environment, and engagement with non-human objects are embedded within the core idea (figure 1.1).

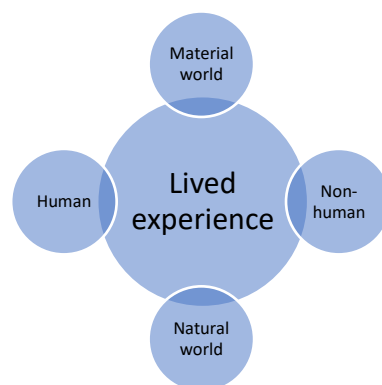


Figure 1.1: The relationship between the elements forming the lived experience

It should be reinforced at this point that the theories considered here relate to the emotional experience of the participant and are not connected to the underlying theories of animal therapy. The field of animal therapy is extremely broad and is underpinned by subject-specific theoretical frameworks such as those described by Fine (2010) relating to the implementation of animal therapy programmes in schools and counselling settings.

The three theories that inform this study are: Actor-Network theory (Latour, 2005), Martha Nussbaum's capabilities approach (Nussbaum, 2011), and the biophilia hypothesis (Wilson, 1984). Each one will be explored and its relevance and connection to the framework of this research made clear. Connections between each theory will be linked together to establish and situate each one within a shared theoretical context. Like ecosystems in nature, no one theory exists in isolation when viewing this study, although one may have a greater significance or impact than others at any given time. Each theory has a fluidity that allows for adaptation to the educational environment.

3.2 Actor-Network-Theory

The origins of the Actor-Network Theory (ANT) lie in the 1980s when existing concepts of educational theory focused primarily on linear social interactions in a very rigid structure. ANT challenged this thinking by suggesting that experiences and learning are constructed through a network of interactions with other non-human entities. These non-human objects can be anything such as animals, feelings, buildings, and literature. Each interaction shapes the outcome for the learner through the formation of links within the network (Saito, 2010; Fenwick & Edwards, 2011).

One of the main features of ANT is the value it places on connections made between objects within the network. The symbolism of these connections and what it means to the individual involved makes ANT different from other social theories (Latour, 2005). Latour defends the term 'network' as it implies there is no hierarchy of experiences and that each connection creates meaning that is of equal value to the individual.

ANT has not experienced the same degree of popularity within educational settings compared to other theories. This may be due to the ethereal nature of the theory, which is reinforced by John Law (1992), one of the key exponents of ANT. Law suggests that to label ANT as a theory constrains it by creating an expectation that it is primarily made up of power based social systems. Law recommends that it is more useful to view the actor-network as the effects of heterogeneous interactions between varying elements rather than the consequences of power struggles. Conversely, Latour (2005) expresses the ANT as a robust theory that takes fragile threads of experience and binds them together to form a strong and lasting connection. This research proposes that, for pre-registration paramedic students, a human-animal interaction before an assessment will provide an additional strand of experience that has the potential to further strengthen their emotional wellbeing.

Previous studies determined that reading to a dog improved the literacy skills of children and demonstrated that the presence of a dog in the classroom can create change. In the context of this research study, the role of the dog takes on a significance beyond *just* being an animal performing a task. Waltz (2006) discusses the role played by non-human actors in the ANT, using the example of a children's literacy programme to highlight the importance of the

presence of a dog within that programme. The point Waltz makes, by comparing the dog's capabilities against the state of California's teaching credential matrix, is powerful in that it highlights the potential the dog has as an actor within a child's network.

Criticism of ANT is often levelled against its perceived vagueness. Elder-Vass (2015) accuses Latour's view of expansive actor networks as being over ambitious and unrealistic. Elder-Vass stated that the same understanding can be achieved using a more conventional method, citing Pasteur's work on fermentation as an example of a straightforward, realist-constructivist approach that makes sense of a naturally occurring situation without the added complexity of network creation suggestive of Latour's theory (Elder-Vass, 2015).

Unlike Nussbaum's capabilities approach and Wilson's biophilia hypotheses, ANT has enjoyed a growing respect within the medical education community (Bleakley, 2012). The concept of ANT aligns with the formative strand of practice placement. For pre-registration paramedic students, practice placement is where they develop their newly acquired skills in a real-world environment. While it is important to develop and hone practical skills it is equally important for the student to develop the softer skills of communication, compassion and, empathy in this environment. Through the development of their own networks, they can blend these behaviours with practical skills to deliver truly holistic care to their patients.

3.3 Nussbaum – Capabilities approach

One of Martha Nussbaum's major philosophical works centres on our existence within the world and how we see ourselves within that space. While this covers an expansive range of social and political perspectives, it fundamentally places the individual at the centre of the theory and poses the question "what is each person able to do and to be?" (Nussbaum, 2011 p.18). Her work on the capabilities approach builds on the work of Amartya Sen (1992) who also holds a strong position on issues such as social justice and the dignity of individuals. Sen defines capability as "a person's freedom to achieve wellbeing" (Sen, 1992, p. 48). While acknowledging that these global issues have relevance to this research in a broad sense, a narrower focus is on the seemingly less important capabilities. Ilea (2008) argues that Nussbaum's approach cannot be fully extended to other species as it is impossible to view all nonhuman animals as beneficiaries of the approach. Contrary to Ilea's belief, it is the coming together of the human and nonhuman that holds the greatest interest for this specific study. Nussbaum's interpretation of the capabilities approach identifies 10 characteristics that are required for an individual to achieve the *minimum* level of dignity. These cover a wide range of fundamental human rights such as the right to bodily health, the right to live a full life and the right to use the senses, imagination, and thought. While there is no denying that these rights are important, Nussbaum talks of each of the capabilities having an intrinsic value and a degree of impact on society. For this study, the greatest interest lies in the capabilities that make real-life connections with non-human species. Listed as point eight in the capabilities approach is the right to engage with other species. It is followed by the right to be able to play and laugh. The combination of these two points provides clarity to the lens of the capability approach through which this research is viewed.

In recent years, Nussbaum's capabilities approach has found favour in many fields of education. The approach championed by Nussbaum and Sen has been used to shape the curricula, embedding individual wellbeing firmly within the classrooms and encouraging mainstream education to be a more inclusive educational setting (Hedge & MacKenzie, 2012; Wood & Deprez, 2012). The fundamental focus is on dignity of the individual, irrespective of their abilities. Education should nurture the learner and allow each individual the opportunity to flourish in an environment of mutual dignity and respect.

The capabilities approach has also been utilised within the field of medical education. Sandars & Hart (2015) discuss the application of the approach within medicine, in the context of developing medical students as whole people beyond the academic skills and knowledge required to be an effective doctor. While this has a personal benefit for the student there is a hope that the holistic, person-centeredness of the approach encourages the individual to transfer these principles into the care they provide for their patients. This ethos is strongly reflected in the role of the paramedic where a patient centred approach is essential. To this extent Nussbaum's capabilities approach already has an influence over the student paramedic.

The *right to engage with other species* and the *right to play* may appear simplistic but when placed within the context of paramedic training, they take on a new relevance that may seem unusual within a clinical education setting. Through the lens of the capabilities approach, these factors of engaging in play and contact with other species to facilitate change can be explored within this environment. Combining these two capabilities has the potential to

initiate an emotional change that improves the chance of a positive outcome for paramedic students undertaking emotionally challenging assessments. This emotional and affective transaction, exchanged between human and non-human through the medium of play, is the fundamental basis of this research.

