**Doctorate in Educational Psychology (DEdPsy)
2014-2017**

**Exploring an Animal Assisted Intervention: Perceptions
and Coping**

Samantha Louise Williams

Abstract

The present study aimed to explore potential links between Animal Assisted Therapy (AAT) and children's coping styles. AAT has been shown to bring about change in a range of areas. Based on existing literature within both fields, it was hypothesised that increasing children's social, emotional and behavioural (SEB) skills through AAT, would increase the use of more productive coping strategies. Eight primary aged pupils, aged seven and eight, attended an existing AAT intervention for six weeks in their school. Pre and post intervention measures were taken to assess for changes in SEB skills and exhibited coping styles. The measures were taken using The Boxall Profile and the Self Report Coping Scale (SCRS). Quantitative data was supported by interviews with a selection of pupils, parents and teachers that aimed to explore views of AAT and changes across time and contexts. The results revealed changes in 17 of the 20 Boxall Profile dimensions, indicating positive changes in the pupils' social, emotional and behavioural skills. Descriptive analysis was used to explore the changes in coping styles. The research provides support for the use of AAT in supporting SEB difficulties. The implications for the use of AAT to promote productive coping styles are discussed and future directions are proposed.

Contents

Summary

This document is separated into three sections. Part A provides a detailed literature review that explores the current understanding of children's coping. The literature review discusses children's coping in the context of well-being and social, emotional, behaviour skills. The development of coping styles and the implications for future outcomes and interventions are outlined. A number of theoretical frameworks and approaches relating to coping are outlined and critiqued. The literature review also provides an introduction to Animal Assisted Therapy (AAT) and summarises the reported benefits of this approach. Theoretical frameworks outlining the possible explanations for AAT effects are discussed and links are drawn between coping and AAT. The section concludes with an outline of the current research aims and subsequent research questions.

Part B is an account of the empirical study, which aimed to explore teacher, pupil and parent perceptions of the AAT intervention. The implementation of an AAT intervention is outlined in detail. The pupils' social, emotional and behaviour skills were evaluated pre and post intervention by teachers as an indication of their well-being. The views of parents, pupils and teachers regarding the AAT intervention were collected and analysed using thematic analysis. The results are discussed in detail and implications for future practice are provided.

Part C is a critical appraisal, which is a reflexive account of the research-practitioner's experience of conducting the current study. The critical review details the current study's contribution of knowledge and explores the limitations and methodological issues experienced by the researcher. The experimental findings are discussed and implications for future research and practice are detailed.

List of Tables

List of Figures

List of Appendices

List of Abbreviations

AAA	Animal Assisted Activities
AAI	Animal Assisted Interventions
AAT	Animal Assisted Therapy
ASD	Autistic Spectrum Disorder
ALN	Additional Learning Needs
BBC	British Broadcasting Corporation
BOC	Best of Coping Programme
CAMHS	Children's Mental Health Service
COR	Conservation of Resources Theory
CPD	Continuing Professional Development
DfES	Department for Education and Skills
EP	Educational Psychologist
HAI	Human Animal Interaction
IPA	Interpretive Phenomenological Analysis
LEA	Local Education Authority
RAP	Resourceful Adolescent Adults Programme
RQ	Research Question
SEB	Social, Emotional, Behavioural
SEBD	Social, Emotional, Behavioural Difficulties
SEN	Special Education Needs
SENCo	Special Education Needs Coordinator
SPSS	Statistical Package for the Social Sciences software (version 20)
SRCS	Self-Report Coping Scale
SST	Social Skills Training
TA	Thematic Analysis
UK	United Kingdom

Exploring an Animal Assisted Intervention: Perceptions and Coping

Part A: Major Research Literature Review

1. Introduction

Within many Western communities, depression is being experienced by young people in 'epidemic' proportions (Frydenberg, 2002). Over the last five years there has been a significant rise in children's mental health problems (Frith, 2016a). It is reported that one in ten young people have a mental health problem in England, which equates to 720,000 five to sixteen year olds or three pupils in each classroom (Frith, 2016a). Corroborating such figures, referrals to specialist CAMHS services have risen by 64 per cent between 2012-13 and 2014-15 (Frith, 2016b).

With the current upwards trend in children and young people being diagnosed and accessing services for mental health (Garner, 2016), it is becoming increasingly important for schools and LEAs to provide support for such difficulties, with increasingly diminished resources (Jones & Bouffard, 2012). The Education Policy Institute Commission's first report identified that on average 23 per cent of children and young people referred to specialist services were turned away (Frith, 2016b). In addition to this, extensive waiting lists for specialist services, such as CAMHS, implies that preventative services are crucial in identifying pupil vulnerability and taking the pressure off local services that are presently seen to be struggling to meet demand (Garner, 2016).