Nussbaum's work on the capabilities approach is not without its critics, with some suggesting an overly generalised approach to human life and social policy does not translate easily from theory into practice (Carpenter, 2009). Interestingly, some of the most significant criticism is levelled against her thoughts on the application of the capabilities approach to animals. Nussbaum believes that all sentient beings deserve the same degree of dignity and social justice. This view of holistic equity is not shared by others, in fact, there is a suggestion that the capabilities approach proposed by Nussbaum does not go far enough. Fulfer (2013) argues that non-sentient beings should be afforded the same degree of acknowledgment within the capabilities framework. This suggestion is founded from a desire to allow all living things to flourish. Fulfer compares flourishing to an application of justice, irrespective of species. Nussbaum counters this argument by offering a framework of entitlement that dispels any preconceived notion of higher or lower species, suggesting commonality rather than hierarchy (Nussbaum, 2012).

Consideration should be given to the limitations of Nussbaum's capabilities approach in this research context. While there is a desire to apply this approach to students it should be acknowledged that the human-animal interaction is restricted to interaction with one other species, in this case, a dog. Consideration of the nature of play should also be noted. In these

circumstances the engagement in play is pre-planned and subject to a time limitation, spontaneous play with different species may yield a different outcome.

3.4 The Biophilia Hypothesis

This hypothesis was first suggested in 1973 when Erich Fromm proposed that humans have an innate desire to engage with other species. The term *biophilia* was coined, literally meaning 'love of life.' In 1984 biologist Edward O. Wilson further developed the hypothesis in his work. This theory is considered to be one of the main drivers of environmental conservation. It drives us to feed animals in our parks and gardens, rescue unwanted animals and bring them into our homes and altruistically donate money to animal charities all over the world (Saunders, 2003; Clowney, 2013; Root-Bernstein, et al., 2014).

The fundamental concept of the biophilia hypothesis centres on our supposed genetic predisposition to be attracted to other living species. Wilson questioned this desire and suggested it was a consequence of human evolution. This love of nature, manifested as a need to be with, and in nature was, according to Falk and Balling (2010), woven into our DNA. Numerous studies have investigated this perceived attraction to nature using, most notably, a preference for natural landscapes rather than landscapes consisting of urban features (Kaplan, 1995 cited in Kahn, 1999). Beyond a desire to exist surrounded by a natural environment, humans have the ability to bring elements of nature into their lives. Both pet ownership and animal assisted interventions have been shown to have a positive impact on psychological and physical health (Utz, 2013).

Biophilia provides a unique perspective from which to view the interaction between human and animal in the clinical setting of this study. It is not widely considered in the field of education or in healthcare, but this study offers an opportunity to view these worlds through a very different lens. Previous studies have demonstrated that a natural view from a classroom window can have a positive outcome on student academic performance and wellbeing (Grinde & Patil, 2009; Benfield, et al., 2015). This evidence suggests that student behaviour and wellbeing are influenced by their interaction with nature. Stavrianos (2016) promotes a biophilic pedagogy in special education suggesting that the development of school gardens can offer a holistic learning environment, rich in smell, texture and colour that “promotes interactive and experiential learning” (p.423). This concept is further reinforced by Howell, et al. (2011) who demonstrated a relationship between nature-connectedness and emotional wellbeing. They identify mindfulness as having a strong connection with emotional wellbeing and link this to the sense of being connected with nature. Similarly, Zelenski & Nisbet (2014) also draw on the biophilia hypothesis to explain the positive emotions associated with nature and the sense of wellbeing and connectedness it produces.

A major criticism of the biophilia hypothesis and its application in animal-assisted interventions is its lack of a clear definition (Joye, 2011). There is a suggestion that the hypothesis lacks any real sense of usefulness due to its vague construct and sole focus on the positive effect of animal engagement. Joye draws the conclusion that any interaction with an animal can be therapeutic and therefore, fails to consider the real effective relationship that is taking place. This opinion is further reinforced by Serpell (2004) who also questions the validity of the biophilia hypothesis. Serpell argues that there are many variables that

contribute to the usefulness of animal-assisted interventions and cites cultural background as one of the main limiting factors.

In contrast to Serpell, Howell, et al. (2011) suggests that that one of the benefits of mindfulness, experienced through a connection with nature, is a sense of acceptance that negative experiences happen in life. This acceptance is important in all walks of life but may be felt more acutely by those working in the field of medicine. In this environment paramedics must learn to come to terms with negative situations often involving poor patient outcomes. The term 'emotional numbing' is often used to refer to situations that have a stressful or negative association (Regehr, 2005).

In the context of this research study, there may be a perception that taking a clinical assessment is a negative experience and the interaction with the dog allows the participants a moment of mindfulness to reach a point of acceptance. This in itself may have a positive impact on emotional preparedness and wellbeing.

When viewed on its own, the biophilia hypothesis may be interpreted as overly broad with a bias towards positive experiences but when applied to this research within the context of the theoretical framework, it adds a layer of significant detail. It is best summarised by Wilson (1984) himself "Humanity is exalted not because we are so far above other species, but because knowing them well elevates the very concept of life'" (p. 22).

3.5 Conclusion

This theoretical framework has evolved from each of these independent theories. When combined, together each one informs the other. There is no dominant theory, they coexist within the overall structure exerting an influence throughout the experience. Together they form the lens through which this research will be viewed.

In the context of this research, there is a new opportunity to explore and develop a deeper understanding of the concept of emotional preparedness experienced by pre-registration paramedic students. While academic outcomes are important to all involved, this study is designed to explore the student experience before, and leading up to, the assessment and challenge some of the existing assumptions associated with paramedic education.

As the coral reef lives and grows in response to the changing environment around it, educational practice should grow and adapt in response to the changing landscape of learning. There is potential for new and exciting growth in paramedic education as the key elements of all three theories: Nussbaum's right to play and engage with other species, Latour's formation of expansive networks of interacting experiences, and Wilson's hypothesis of an innate desire to have other species in our lives, all converge in this one simple act of playing with a dog.

Chapter 4 Methodological Framework

4.1 Introduction

The purpose of this study was to explore the influence of a dog play session with paramedic students in relation to their perception of wellbeing prior to undertaking a clinical assessment. Eight participants took part in the study which was conducted over a three-day period in the week prior to their final clinical assessments. The participants came together for a facilitated focus group following the final dog play session.

As this study focuses on the experiences of student paramedics, it was conducted using a qualitative approach, specifically focusing on an ethnographical perspective, to capture the individual, lived experiences of each participant. This approach was chosen as it lends itself to the generation of highly descriptive data in the form of participant narratives (Merriam & Tisdell, 2016). This provides a depth and richness to their stories that places the learner, in this case the study participants, at the centre of the experience.

The study itself was inspired by my own experience of teaching paramedic students over the last ten years. Having observed a gradual increase in perceived stress and personal pressure as students' progress through the course towards the assessment phase, this raised a question of how this could be influenced in a simple, meaningful, and non-threatening way. The suggestion that there are challenges around the development and sustainability of emotional wellbeing in paramedic students indicates that consideration should be directed

at what can be done to achieve and maintain an inner sense of good emotional wellbeing within students as they move through the assessment phase of their course. The purpose was not about focusing on the assessment outcome but shaping the experience prior to undertaking the assessment. Studies have shown that students equate poor assessment outcomes with “pre-exam nerves” which have impacted significantly on their performance under exam conditions (O'Carroll & Fisher, 2013; Shapiro, 2014; Lotz & Sparfeldt, 2017).

The study was centred around the concept of interactive dog play. This differs from other similar studies in that it involved a structured episode of deliberate play engagement rather than a passive animal interaction. Although, as indicated in the literature review, it should be acknowledged that extensive evidence exists supporting pet therapy in higher education (Daltry & Mehr, 2015; Barker, et al., 2017; Haggarty & Mueller, 2017).

4.2 Research Questions

The main theme of this study focuses on the potential influence dog play has in relation to perceived wellbeing in paramedic students. Building on the evidence acquired from previous research studies, there is a unique opportunity to further explore the influence of animal-human interaction in this specific setting. Therefore, the overarching question associated with this study asks:

Can playing with a dog influence the perceived wellbeing of paramedic students before they undertake an exam?