Effective methods of coping are seen as mediators between stress and mental health (Compas et al., 2001). Without support, children may use maladaptive coping strategies which can lead to the development of anxiety disorders by adolescence or adulthood (Hussong & Chassin, 2004). Research has shown that children as young as seven are able to use both cognitive and behavioural coping strategies (Fedorowisc, 1995), and the strategies that they employ are crucial predictors for health and success throughout life (McCarthy, 2013).

Links have been made between the use of effective coping styles and healthier well-being and social, emotional and behavioural (SEB) skills (Frydenberg & Lewis, 2002). In general, use of productive coping strategies are associated with greater well-being, and non-productive strategies are associated with less well-being (Compas et al., 2001; Frydenberg & Lewis, 1999).

This study aims to explore whether productive methods of coping can be encouraged and further developed through an existing school intervention, using Animal Assisted Therapy (AAT). AAT is increasingly used to target SEB skills with positive effects noted (e.g., Crossman et al., 2015). Empirical literature supports the perspective that children with positive SEB skills demonstrate resiliency when faced with stress (e.g., Durlak et al., 2011; Luthar & Brown, 2007). Directly targeting well-being has also shown to increase patients' level of recovery and resilience (Fava & Tomba, 2009). Fava and Tomba's findings suggest that psychological distress and vulnerability to life events may be counteracted, even prevented, by increasing levels of well-being. They explain that an increase in psychological well-being

may have a protective effect for life stresses. The authors refer to extensive research (Rafanelli et al., 2000; Ruini et al., 2003) that indicate a degree of inverse correlation between positive and negative effects, which indicate changes in well-being may induce a decrease in distress, and vice versa.

Based on existing findings, this study aspires to further explore the links between increases in well-being and productive coping. The author hypothesises that AAT may produce such increases owing to the research that suggests AAT can generate positive change in individuals' mental health, well-being and SEB skills. Furthermore, Turner et al., (2009) reported that animal-assisted group training demonstrated significantly larger improvements in adaptive emotional regulation strategies than the control group, suggesting that AAT and coping can be linked. Using animals in therapy is considered an efficient and flexible intervention which is perceived positively, enabling support to be provided on a large scale (Crossman, 2017). Reasons stated above suggest that AAT may be a compelling candidate for indirectly developing children's productive coping styles (see Figure 1).

Figure 1: Hypothesised link between coping styles and well-being via AAT

The therapy dog can help facilitate healthy attachment experiences through the human-animal bond (Dr. Rise VanFleet, 2008), which can re-wire the working model, building pupils' SEB skills.

Children attend the AAT group due to having SEB needs (nurture/attachment needs), and potentially related unhelpful coping styles.

With further developed SEB skills and well-being as a result of AAT, coping styles may change, suggesting that the child may be more resilient to stress.

1.1 Search Terms and Sources

The chosen search terms were: 'well-being', 'children', 'develop*', 'coping*'. Separate searches were conducted using the terms 'animal', 'Animal Assisted Therapy', 'school', 'children', therapy', 'pets', 'education'.

The search terms were entered into the PsychINFO 1806-2016 electronic database, British Education Index (BEI), Education Resources Information Centre (ERIC) electronic database, Psycharticles electronic database and Google Scholar.

The searches occurred in December 2015, June to August 2016 and again in December 2016. Due to the size of the literature base, not all results were included and literature was selected based on its relevance to this research. This review also drew information from published books on coping.

1.2 Inclusion Criteria

Searches conducted within the coping literature focused on early development of coping strategies and applicability to children. Although the literature search concentrated on papers regarding primary aged children, papers exploring the coping of older children were taken into consideration as appropriate to the research topic.

Current AAT literature spans many fields and disciplines. This paper focused solely on that which was based within an education context, particularly in primary schools. The current study evaluated an AAT programme which used a reading dog for the purpose of increasing well-being and SEB skills. Literature that did not reflect the use of dogs, or target well-being or SEB skills was excluded based on its lack of relevance to the topic.

2. Well-being

2.1 Definition of Well-being

Well-being is described as 'the state of being comfortable, healthy, or happy' (Oxford English Dictionary, 2010). There are six factors that have been identified as contributing to psychological well-being: autonomy, personal growth, self-acceptance, purpose in life, environmental mastery and positive relations with others (Ryff, 1989). In the early years of child development, attributes such as curiosity and enthusiasm to engage should be fostered and retained in order to nurture positive affect and minimize and reduce negative affect (Diener, 2000). As children enter adolescence, the development of psychosocial competence also becomes important for their health and well-being (Frydenberg et al. 2004).