From this question, the following research study was designed and contextualized.

4.3 Design

4.3.1 Special considerations

Ethical approval was applied for, and granted, by the University of Glasgow ethics committee (Appendix 1). All potential participants were given a participant information sheet (Appendix 2). This detailed the purpose of the study and the expected involvement of individuals taking part. These details allowed those interested in the research to make an informed decision on whether they wanted to be included in the study. Consent forms (Appendix 3) were completed by all participants, this form clearly stated the participants right to withdraw from the study at any time. Measures were also put in place to ensure any and all data was stored in accordance with the University of Glasgow data storage regulations. Electronic data was stored on a password protected external hard drive and paper documents were stored in a secure, locked filing cabinet. The anonymity of all participants was maintained throughout the study, this was achieved by using a number identifier rather than their name.

As the sole researcher of this project, I elected to use my own dog in this study and a decision was made to undertake early preparations prior to undertaking any field work. This process involved the familiarisation of the dog to his new surroundings where the play sessions would take place. It was important to gradually introduce new sights, smells, sounds, and textures over an extended period of time to allow for a slow assimilation of this new environment and to minimise distractions when undertaking the play sessions. The intent behind this was to create a normal environment that would be familiar to the dog. This introduction was conducted over a number of weeks, initially visiting the site at weekends when the area was

quiet. Time in the new environment was gradually increased, as were the frequency of visits. Using a positive method of training providing rewards to reinforce positive association, the dog would quickly connect the environment with play and food rewards (Fine, 2010 p.150). Final preparations included exposure to groups of students and experiencing the fire alarm. This has been an important element of the familiarisation process; the dog is now relaxed and confident in the play environment. The final stage was a meeting with the study participants, the dog was allowed to free roam among them and receive small food treats as he encountered them. Had this process not been undertaken, it would have been unfair to expect the dog to interact with unfamiliar participants in a play setting. These measures were conducted to mitigate any potential stressors that may affect the dog during the play sessions, although Palestrini et al., (2017) found no evidence of stress responses in dogs involved in post-surgery AAI's with children. This suggests that sympathetically and considerately designed interventions that place a high value on animal wellbeing are not detrimental to the therapy animal.

4.3.2 Introduction to the dog

As this study centres on a personal interaction with a dog and is based on perspectives that acknowledge the influence and agency of non-human actors in any situation, it is important to give an appropriate degree of respect and understanding towards the dog itself. The dog used in this study was Harris, a three-year-old male cross-breed, commonly known as an Australian Labradoodle. I have had Harris since he was a puppy, he has grown up in a family home where he has been well socialized both with people and other dogs. Harris has been involved in obedience training from a very early age and he currently enjoys taking part in

scent work training. This is a recreational training programme based on police and military scent dog training. Prior to undertaking this research, Harris received both health and temperament assessment conducted by a registered vet. He was considered to be suitable to be involved in the research study. From here on, he will be referred to by his name.

4.4 Research settings & Participant selection

The study was designed to be conducted in two distinct settings, the choice of setting for each participant was made depending on the weather conditions. The outdoor game, retrieve and return, was conducted in an enclosed sports area, this allowed Harris to run freely on a soft non-slip surface. The indoor game, scent-work, was conducted in a classroom containing desks, chairs and several anatomical models which provided useful hiding places for the scent cloths. Both settings provided sufficient space for free movement and allowed the participant to engage with Harris without any obstructions. Prior to undertaking the game session, each participant was given a brief explanation of the game and given an opportunity to ask any questions. This offer was repeated at the end of the session.

The nature of the play session was determined by the weather. If suitable, the participant engaged in a ball game with Harris in the secure outdoor sports area. The game involved a simple retrieve and return with two balls, as one ball was thrown, and Harris retrieved and returned it, the next one was ready to be thrown. This game continued for a maximum of 10 minutes but was determined by the Harris' level of engagement. When poor weather did not allow use of the outside space the indoor game was used. The indoor game consisted of a search game. Harris is trained to detect a specific odour impregnated into small pieces of

cloth. A number of scent cloths were hidden in various locations in a classroom, the location of these scent cloths was known only to the researcher. The participant led Harris into the room and initiated a search using a command word. The participant then encouraged Harris to find the hidden cloths. Once a cloth was found, Harris was rewarded by the participant. This game was mentally challenging for Harris and only continued until all cloths were found. These specific games were chosen as they encouraged active engagement with Harris rather than passive petting.

Due to the exploratory nature of this research, participants were selected from a cohort of 27 second year pre-registration paramedic students, through a process of convenience sampling. The students were undertaking a five-week block of practical taught sessions involving clinical skills and patient assessment and management. The taught element concluded with an assessment period where each student undertook clinical assessments. Each OSCE involved completing a clinical skill or patient assessment and management scenario to a required minimum standard under exam conditions.

A notice asking for volunteers was posted on the student paramedic notice board. The notice explained the purpose of the study and clearly identified the involvement with a dog. The notice board was only accessible to paramedic students so there was no likelihood of students from other health disciplines applying. Participants were invited to volunteer to take part in the study. The participation notice clearly stated the purpose of the study therefore potential volunteers were aware that it involved interacting with a dog. This transparency allowed potential participants to make an informed decision. Volunteers were asked to email the researcher to express their interest in taking part. A deadline of five days was set, this allowed

enough time for those interested in taking part to make a decision. The deadline was also necessitated by the short five-week attendance period. Due to both the physically and mentally challenging nature of the play sessions Harris was only able to undertake a maximum of three sessions in a day. There were sufficient rest periods in between each play session and there was at least one full rest day in between activity days. The welfare of Harris was a priority at all times during the study.

This research approach was appropriate for this study as it allowed all students from the cohort equal opportunity to volunteer. Due to the small scale of this study it should be acknowledged that it does not necessarily represent the wider population.

Eight participants were given a full written explanation of the study clearly stating their involvement and written consent was gained prior to the start of the study. Participants were free to withdraw at any time.

4.5 Methods

4.5.1 Observation

Participants were observed playing a game with Harris, either the retrieve and return game outdoors, or the scent-work game in the class. Observational notes (Appendix 4) were made in relation to the environment such as weather conditions, noises etc. using a systematic format (Chiseri-Strater & Sustain, 1997 p. 73). The main function of the observer notes was to record perceived emotions and interactions such as happiness, apprehension and enthusiasm. Notes also included the language, body language and tone of voice used in participants' interactions with Harris and the researcher. These notes provided an important record of events that inspired further questions in relation to the research study. The observational notes were written up immediately after the dog play session in order to record and capture as much detail as possible.

Still photography was also used to capture facial expressions, interactions and posture. The photographs recorded a timeline of outward expressions, both facial expressions and body language, throughout the experience. When viewed in context, the value of photography as a form of data within observational research has been recognised as adding an additional layer of meaning compared to other forms of data (Schwartz, 1989; Close, 2007; Burles & Thomas, 2014).

Video footage was also obtained, this was particularly useful during the retrieve and return game as it captures some of the subtler changes in body language and posture as the game

progressed. The fundamental value of video recording can be summed up by Collier (1967, p. 129 cited in Rosenstein, 2002) “the language of motion defines love and hate, anger and delight, and other qualities of behavior”. Viewing the video footage revealed the evolution of emotion as facial expressions gradually changed from tense frowns to smiles. This transition would have been missed had it not been recorded as fleeting moments of time. It reinforces the indefinite nature of the emotions we express outwardly and how they can be perceived by those observing us.

4.5.2 Focus Group

A focus group was convened once all the participants has taken part in the dog play session. The focus group session was recorded as an MP4 file and subsequently transcribed by the researcher.

A focus group was chosen as a method of recording the narratives of the participants. As they had all shared the experience of playing with Harris, it gave everyone the opportunity to compare their experiences and continue to make meaning from the encounter. Duarte, et al. (2015) discuss the use of focus groups as a qualitative research technique and relate it to the context of learning spaces. In relation to this research study, the contemporary use of dog play could be considered as a new learning space. The focus group lasted for approximately one hour and the participants were asked the following questions:

What motivated you to take part in this study?

- Was it the dog?

- Was it about potentially improving your wellbeing?
- Was it none of these?

What did it feel like to play with the dog?

- Do you think it is unusual to think about play at this point in your course?
- Did it feel like play to you?

What did you learn from this experience?

- Did you learn anything about yourself?
- Were you surprised at what you learned?

What did you find beneficial about taking part in this experience?

- Do you think this benefit will have a lasting effect?
- Were your expectations met through this encounter?

Did you experience anything negative or uncomfortable during the experience?

- Can you explain this?

4.6 Methods of Data Analysis

Although less commonly used in qualitative research, a rhizomatic analysis approach was taken towards the analysis of the data. This model of analysis is based on the concept introduced by Deleuze & Guattari (1987) in which they suggest the growth of ideas and experiences resembles that of a rhizome, growing in multiple directions rather than hierarchically. To analyse this research experience rhizomatically aligns with the theoretical concept of Actor-Network Theory. Rather than identifying emerging themes, the data was allowed to *speak for itself*, allowing exploration of both the physical and emotional spaces that exist in between the objects of connection.

Taking this approach of unrestricted, multidirectional growth removed any notion of limitation in respect to the experience. It allowed the data to extend beyond the binary expectations of a linear analysis. Traditional thematic analysis reduces the data down to fragments of information which are then simply sorted through a 'yes-no' question process to fit within a framework, while rhizomatic analysis offers a perspective that is less constrained by analytical boundaries and encourages greater freedom to explore each participant's account. Where other models seek to find a sameness among participants, rhizomatic analysis allows the unique and the individual to be discovered. There is no placement of the subject or an object at the centre of the analysis, there is no reliance on searches to find patterns and themes within experiences. This methodology allows all of the stories to be told with an equal voice (Jackson & Mazzei, 2013).

Adopting the rhizomatic analysis approach opens up new and unexpected connections, creating a unique experience that is both complex and meaningful to both the participant and the observer. To see a rhizome as a living organism that grows in response to a changing environment gives life to the experiences shared through this research. The encounter with the dog that takes place within the participant's personal network, is an organic transformation for all involved. Once experienced, it cannot be 'unexperienced'. It is this experience that allows the network to grow in new directions, leading to new transformations and new, and often unexpected, results (Amorim & Ryan, 2005).

Exploring the narratives of the participants using this approach allows for a freedom in understanding that is not constrained by the more traditional methods of qualitative analysis. By directly quoting the of the participants, the originality of the experience is preserved within the analysis, allowing the discussion to be placed in context.

Chapter 5 Findings

5.1 Introduction

The purpose of this study was to explore the influence of a dog play session on the perceived wellbeing of paramedic students undertaking clinical exams. A rich cache of data was produced in the form of a transcribed focus group, still photography, video footage and observational notes.

The inspiration for this research grew from a realisation that existing animal therapy research, conducted in higher education settings, focused on informal animal petting sessions, often these were offered through student associations on an informal drop-in basis. Although current literature evidences the value of these sessions, there is little known on the benefits experienced, specifically, by paramedic students. Furthermore, previous studies have focused on animal interactions that have taken place often several weeks before the start of the exam period. One of the principle functions of this research was to explore the perceived wellbeing benefits of an animal interaction, conducted much closer to the stressful assessment.

Becoming familiar with the data was an immersive process that travelled through several distinct phases. Initially, there was a definite sensation of being overwhelmed with the amount of data and its richness. In its raw form of photographs, video footage and focus group recording it was unclear how any sense could be made of it. The first time listening to

the focus group recording was a transitional experience that shifted the research project from a conceptual idea into a real-life experience. It formed a point where perceived expectations met with actual lived events and the resulting outcome was a complex blend of emotion, honesty and deeply personal stories. Transcribing this recording was a slow process but this in itself allowed for a gradual and thorough understanding of the data to crystallize by repeatedly listening to the voices of the participants. This stage was absolutely necessary, as each time the recording was played, new comments and vocal intonations were discovered, having been missed during the previous playing. These, often subtle, changes to their voices gave life to the experiences of the participants, sometimes generating new data from the expanding network of connections.

This sense of existing within the data was most acutely felt when organising the data during the first stage. Bringing together each source of information continued to add to the network of experiences giving a 3-dimensional feel to the organisation process. It was easy to imagine an ever-expanding network as each photograph was studied and each video clip viewed. The data, in all its forms, created a timeline which tracked the evolution of these connections. I gained an insight into the bonds that were formed between the participants, the dog, the game and myself. This was particularly noticeable when constructing the mind maps, seeing this visual representation of the experience highlighted the complexity of the encounter that had, up until that point, been concealed.

5.2 Focus group discussion

It was clear that all the participants involved in the research experienced an improved sense of personal wellbeing following the interaction with Harris. This finding broadly supports the results of other studies in this area of research. Excerpts from the focus group transcript demonstrate the range of motivational factors and experiences shared by the participants:

K: "What motivated you to take part in the study? What is the driving thing that made you want to do it?"

P8: "The dog"

P7: "Me too, I would agree with that. For me it was not so much getting to play with the dog or your dog, it was knowing that it was before an OSCE. And I knew it would have an effect, or I felt like it would at least...I was sure it would"

P6: "I think I've said to you before, my cats always made me...when I've had stressful situations I've been advised, you know, to think about your pet and it's really calmed me down and I had thought about my cat and it's really calmed me down and I thought yeah that would be brilliant with a dog, it would just help me relax"

This discussion demonstrated a clear desire to engage with Harris because he is a dog, this qualifies both Nussbaum's capabilities approach and Wilson's Biophilia hypothesis as having a place within this educational setting. The desire to engage with an animal in this educational setting suggests there is an expectation that the interaction will have a positive effect on

wellbeing. This anticipation of a positive outcome may be the catalyst required to make the experience happen in reality. This is further reinforced when a question was asked regarding playing with another human:

K: "You said something really interesting earlier, when you said it was about the dog. So, if I had gone out there and said, 'let's have a game of tennis' do you think that would have had a different outcome?"

P8: "I would probably think so"

P2: "Yeah, yeah, cos it's more competitive, you become competitive"

P4: "That's a really good point, yeah. You take out that competitive element of play"

P2: "Whereas with the dog it's rewarding"

P7: "Yeah, you're not competing, one's play, one's competing"

Clearly, the participants felt it was important to define a difference between competitive play and non-competitive play. The suggestion that play with another human centres on a competitive element possibly indicates that this type of encounter would have a negative impact on their sense of wellbeing following that interaction, as each competitor tries to beat the other. However, their association of non-competitive play with another species

highlighted the non-threatening environment created through engagement with another species as one participant stated:

P6: "It definitely would have felt better having a play with Harris before we go into that stressful situation and I don't think it would have had a negative effect at all"

The comments made during the focus group reflected the observation notes made during the play sessions. At the beginning of participant 4's session playing the scentwork game, he spoke about how helpful he thought it was going to be. The anticipation of the benefit appeared to have some degree of positive impact on wellbeing before the session had started. This sense of anticipation may enhance the physical experience by extending the participants network beyond the limitations of simple contact. The benefit of connecting with Harris on an emotional level has the potential to form a new and powerful strand to their existing emotional network, one that leads to a reinforcing of their emotional resilience and wellbeing. This creates a heuristic learning experience, where the participant discovers the emotional value of engaging with the dog through the positive power of play. This cannot be recreated in a structured classroom setting where teaching is pre-planned and rigid, it can only exist in the spontaneous learning space that is formed between the dog and the participant in the moments of engagement.