2.2 Social and Emotional Development

Social, emotional and behavioural (SEB) skills have been increasingly recognised as fundamental to children's development and are thought to underpin emotional wellbeing (Department for Education and Skills [DfES], 2005). Developing children's social-emotional competence is of vital importance given that SEB development is known to have significant impact on children's health, learning, achievement and future economic well-being (DfES, 2007b; Department of Health, 2015; National Institute for Health and Care Excellence [NICE], 2008). Schools are recognised to have a role in supporting SEB skills (DfES, 2007a; DFE, 2003), which is reflected in the work regarding emotional intelligence and emotional literacy (Wilding & Claridge, 2016). Theoretical and empirical literature supports the notion that children with positive SEB skills demonstrate resilience in the face of stressful situations (Durlak et al., 2011; Luthar & Brown, 2007).

3. Coping

3.1 Definition of Coping Styles

Coping styles are important moderators of the relationship between stress and well-being (Lazarus & Folkman, 1987). They are key contributors to our ability to be resilient (Rutter, 1981). The most commonly cited definition is that of Lazarus (1991), who describes coping styles as "cognitive and behavioural efforts to manage specific external and internal demands (and conflicts between them) that are appraised as taxing or exceeding the resources of the person" (p.112).

Since the 1970s and 1980s, a large body of research has been conducted exploring coping, making it one of the most highly researched areas in psychology (Frydenberg, in press). Whilst its magnitude is recognised, two major theoretical approaches appear most dominant in the literature, and are considered complementary (Frydenberg, 2014). These will be discussed below.

3.2 Theoretical Frameworks

3.2.1 The Transactional Theory of Coping

Lazarus and Folkman's (1984) theory addresses "the cognitive, affective, and behavioural aspects of the coping process and also focuses on the effort associated with an individual's response" (Fryndenberg, 2014, p.83). According to this theory, coping is the transaction between person and environment. The concept of appraisal is highlighted and emphasised as a key feature of the process, resulting in the coping response being seen as dynamic in nature and changing over time. Appraisals relate to how the person regards: the nature of the situation (be it one of stress, harm, loss of challenge); available personal resources; and past purposeful coping strategies (Frydenberg, 2014). The appraisals in turn influence future coping strategies attempted.

The central concept of appraisal could be regarded as a limitation of the theory, given that appraisals themselves can occur unconsciously at an automatic level (Lazarus, 1991, 1993), making it difficult to verify. Folkman acknowledged this herself (2010). The author's original measuring tool was also reliant on self- reports, which brings its own limitations, such as credibility, primary and recency effects (Paulhus & Vazire, 2009).

3.2.2 Conservation of Resources Theory (COR)

Hobfoll's (1989, 2011) theory proposes that individuals are motivated to obtain, retain and protect that which they value (Frydenberg, 2014). The concept of loss is central to this theory. Stress occurs if resources are lost or threatened, or if efforts do not produce an adequate return for the investment made. Hobfall posits that individuals are proactive, and rather than waiting for difficult times they invest in personal resources, which when built up boosts self-esteem and confidence. If resources are depleted, confidence and self-esteem are effected likewise. Resources can be physical, socio-economical, and can include personal characteristics. Examples include: valued possessions; optimism; marriage or employment; or energies such as power, knowledge and money. Adopting a Positive Psychology approach, COR theory suggests that individuals are able to shift their focus from loss by reinterpreting threats as challenges (Frydenberg, 2014). By investing time and energy into resources, individuals prepare for future loss and reduce the risk of severe stress. Although resources obtained at adulthood and childhood will be different, Lewis and Frydenberg (2002) note that each will be important, implying that the model has relevance in both child and adolescent contexts. COR theory challenges the appraisal approach by emphasising the influence of the social context in which coping occurs.

3.2.3 Theoretical Frameworks and Relevance to Children

While both frameworks have been adapted to work with children and adolescents (Roubeni et al., 2015), it is important to note that both Hobfall and Lazarus developed their theories based on adult populations.

3.3 Measuring Coping

In order to better understand coping and to develop the construct, it is important to measure coping. Many assessments have been suggested, including dichotomous groupings, and those encompassing more than eight separate categories (e.g. Frydenberg & Lewis, 1993; Stark, et al., 1989). The two most common dichotomies will be discussed.

3.3.1 Problem-Focused Versus Emotion-Focused Model

The most common grouping is that of Lazarus and Folkman (1984) and Lazarus (1993). It is stated that appraisals made during the coping process address two dimensions of coping: problem-focused and emotion-focused. Problem-focused coping are attempts to alter the stressor directly, such as: cognitive decision making and direct problem-solving. Cognitive coping strategies such as cognitive restructuring and decision-making were found to increase

in number and variety across primary school years (Ryan, 1989). In contrast emotion-focused coping are attempts to regulate negative emotional reactions to a stressor by indirectly avoiding or controlling its emotional impact. Examples include: seeking understanding; expression of feelings; self-control; and distancing. Rossman (1992) found that younger children's tended to use less emotion regulation strategies, such as distraction and relaxation than older children.