The possibilities associated with this connection offer numerous opportunities and are there to be explored further. Participant 4 also gave some insight as to how he felt before the assessments. He spoke openly of feeling nervous before exams and how this had impacted on his academic performance in the past. He was hopeful that this experience would go some way to alleviating his nerves. This observation was interesting in that even the anticipation

of taking part in the play session with Harris appeared to improve wellbeing. In the context of applying theory into practice, this expectation of a positive outcome may reinforce the experiential connections that form between the participant and the dog.

A similar event occurred with one of the other participants taking part in the ball game. Initially participant 5 was very quiet while listening to the instructions before the game started. He made very little eye contact and was noticeably static while throwing the balls for Harris. As the game progressed participant 5 started to visibly relax, he started to smile and began to move around the sports court. By the mid-point in the game, he was talking to Harris, bending down to the dog's level and making eye contact with him. By the end of the play session, he began to share some of his recent experiences and opened up about how stressed he felt at this point in the course. During the focus group the discussion was centred around feelings and participant 5, who had been very quiet up to this point, returned to this moment and shared his thoughts with the other participants:

P5: "I would agree 100% with that cos when I went down I think I just opened up 100%. You know, it was a shit day and you actually felt yourself, the more you threw the ball I don't know, it started to bring a smile to your face. Ah, stuff it and then you got all the verbal"

K: "It's interesting isn't it? Just how that simple engagement can really just sort of have an influence on you"

P5: "It's like opening a tap, just a release. That's how I would describe it"

Of all the participants who undertook the play sessions, the experience that participant 5 had appears to have been the most profound, he identified the significance of the change in his

own sense of wellbeing after the dog play session. He continued to explore the experience during the focus group, questioning it further:

P5: "I think if you speak to anyone who's been on the course, week three is always a bad week. I think, I'm quite happy when you did it. I'm not saying I wouldn't be happy doing it today but certainly then, it was a bad time and I think it did take a little weight off"

K: "OK, good"

P5: "How can throwing a ball take that away?"

The identification of week three in the course being perceived as a *bad* week was explored further with the group. The course content in week three focuses on paediatric emergency conditions and this was unanimously described as challenging, both academically and emotionally. With this in mind, in the future some consideration should be given to fluctuations in student wellbeing in response to the academic content of the course. This may well be reflected in students' performance during practice assessments that take place in week three. Acknowledging that this point in the course is particularly challenging would indicate that students may benefit from having access to an arranged animal interaction programme, targeted at stressful points such as this. It is also interesting to note that the positive outcome of the play session, in participant 5's experience, was a retrospective benefit. For participant 5 the enjoyment of engaging with Harris appeared to mitigate some of the negative emotions associated with experiences that had *already* happened. This finding suggests that an animal interaction could be implemented as an intervention strategy,

effectively breaking the cycle of negative emotion and improving the future wellbeing of learners as they move forward toward their assessments.

All eight participants felt they benefited from the experience, acknowledging an improved sense of wellbeing afterwards. What was surprising was the length of time the sense of improved wellbeing lasted for. During the focus group, the participants compared their experiences of this timescale:

P7: "I was surprised at how long it lasted, cos it lasted through the next day. It wasn't just an acute thing. It was a, like you say, if you did it before you walked into an OSCE say, it would probably last through the OSCE"

P8: "I think so, I do think so"

P7: "It's not like you're going to leave the room with Harris and stand outside your OSCE and be back to panic. You're going to be standing outside, it's going to last, you're going to get in. Obviously once you're out, you're out, it's not going to matter. It would get you all the way through"

P4: "I wonder though, because we've had little snippets of Harris over the past weeks and we've had good one on one time with him, I found that every time I saw him I was like 'hey' you know. Erm.. it's part of that sort of conditioning that when you see Harris you feel relaxed, you feel happy just by seeing him and I wonder if you were to just even walk past him on the way to an OSCE having had the previous positive experiences with him, or a picture, can we have pictures to look at Harris? I wonder if it would have the same sort of, we would internally have the same response"

The concept of a single exposure to a dog play session having such a long-lasting effect is an interesting and unexpected finding for this study. This result suggests that the network connection made between the participant and the dog has a permanency, which could be reinforced by repeated exposure to the experience. This finding reflects the suggestion from Latour that the strength of a network is achieved through the binding together of several weaker ties (Latour, 1990). Such a suggestion is analogous to the strength created from the twisting of smaller ropes to form one strong connection. During the focus group one of the participants noticed that everyone was smiling when the discussion required them to remember the experience. This emotional expression and outward indication of a sense of improved wellbeing certainly suggest these ties are firmly embedded within the personal networks of these individuals and the positive benefit can be refreshed and relived even without the presence of the dog.

5.3 Individual examples

Using rhizomatic analysis to explore and make meaning from the experience, the journeys of three of the participants have been *mapped* in greater detail. This creates a visual interpretation of the experiences, each one connected together to form a notional network. By exploring these unseen emotions, that are unique to each individual, a picture can be formed to help tell their story. Each of the participants shared common, unavoidable factors that influenced their perception of their own wellbeing. All were undertaking the challenges of a paramedic course, all were heading towards the final stages of their assessments where they would have to demonstrate their competence and abilities in a stressful situation. These shared factors formed the top layer of the mind-map, identifying the *expected* personal

outcomes of the assessments. Despite these commonalities, which did in fact provide some sense of togetherness, these particular participants shared their unique differences. Some of these were social, others were stories of previous unsuccessful attempts at the course which now added more pressure in an already challenging situation. These differences formed the lower layers of the mind-maps, representing the unseen and untold thoughts and feelings of each participant.

5.3.1 Participant 4

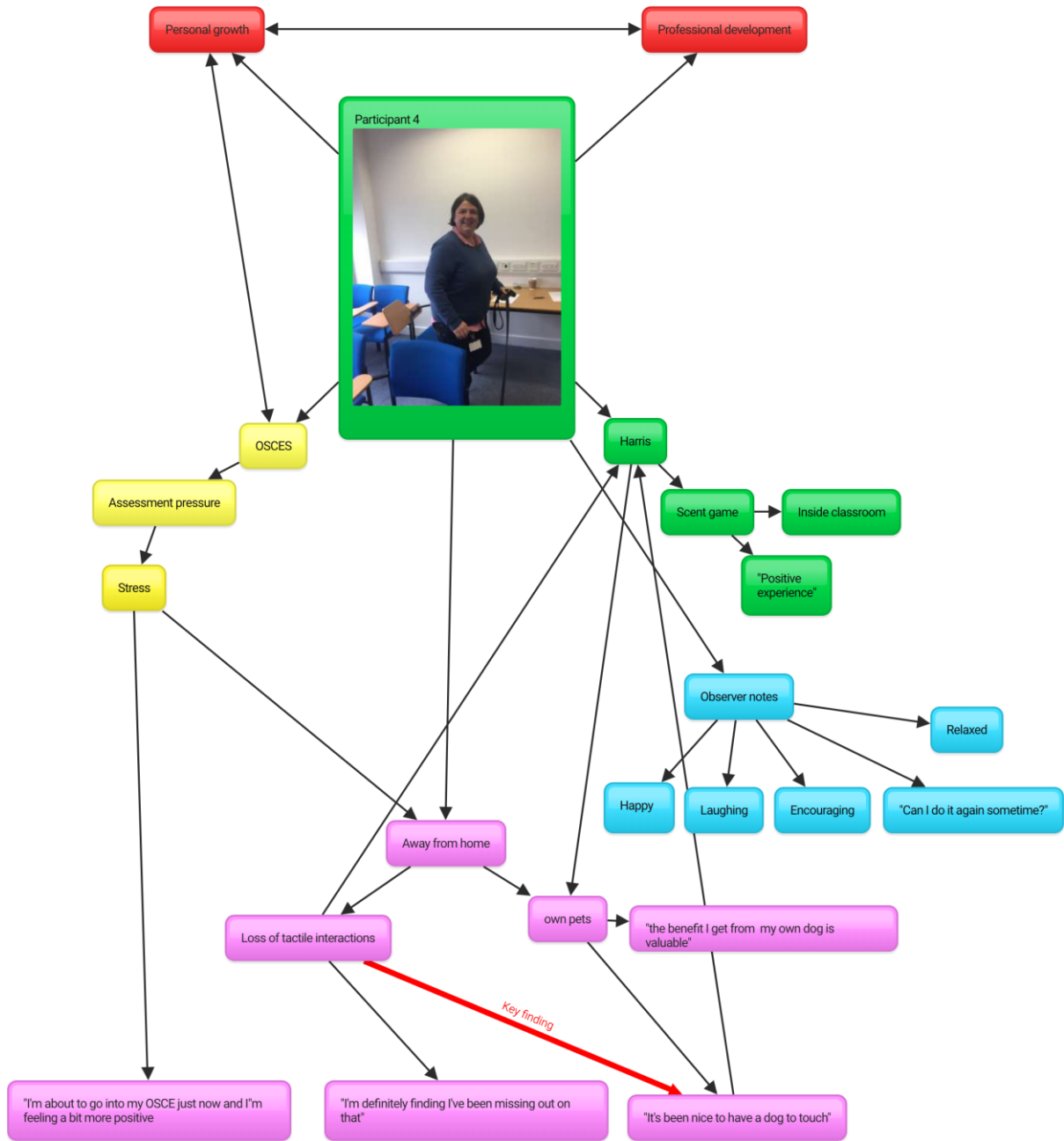
Participant 4 (figure 5.1) was one of the first to express an interest when the request for volunteers was posted on the student notice board. She was keen to meet Harris and spoke about her own dog, emphasising how much she missed her dog while she was away from home on the paramedic course. During the scentwork game she was enthusiastic, she spoke to Harris all the way through the game. The language she used was positive and she appeared happy and relaxed. When Harris returned to a place where he had found a cloth before she laughed and encouraged him to look elsewhere. At the end of the game she asked if she could do it again sometime.

The unique experience for participant 4 was shared during the focus group. It was here that she explained how she had enjoyed the tactile contact she had with Harris during the game session and at other times when he had been in the ambulance academy. She was away from home, staying in student accommodation during the week, only returning home at weekends. The contact she had with Harris was the only physical interaction she had experienced that week. Hart & Yamamoto (2015 p. 53) refer to this as contact comfort, suggesting that it is the

tactile nature of the interaction that produces the stress relieving effects. Crossman (2017) implies that this may be influenced by societal acceptability around touching other people, “social conventions often limit the situations in which it is acceptable to touch other people, but those same limitations do not usually apply to human-animal interaction (HAI)” (p. 774). In the situation experienced by participant 4 the tactile contact with Harris made a difference to her sense of wellbeing. This desire for physical contact and its resulting effects on student wellbeing should not be underestimated. Through the simple act of touching another living animal we can break down these social barriers imposed upon us, leaving us free to enjoy the benefits of connecting on all levels with another species. This sense of comfort was discussed during the focus group:

P4: “it’s pretty much the only tactile experience I’m getting throughout the week as well. For the folks that get to go home if they’ve got partners or if they’ve got dogs and things like that they’re getting touched or getting to touch someone else...It’s been nice to have a dog to touch and to be touched by a dog throughout the weeks of being here”

(figure 5.1) Participant 4



5.3.2 Participant 2

Participant 2 (figure 5.2) took part in the outdoor ball game in the enclosed sports space. He was very enthusiastic and chatted as we walked together with Harris. Outside it was a dry, sunny day and he mentioned how good it was to be out, playing with a dog. As soon as the game started he was smiling and laughing, encouraging the dog to bring the ball back. Throughout the game he was fully engaged with Harris, there was a visible connection between them. This was an opportunity to witness the evolution of an individual's personal network as the experience appeared to strengthen and reinforce the connection as time went on. After the play session, participant 2 spoke at length about his struggle with nerves when taking part in simulated clinical situations. This had been an ongoing problem for him and he was feeling hopeful that the time he had spent with Harris would help him through this situation. Before he left he said he was feeling more relaxed about his next clinical scenario that afternoon.

The following day participant 2 told me he had completed his clinical scenario successfully, despite it being challenging. He truly felt his performance was helped by engaging in the play session and he was grateful that he had been allowed to take part. He was determined to carry this sense of calmness with him as he entered into the final assessment period. This sense of determination was expressed during the focus group:

P2: "So, you're just working yourself up whereas if you take ten minutes out to do something like that, to play, then you're coming in refreshed and you're like 'right let's just go and do it'"