Lazarus and Folkman suggested that controllability determined the type of coping used. When the stressor is appraised as controllable, the individual tends to use problem-focused coping, whereas uncontrollable stressors instigate emotion-focused coping (Yeo et al., 2014). Although an adult-based model, evidence has been found that suggests that young children also administer different coping styles depending on controllability of circumstance (Band & Weisz, 1988; Chalmers, Fryndenberg, & Deans, 2011).

3.3.2 Approach Versus Avoidance Focus Model

In a framework attributed to Roth and Cohen (1986), Billings and Moos (1981) and Ebata and Moos (1991), the coping strategy classifications emphasise an individual's method of coping as opposed to the focus of coping as in Lazarus and Folkman's (1984) model. Approach coping involves behavioural, cognitive or emotional activities orientated towards a stressor (Roth & Cohen, 1986). Strategies such as information seeking aim to avoid or control the emotional impact of a stressor directly. Conversely, avoidance coping strategies are considered to be those that aim to affect the stressor indirectly. Behavioural, cognitive or emotional activities are orientated away from the stressor (Causey & Dubow, 1992), for example, ignoring.

3.3.3 Critique of Common Categorisations

The two models discussed are part of a number of dimensions that are represented in the coping field and in research on child and adolescent coping. This contributes to the confusion about the basic structure of coping, making it difficult to integrate findings across studies (Compas et al., 2001).

Although many models and frameworks exist within the field, it has been explicitly emphasised in contemporary literature that "the context and circumstance remain all-important" (Frydenberg, 2014, p. 86). Coping is also influenced by person and situation characteristics (Skinner et al., 2003), implying variability within the coping process. Frydenberg and Lewis (1994) corroborate this view. As Folkman (1984) and Roth and Cohen (1986) pointed out, different types of coping may be employed at stressful times, with success determined by the time it is used within the coping process. It must also be noted that variation

exists in the understanding of how children cope (McCarthy, 2013). For example, basic features of social and cognitive development are likely to affect what children experience as stressful (Maccoby, 1983).

When considering children's coping literature, it must be noted that early measurement research, as with the theoretical frameworks, focused on adult populations. Despite this, much research has revealed that children and adolescents share similarities with adults' coping strategies (Band & Weisz, 1988; Chalmers, Frydenberg & Deans, 2011). For example, McCarthy (2013) mentions a study of four and five year olds that found their coping could be categorised as problem-focused or emotion-focused coping styles (Blasey, 1995).

While it is important to be mindful of the variability that exists in the measuring of coping, problems still remain in the conceptualisation and measurement of coping in children (Compas et al., 2001). The authors highlight the need for increased standardisation in the measurement of coping specific to children and young people. However, the literature search showed that research exploring children's coping generally tended to utilise the dichotomies described above. It was shown in Chalmers, Frydenberg and Deans' (2011) study that children as young as four years old described using strategies that fit with existing dichotomous categories, e.g. self-calming, positive self-talk, ignoring the problem, seeking support and crying. Given the continued debate and confusion about the underlying structure and organisation of coping and its subtypes (Compas et al., 2014), a decision was made by the researcher to examine and analyse the data utilising the traditional dichotomies. This was made in accordance with the categories of coping that have been used in previous studies.

Although coping efforts have been categorized in a variety of ways, within this study coping strategies are categorized using Causey and Dubow's (1992) definitions and include those efforts that are approach strategies, such as problem solving and seeking social support, or avoidance strategies, including distancing, internalizing and externalising (Billings & Moos, 1981; Ebata & Moos, 1991; Roth & Cohen, 1986). This decision was made based upon experimental validity of the measure.

3.4 Productive and Unproductive Coping Strategies

An additional level of grouping coping strategies involves consideration of the effectiveness of the approach employed. According to de Boo & Wicherts, (2009), "effective/ adjusted coping were those reactions, which provided a buffering effect, whilst ineffective/maladjusted coping reactions put the child at risk for developing mental problems" (p. 2). Supporting

children in the development of effective coping styles and strategies would therefore appear of crucial importance.

Adaptive strategies such as: seeking social support, problem-oriented actions, acceptance, re-appraisal or cognitive problem-solving, have been linked to a better quality of life, including well-being, mental and physical health (Frydenberg & Lewis, 2009; Tomás et al., 2012; Weber, 1997). Engagement (approach) coping or problem-focused coping are associated with better psychological adjustment, lower levels of internalizing and externalising problems in children, lower levels of depressive symptoms and better social and academic competence (Compas et al., 1988; Compas et al. 2001; Compas et al. 2006; Herold, 2016; Jaser et al. 2008; Kliewer & Sandler, 1993).

In contrast, maladaptive strategies include: giving up, aggressive behaviour, withdrawal, self-devaluation and perseveration. Disengagement (avoidance) coping or emotion-focused coping have been associated with poorer psychological adjustment and socially inadequate behaviours (de Boo & Wicherts, 2009).