(figure 5.2) Participant 2

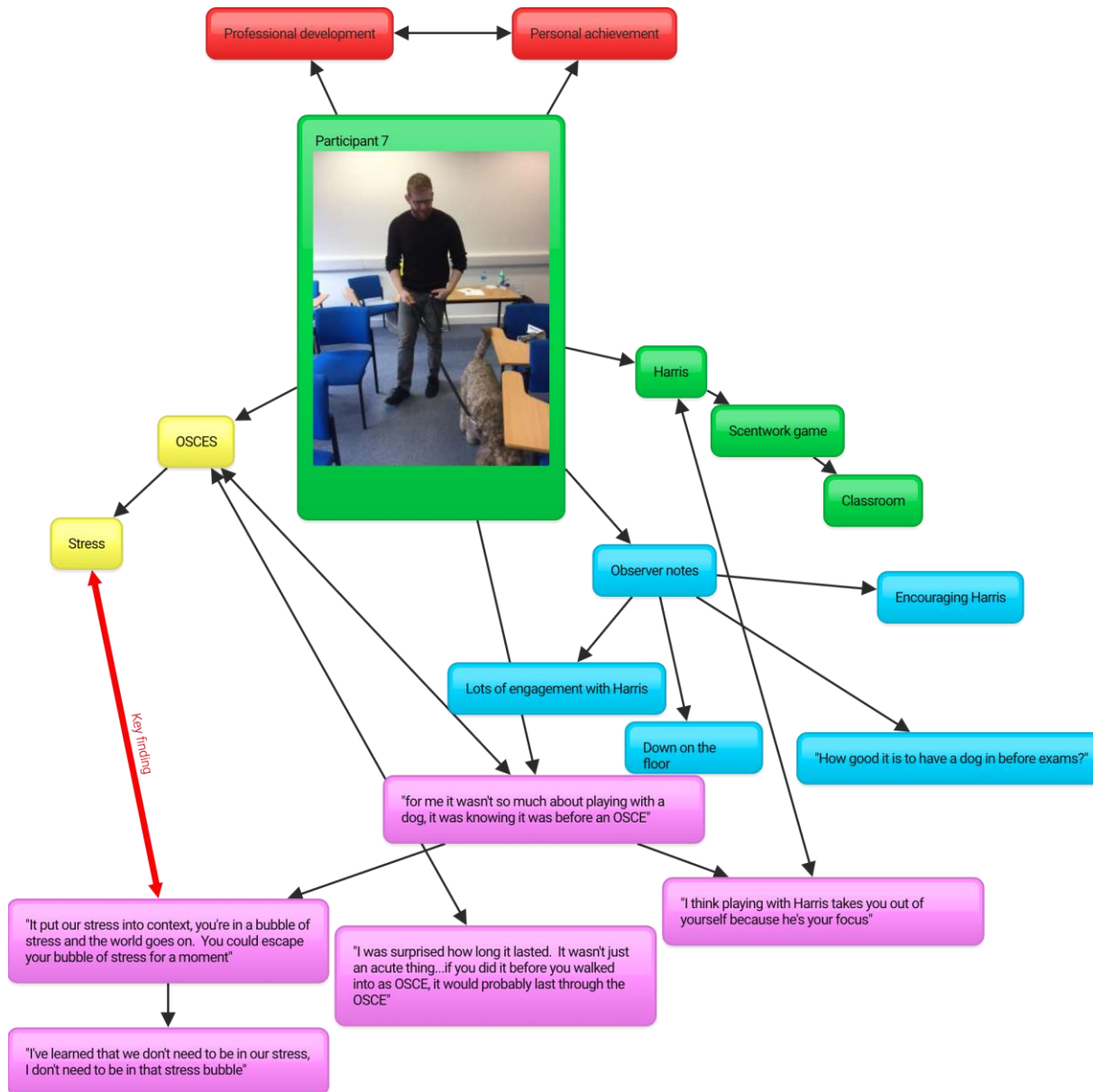


5.3.3 Participant 7

Participant 7 (figure 5.3) took part in the scent game in the classroom. During the briefing, before the start of the game he was kneeling down on the floor cuddling Harris and speaking to him. His use of language was very affectionate, and he appeared to be enjoying the physical contact he was having with the dog. As the game progressed, he actively encouraged Harris to find the hidden scent markers. He used lots of positive statements throughout such as, “good boy, you can find it”. When Harris found the markers, participant 7 was very encouraging. During this encounter, the participant assumed the role of facilitator helping Harris achieve the goal set for him. This placed the participant in the position of an educator, thus adding a new connection to their network. This engagement demonstrated a strong sense of connectedness, of working together to achieve an outcome. This reflects the nature of the relationship between teacher and student. On first thought it would appear that the participant was the teacher and Harris was the student, but when this concept was explored further during the focus group, it became clear that the participant had, in fact, learned from the encounter. As Latour (1990) states, there is no rule governing that an ‘actor’ in ANT must be human. This concept, translated into action throughout this research, allows both the participant and the dog equal status within each other’s networks. Analysing this connection through the lens of ANT, the dog has facilitated the learning experience of the participant. This exchange of knowledge transcends the historical hierarchy of humans dominating over other species, in this encounter the dog was the teacher. This sense of learning was shared during the focus group:

P7: “You know, maybe that’s a learning point. We don’t need to be in our stress so that’s what I’ve taken with me but, obviously, I don’t feel as happy right now as I did when I walked out that room, but the learning is still there, I don’t need to be in that stress bubble

(figure 5.3) Participant 7



5.3.4 Researcher's Experience

As the sole researcher for this study, the experience has had a significant effect on me as an individual. While I entered into this study with certain expectations around anticipated results for the participants, I had not anticipated the changes I would find happening to myself on a deeply personal level. Having been involved in paramedic education for a number of years, this experience has given me a much deeper insight into the factors influencing the emotional wellbeing of students as they undertake their journey towards realising their ambitions of becoming paramedics. It has been a humbling experience and one that has permanently altered my understanding of learners.

Just as the participants underwent adaptation of their personal networks, I have reflected on my own involvement, both as a new researcher and as an educator, I can identify new connections within my own network created from my engagement with the research. Prior to starting the study, my main priority was to facilitate learning. The principle driver for this process is a commitment made by the Scottish Ambulance Service to train 1,000 new paramedics in Scotland by 2020 (Scottish Government, 2013). While this is a powerful socio-political factor, this experience has revealed that the journey for all of these potential paramedics is a highly personal one, influenced by many subtle factors. The expansion of existing personal networks underpins the whole process and cannot be underestimated.

Listening to the honest discussion during the focus group opened up a whole new realm of understanding and was a personal threshold moment for myself as an educator. It was a privilege to listen to the hopes and fears of the participants as they shared their views on the

experience they had shared as a group. As I was already known to participants through previous contact with them on their course I was concerned that this may be a limitation as they may not have wanted to be open and honest with me due to a perceived familiarity. This familiarity turned out to be a benefit as they felt they could share without being judged, the kinship between us appeared to create a relaxed atmosphere which allowed them to talk freely. They spoke with a candidness that I had not anticipated, I found my involvement in the focus group to be an emotional experience which was, again, unexpected. It has highlighted a need for paramedic educators to balance challenging learning situations that reflect realism with the emotional wellbeing of their students.

In addition to the experience I have had with the participants, I found having my own dog at work with me to have a positive effect on my own sense of emotional wellbeing. It made me leave my office to walk around the campus and, while doing this, it encouraged me to engage more with colleagues in the wider school of health. Having a dog in the school prompted conversations with other members of academic staff as they stopped to talk to Harris. Many conversations centred on the benefits of having animals within the department, even just for short periods of time such as these brief, ten-minute encounters. These academic staff narratives would suggest that an improved sense of wellbeing can also be experienced through a casual encounter, this type of impromptu meeting can have positive outcomes on the wellbeing of academic staff. Even members of teaching staff who were not keen to interact with the dog themselves reported feeling an improvement in their own sense of wellbeing vicariously achieved through engagement with those who had interacted with him.

Overall this current study found that an interaction with a dog, in the form of play, did improve the perception of emotional wellbeing in the group of paramedic students who participated in the study. These results further support the positive results of animal interactions with students in Higher Education settings found in previous studies. These encouraging results suggest that this issue would benefit from future research to further explore the benefits of animal interactions in this specific setting. While this research study yielded a positive result on many levels, further study would allow for exploration on a greater scale.

Chapter 6 Conclusion

6.1 Introduction

This research study set out to explore the question:

“Can playing with a dog influence the perceived wellbeing of paramedic students before they undertake an exam?”

This question arose from my own experience teaching paramedic students, witnessing the negative effects of increased stress due to upcoming exams. Conducting a literature review identified the current evidence, revealing very little in the specific area of wellbeing in paramedic students. This knowledge was then used to form the foundation of a theoretical framework which was used to focus the research question and frame it within three theoretical perspectives. Through this lens, a study was designed to explore the influence of a structured dog play session on the wellbeing of paramedic student participants.

6.2 Findings

The findings suggest that playing with a dog does improve the perceived sense of wellbeing in paramedic students before undertaking an exam. While this was the main finding and the primary objective of the research, there were many other findings that contribute to the significance of this study. It revealed a broader, holistic benefit that lasted beyond the initial interaction. One of the most significant findings was the sense of comfort experienced when in the presence of the dog, even for short periods of time. This benefit alone demonstrates

the value of introducing an animal intervention into the current paramedic programme within the Scottish Ambulance Service.

6.3 Limitations of study

This study was conducted using a small sample of eight participants. It should be acknowledged that this is a small sample size and the results achieved in this study may not represent a wider population. This study was also conducted within one organisation that places participants in a unique situation as full-time employees and, for the duration of this study, full-time students. This may have an impact on the results although it does reflect the findings of other studies conducted with traditional, full time, undergraduate students.

6.4 Recommendations

As all paramedic training for the Scottish Ambulance Service is currently conducted at one single location, it would be feasible to implement this dog play intervention with paramedic students as they progress through their course. The benefits of engaging with a dog, even on an informal basis, are positive and can have a significant impact on the wellbeing of those around it.