However, a lack of conclusive evidence exists substantiating that certain dimensions are strictly better or worse than others. The body of literature about coping lacks clarity and consensus regarding the nature of coping during childhood and adolescence (Compas et al., 2001). Whilst emotion-focused coping is often associated with negative outcomes, the emotion dimension itself has been subject to criticism due to the broad types of coping it encompasses; examples include: rumination, wishful thinking, social withdrawal, emotional regulation, relaxation and cognitive or behavioural distraction (Compas et al, 2001). Emotion-based information used to guide thoughts and actions is now considered critically important (Frydenberg, 2008).

Emotion-focused and disengagement (avoidance) coping can be considered helpful in some circumstances, adding to the complexity of coping. Such strategies can help release tension or prevent catastrophizing of events, whereas in other circumstances they can serve as denying the severity of a problem and avoid engaging in appropriate action (Frydenberg, 2002). Avoidance strategies have been found to provide a protective benefit for boys involved in peer conflicts (Kochenderfer-Ladd & Skinner, 2002). The authors found that active coping in reaction to being bullied was beneficial for children not often bullied, but not beneficial for children who were persistent targets.

Studies have also shown that engagement (approach) or problem-focused coping were related to poorer adjustment (Compas et al., 2001; Nicolotti, El-Sheikh, & Whitson, 2003). Such findings identified a link between the outcomes and uncontrollability, leading Compas and colleagues to

stress the importance of taking the context into account. In uncontrollable circumstances, such as parental conflict, coping that is oriented toward engagement with the stressor or efforts to resolve the source of stress may be ineffective. Conversely, the use of emotion-focused coping strategies in non-controllable circumstances is considered to foster acceptance and to restore well-being (Compass, 1998; Fryndenberg & Deans, 2011).

The literature found largely derived from western cultures, and so it can also be argued that productive and unproductive categories suffer cultural bias, correlated with general western world values and approaches within psychology. For example, eastern cultures may regard internalizing approaches as productive.

Whilst there are inconsistencies within the literature, there appears to be an overall agreement that problem-solving and approach methods of coping are usually more positive (Frydenberg & Lewis, 1999; Herold, 2016). However, caution is needed as context and specific subtypes of responses that compose the broader dimensions need careful consideration. Furthermore, it has been added that children may not predominantly use one type of coping style; the ability to use a range of strategies flexibly is considered the most effective approach (Yeo et al., 2014). Determining the level of controllability one has, children can chose appropriate strategies and effect the quality of their adjustment (Compas et al., 2011; de Boo & Wicherts, 2009).

3.5 The Development of Productive Coping Strategies

Many factors are said to influence the coping styles adopted. Folkman and Moskowitz (2004) argued that it is not only the nature of the stressor, but also the characteristics of the individual that influences the outcome of coping.

3.5.1 Personality Differences

A structural approach to coping styles suggests that individual differences play a role in the coping process, more so than the nature of the stressor. Coping styles are said to derive from personality traits (McCrae & Costa, 1986). Various coping styles are considered to be theoretically related to a number of personality dimensions (Carver et al., 1989; Hudek-Knežević & Kardum, 1996). Neuroticism is considered linked to increased exposure to stressful life events (Bolger & Schilling, 1991), and heightened processing of and recall of negative situational elements (Larsen, 1992). Eysenck's personality traits have also been linked to particular coping styles (Kardum & Krapić, 2001). Extraversion was reported to have

a direct positive effect on problem and emotion-focused coping, consequently operating as a protective factor in stress and coping processes. Extraversion also has a low or negative link to perceived stress and less effective coping styles, such as avoidance coping (Kardum & Krapić, 2001). This may be because extraverts report substantially higher levels of joy and enthusiasm (Watson & Hubbard, 1996), and should therefore employ more effective coping styles. Conversely, neuroticism and psychoticism had direct positive effects on avoidance coping. See Table 1 for a more detailed outline. However, it must be noted that the correlations reported above were not substantial enough to conclude that coping styles were solely derived by personality.

Table 1: Personality traits and associated coping styles, adapted from McCrae & Costa, (1986)

Neuroticism	Extraversion
Hostile reaction	Rational action
Escapist fantasy	Positive thinking
Self-blame	Substitution
Sedation	Restraint
Withdrawal	Problem-focused coping
Wishful thinking	
Passivity	
Indecision	
Neurotic coping	

3.5.2 Childhood and Development

Frydenberg (2014) suggests that age and stages of human development impact coping. Since all young children are reliant upon their parents, one could say that coping styles are, in part, learned from the adults around them (Bandura, 1977). For example, overprotected children may be more vulnerable as they grow up because they are not taught coping skills crucial for daily life (Murphy, 1974; Murphy & Moriarty, 1976). A child also has access to different resources at different ages according to their neurological development (Skinner & Zimmer-Gembeck, 2009). Frydenberg points out that "the changes in neurophysiological, cognitive, emotional, attentional, and/or social resources and process across the lifespan could account for differences in the abilities and ways of coping in children and adults" (2014, p.86). As our brains mature, adolescents have access to more problem-focused coping. However, as age

progresses, individuals are considered to use more maladaptive coping strategies (Frydenberg & Lewis, 2000). Studies have shown that older adolescents use more non-productive strategies than their younger counterparts (Frydenberg & Lewis, 1999). Frydenberg and Lewis (2000) concluded their five year study by stating that "age-related effects indicate an increase in a selection of productive and non-productive strategies between ages 14 and 16" (p. 741). It was found that older adolescents were more likely to use self-blame and tension reducing strategies, for example eating or drinking. However, the study highlighted gender differences, with girls claiming less ability to cope and the use of non-productive coping styles, such as worry.

3.5.3 Social and Emotional Skills

Recent literature has shown that children's social and emotional functioning impacts the ways in which they handle stressors (Bagdi & Pfister, 2006; Causey & Dubow 1992; Eschenbeck et al., 2012). This comes with new understanding that coping and emotions are in a reciprocal dynamic relationship (Frydenberg, 2014); emotion determines how a situation is appraised and the outcome determines the individual's emotional state.

Literature has identified an association between emotions and problem-solving ability (Eisenberg & Fabes, 1998; Izard, 2002). Similarly, the use of non-productive coping strategies has been linked to fewer resources and dysfunctional states of being (Fryndenberg & Lewis, 2002; McKenzie, Frydenberg & Poole, 2004; Wojcik, McKenzie, Frydenberg & Poole, 2004). For example, children who are poorly adjusted and experience physical, emotional stress and behavioural problems are likely to use emotion-focused coping styles (Causey & Dubow, 1992; Eschenbeck et al., 2012). However, caution must be taken as we now know that emotion-focused coping strategies may be regarded as productive when placed in context. The literature suggests that social and emotional competencies can be regarded as protective factors (Denham, 2006).

Frydenberg (2002) asserts that emotional competence is self-efficacy in emotion-eliciting social transactions. She further notes that coping strategies used are thought to be determined in part by the belief that a certain consequence is possible. Having the belief that one controls their thoughts, feelings and behaviours, in conjunction with positive attributions, is associated with the use of more positive coping actions (Frydenberg, 2002). A belief in one's sense of psychological control will direct whether or not one will attempt to cope with a situation (Bandura, 1977). It is believed that when individuals have a sense of their own capabilities, they are more likely to approach problems with intention to solve, rather than avoid them (Frydenberg, 2002). Self-efficacy has been associated with a reduction in depressive symptoms and improvements in academic performance and health (Burger, 1985; Landau, Kay & Whitson, 2015). Higher levels of self-

efficacy would thus be expected to utilize more productive coping strategies. A study by Frydenberg and Lewis (2009) supports this idea. A significant positive relationship between self-perceived efficacy of problem solving and a productive coping style was found.

Coping also consists of regulation of internal emotional arousal and behaviour, as well as the regulation of the source of emotional arousal (Liew et al., 2003). Given that healthy emotional development and coping are intertwined (Frydenberg et al., 2012), it can be assumed that enhancing children's social, emotional and behavioural skills are crucial for improving productive coping. Young children often need assistance in modifying their emotional reactions (Denham et al., 2003). Frydenberg and colleagues suggest that creative disciplines (art, play, music, dance, narrative) provide an outlet for children's emotions and can provide crucial opportunities for psychological-social learning, problem solving and critical thinking (Frydenberg et al., 2012). According to Vygotsky (1962) being able to relate to 'the self' and being encouraged to reflect and discuss what they are expressing is vital in learning and developing within the social environment, where they are constantly problem solving.

3.5.4 Attachment Style

Attachment refers to a reciprocal, profound, physical and emotional relationship between a child and parent (Rutter, 1980). Securely attached individuals have the confidence to take risks and to explore the world with increasing curiosity, away from their parent (Bombèr, 2007). A solid internal working model, or world, enables emotional, social and academic learning to develop and be transferred onto relationships and experiences. However, a disruption in the attunement of the attachment process can lead to insecure attachment styles being developed (Wallin, 2007). There are four attachment 'styles': secure, insecure ambivalent, insecure avoidant and disorganised (Ainsworth, 1978), which can determine future outcomes. Insecure attachment is consistently linked with poorer outcomes, such as education and psychological difficulties (Collins & Read, 1990; Eschenbeck et al., 2012; Shankland et al., 2009).

Reactions to separation as a baby may be a child's first experience of coping (Hock & Clinger, 1981) which is expected to be alleviated by renewed contact with the parent. Such experiences are supported and scaffolded by the parent, thus initiating the building of coping skills. Although attachment behaviours can be seen as coping strategies, Hock and Clinger (1981) suggested that it may be the case that such behaviours are more related to predisposed patterns of response. Lazarus and Folkman's (1984) focus on effortful responses was to avoid defining coping so broadly that it includes everything that individuals do in relating to the environment. Compas (1987) offers mediation, stating "Murphy and colleagues (Murphy, 1974; Murphy & Moriarity,

1976) have placed coping at the middle of a continuum ranging from reflexes that are present from birth to automatized mastery responses that have been learned to the extent that they no longer require conscious control." (p.393). According to Murphy, learning in response to the environment has implications for coping.