6.5 Further Research

This research highlighted some of the thoughts and feelings of paramedic students as they prepare to undertake some of the most important clinical assessments of their careers. Whilst the benefit of dog play immediately before their assessments has been explored, there is scope to further investigate these benefits. Knowing that the sensation of wellness has a lasting effect, future research should focus on the integration of an animal assisted interaction at an earlier opportunity in the paramedic course to assess whether the benefits can be maximised.

6.6 Self Reflection

This experience has allowed me to reflect on my own practice as an educator and consider where I am placed within the learning experience, affording me the opportunity to look beyond the boundaries placed between a tutor and students in a traditional academic relationship. Assuming the role of researcher changed the dynamic of this relationship and allowed me to observe the real lives of the participants for a short while. This glimpse into their personal spaces has encouraged me to challenge my own perceptions and preconceived ideas as to what education means to learners and, more importantly, what it means to be an educator. Much of my own teaching practice is based on my own personal experiences as a learner, especially my experiences as a trainee paramedic. I have come to realise that this has made me reserved and, at times, reluctant to try anything new for fear of doing something wrong. I realise should be looking forward with confidence in trying new

and innovative techniques rather than looking backwards relying on old and outdated teaching strategies that may not produce the optimal conditions for learning.

Undertaking this research study has challenged me on many levels, both personally and professionally. It has encouraged me to move beyond the teaching methods I had grown comfortable with, gaining confidence along the way. I have developed a deeper understanding of student wellbeing and the impact it can have on a learner's academic success. As I move forward with my career in education I will use this new knowledge to shape and influence my teaching practice, placing student wellbeing at the forefront of my decision making.

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Appendix 1 Ethical Approval document



College of Social
Sciences

Ethics Committee for Non-Clinical Research Involving Human Subjects Notification of Ethics Application Outcome – UG and PGT Applications

Application Details

Application Type: MSc Teaching Adults	Application	Number:
CSS/SOE/2017/042		
Applicant's Name: Karen Nelson (2283290N)	Project Title:	A Canine
Pedagogy- what can dogs teach us?		

Application Status

Approved – Pending Permissions (please see below) X

Approved – No Permissions Required

Not approved – Minor Recommendations only (please see overleaf)

Not approved – Full Resubmission Required (please see overleaf)

Note: Start and End Dates of Approval will only be given when ethical approval has been granted and when all the relevant permissions have been received.

Start Date: 05/03/2018

End Date: to be amended

Permissions

Please find below the list of permissions that you MUST obtain and submit to the Ethics Administrator before commencing with data collection. You can either provide a scanned copy of the permission letters to: education-ethics@glasgow.ac.uk, or send a hard copy to: C. Paterson PGT Office St Andrew's Building 11 Eldon Street Glasgow G3 6NH

Permission required from:

Received in Admin

Office:

Scottish Ambulance Service Research & Development committee

26/03/2018

Recommendations (where Changes are Required)

- ***Where changes are required all applicants must respond*** in the relevant boxes to the recommendations of the Committee and return to the Ethics Office to explain the changes you have made to the application.
- ***(If application is Rejected a full new application must be submitted by returning to the Ethics Office. Where recommendations are provided, they should be responded to and this document provided as part of the new application.)***

(Shaded areas will expand as text is added)

MAJOR RECOMMENDATION OF THE COMMITTEE

APPLICANT RESPONSE TO MAJOR

RECOMMENDATIONS

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MINOR RECOMMENDATION OF THE COMMITTEE

APPLICANT RESPONSE TO MINOR

RECOMMENDATIONS

2.2 remove section on possible vulnerable groups (sentence 2); if this remains then the applicant would need to make 2.1 high risk and explain steps for dealing with this. 5 Amend end date to end of programme. 7.1 In <i>Other methodology</i> provide information on photos 8.1 in Anonymised samples section, remove x from questionnaire 8.2 specify where paper documents will be stored (only electronic data is specified) 13.1 and 15- ensure number of participants align (8 in 13.1, 8-10 in 15)	2.2 Section referring to potential vulnerable groups removed. 5 End date amended to end of programme (31/08/18) 7.1 Information on digital still photography added 8.1 X removed from section referring to questionnaire 8.2 Information added specifying storage of paper documents 3.1 & 15 Number of participants now aligned
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REVIEWER COMMENTS

APPLICANT RESPONSE TO REVIEWER

COMMENTS

(OTHER THAN SPECIFIC RECOMMENDATIONS)

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Please retain this notification for future reference. If you have any queries please do not hesitate to contact the School of Education ethics administrative contact for UG and PGT Applications: education-ethics@glasgow.ac.uk

Appendix 2 Participant information sheet

MSc research project – A canine pedagogy: what can dogs teach us?

Information for participants

My name is Karen and I am a postgraduate student at the University of Glasgow. I am carrying out a research project with Harris, my 3-year-old Australian Labradoodle.



What is the research for?

I am interested in finding out if playing with a dog helps paramedic students feel more emotionally prepared for taking an assessment.

What do I need to do?

Before undertaking an Objectively Structured Clinical Examination (OSCE), you will be asked to spend approximately 10 minutes playing a simple game with Harris. After the play session, you will be invited to take part in a focus group to discuss your experience. The focus group should take no longer than 1 hour.

What personal details do you need and how will you use them?

You will be asked for some details (age and gender) but you will be anonymous throughout the study so you will not be identifiable in the final research paper. Your details will not be shared anyone else not directly related to the research or used for any other purpose.

Are my details safe?

Yes. All your details will be kept securely in a locked filing cabinet. Any photographs or audio/visual recordings will be stored electronically and can only accessed using a password.

Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies.

Can I stop taking part in the research?

Yes, your participation in the study is entirely voluntary and you are free to stop and leave at any time. You can also request, at any time, that your details are not used in the final research paper. Any photographs, video recordings or documents containing your personal details will then be destroyed.

Who can I contact if I am concerned about the research?

You should raise any concerns during the research session or by contacting the researcher by email at 2283290N@student.gla.ac.uk. Alternatively, you can contact the research supervisor, Dr.Mia Perry, at the School of Education by email (Mia.perry@glasgow.ac.uk) or by phone (0141 330 1801). You can also contact the Ethics Officer at the School of Education, Dr. Kara Makara Fuller by emailing kara.makarafuller@glasgow.ac.uk or by phone (0141 330 5386).

Where can I get advice if I feel my health or wellbeing has been affected?

You can contact HELP employee assistance for confidential, independent and unbiased information and guidance. They can be contacted on: 0800 587 5670 or by visiting sg.helpeap.com. This service provides confidential support 24 hours a day, 7 days a week.

Appendix 3 Participant Consent Form

MSc. research project A Canine Pedagogy: what can dogs teach us?

Participant Consent Form

Please read the following statements and tick to indicate that you agree to them.

You must also sign the form below before beginning the research.

I understand that I am being asked to participate in a research study and will be asked to spend time with a dog, and participate in a focus group

I understand and accept that still photography and audio/video recording will be used while I play with the dog

I understand and accept that audio/video recording will be used during the focus group.

I understand that I am free to withdraw from the research at any time and request that none of my details are used in the final research paper.

I understand and accept that my real name will not be used in the final written paper, nor will any other information that could identify me.

Name of Participant:

Name of researcher: Karen Nelson

Signature:

Signature:

Date:

Date:

Appendix 4 Observation recording sheet

Participant Observation proforma
 (Chiseri-Strater & Sunstein, 1997)

Participant identifier:

Date:

Time:

Time of game starting	Time of game ending	Location (inside/outside)	Environmental notes (sights, sounds, smells, weather)	Pre-game questions from participant	Post-game questions from participant
Observation Notes					

If a Dog Were Your Teacher

If what you want lies buried
Dig until you find it
When someone is having a bad day
Be silent...and sit close by
And nuzzle them gently

(author & date unknown)