Environments that comprise of high levels of responsiveness and demandingness have been found to increase children's problem-solving coping strategies, by promoting perceptions of competence (Shankland et al., 2009). This relates to perceived control in stressful situations (Weisz, 1986). Being responsive, supportive and flexible in the demands of children, corresponds to pupils' essential needs (Deci & Ryan, 2002; Flink, Boggiano & Barret, 1990; Trouilloud, et al., 2006) and has implications for early attachment experiences.

Generally, the stronger the attachment, the more adaptive the person is (Schroder, Hull, McLaughlin & Shirakawa, 1996). Maternal warmth has been linked to higher use of problem-focused coping (Dusek & Danko, 1994; Ruchkin, Eisemann, & Hägglöf, 1999). Meesters and Muris (2004) were unable to replicate such findings, however they did find results consistent with the view that parental rearing affects coping behaviours of adolescents.

Schroder and colleagues (1996) reported that different attachment types responded differently to stress (Mikulincer et al., 1993), potentially as the attachment system is primarily launched in response to threat. Ambivalent types used more emotion-focused coping strategies, directing their attention toward the distress. Whereas, avoidants displayed more distancing. Schroder et al., (1996) revealed multiple statistically significant relationships between attachments and coping parameters; the infant-caregiver relationship influenced the development of general coping skills which stabilised through life. Although results were reported to be consistent with literature on stress and disease, the study was conducted with a small adult population which may not necessarily mean that results are generalizable to children. Factors such as gender, personality and temperament are highlighted as requiring attention. The authors recognised that despite evidence that coping and attachment are related, the associated literature is "more divided than it is integrated" (p.3). The role of temperament and learned behaviour from parental patterns (Hock & Clinger, 1981; Kagan, 1984) was also questioned, for example infants who do not become distressed may demonstrate superior ability to cope with uncertainty.

Despite a lack of definitive evidence, it can be argued that attachment is a significant area to consider in relation to the development of productive coping as it underlies emotional development (Bombèr, 2007).

3.6 Promoting Productive Coping through Interventions

Coping styles do not appear to be fixed and, according to the literature, can be subject to change through cognitive behavioural intervention (de Boo & Wicherts, 2009). Evidence suggests that adaptive coping strategies can be taught to individuals in an effort to prevent the repeated use of unhealthy strategies, thus preventing anxiety disorders (McCarthy, 2013). This is important given the consistent evidence and links between well-being and coping skills; as well as having a direct influence on well-being, coping strategies can mediate the effects of variables likely to affect well-being, with adaptive strategies being shown to reduce mental health (Bal et al., 2003; Cowen et al., 1990; Elias & Weissberg, 1990; Evans et al., 2014; Goodkind et al., 2008; Michl et al., 2013; Sandler et al., 1997).

Although studies have shown that specific programmes can enhance the use of productive coping strategies, such as: The Best of Coping programme (Frydenberg & Brandon, 2007), the Resourceful Adolescent Adults Programme and The Coping for Success programme (Frydenberg, Eacott & Clark, 2008), programmes have generally been aimed at specific groups of children and so lack generalisability. Furthermore, Sandler, et al., (1997) highlight that historically such training programmes have not studied effects on coping with specific stressors and so it was unclear how the programmes achieve positive results. It has been noted that a limited number of studies have concentrated on the coping factors that could be useful in shaping coping skills interventions (Kraaij & Garnefski, 2015). Kraaij and Garnefski (2015) suggested that "To maximize the effectiveness of coping skills, intervention targets should be included that are proven to be of importance in relation to quality of life. Therefore, studies should be conducted that focus on the specific coping skills that are related to well-being" (p.46).

In order to increase the use of productive coping strategies, the individual requires support to build his or her resource pool in preparation for future challenges. Consequently factors that contribute to resilience need to be acknowledged; protective factors include: social competence; problem-solving skills; autonomy; and a sense of purpose and future (Bernard, 1991). Studies have also indicated a protective role for parental/family support (e.g. Sandler et al., 1997). Herold (2016) discusses many studies that suggest that parental use of adaptive coping strategies are correlated with children's use of more adaptive coping and fewer maladaptive coping skills. Adult relationships are important for modelling behaviour, which enables social learning to occur.

It has been suggested that children's social and emotional skills act as protective factors that contribute to the development of helpful coping styles. In order to nurture those skills, children require an environment free from fear of failure and mockery (Frydenberg, Deans & O'Brian,

2012). Helping to foster a mastery-orientated stance towards difficulty is likely to enhance a child's perceptions of self (Dweck's, 1998), potentially further enabling children to utilise problem solving strategies. Frydenberg asserts that coping should be targeted as a whole school approach (2014), which is embedded and owned by its community (Elias, 1991; Reiss & Price, 1996). Furthermore, it has been argued that linking research about coping with intervention research can prove to be beneficial in the treatment of psychopathology (Compas et al., 2001).

4. Animal Assisted Therapy

The following section focuses on an intervention that has shown increasing promise in its application for SEB difficulties, Animal Assisted Therapy. Through the theoretical frameworks explored, links to the development of coping will be made.

4.1 Definition of AAT

Animal Assisted Therapy (AAT) is the practice of the inclusion of animals in therapeutic processes (Chandler, Fernando, Barrio Minton, O'Callaghan & Portrie-Bethke, 2010). Though other terminologies exist for such use of animals; Animal Assisted Activities (AAA) and Animal Assisted Interventions (AAI), significant distinctions apply. AAT will be adopted throughout this paper as it is most appropriate for the aims of the study. AAT involves a credentialed treatment provider who guides interactions between an individual and an animal to realise specific goals (Chandler, 2005).

4.2 Historical Context of AAT

The literature on the benefits of AAT is growing (Stern & Chur-Hansen, 2013), and it is becoming clear that there is a wide and diverse application of its use occurring. Crossman (2017) recognises that the use of animals spans cultures, ages and genders, owing to the idea that AAT is an effective intervention.

Over the evolution of the human species, dogs have been bred to co-operate with humans. Their skills have been embraced and utilised in many helpful roles including: herding, guarding, hunting, emergency services and as social companions (Clutton-Brock, 1995). It has been argued that anthropomorphism has enabled animals to be domesticated and kept as pets (Mithen, 1996). Attributing human thoughts and feelings to other species has allowed animals into humans' lives (Serpell, 2003), with most pet owners believing their animals "love" or "admire" them (Serpell, 1996, 2002).

Having been around for centuries, AAT is not a new intervention (Levison, 1978). Throughout history, dogs have been regarded as healers by many civilisations, including ancient Egypt, ancient Greece and throughout the Middle Ages (Fine & Beck, 2015). Children's social development was considered to be aided by small pets, with many believing that caring for and controlling real animals taught children to reflect on, and control, their own innately beastlike characteristics (Myers, 1998).

Since the late 18th Century, animals have been used in mental health institutions to increase socialisation and to alleviate mental health and medical difficulties (Nimer & Lundahl, 2007). Owing to its history in the field of mental health, clinical outcomes dominate existing AAT literature. Interacting with animals has been linked to both physiological and psychological well-being (Edwards & Beck, 2002; O'Haire, 2010). Documented benefits include: reduced stress; lowered heart rate; lowered blood pressure; reduced anxiety; increased socio-emotional functioning and the development of a variety of skills (Chandler, 2005; Delta Society, 2006; Handlin et al., 2011; Odendaal & Meintjes, 2003; Wells, 2009). Many of these benefits have been linked to tactile contact with the animal.

Freud was also an advocate of the use of animals in psychotherapy, having noted an increased willingness to talk openly about painful issues with his dog, Jofi, in the room. It was supposed that the calmness and lack of reaction the dog exhibited when the individual talked about their lives communicated a safety and acceptance that encouraged further disclosures (Fine & Beck, 2015). This effect was seen in children, adolescents and adults and is still held to be true today. The first documented plan of controlled animal integration into psychotherapy sessions was conducted by Levison (Levinson, 1965). The continued use and accessibility of animals in therapeutic contexts helps in by-passing many barriers expected of traditional medical or psychological treatments (Crossman, 2017). In addition, the appeal of an animal is considered to reduce the stigma associated with receiving treatment (Bardill & Hutchingson, 1997), enhance perceptions of therapists and increase attendance (Holcomb & Meacham, 1989; Schneider & Harley, 2006). It appears that the animal provides a sense of comfort which promotes rapport (Corson & Corson, 1980), whilst communicating that the therapist is less threatening (Fine, 2014; Kruger, Trachtenberg & Serpell, 2004).

Although it is widely accepted that animals can have positive influences on human functioning (Nimer & Lundahl, 2007; Stern & Chur-Hansen, 2013), science and psychological literature has only recently investigated its therapeutic effects (Nimer & Lundahl, 2007). A substantial amount of literature exists that suggests that children in particular are responsive to AAT, (Friesen, 2010; Geist, 2011; Levinson, 1965; O'Haire, 2010; Zilcha-Mano, Mikulincer & Shaver, 2011) benefitting physiologically, psychologically and physically from interactions with animals (Anderson & Olson, 2006; Esteves & Stokes 2008; Gee et al., 2007; Odendaal, 2000; Zasloff, Hart & DeArmond, 1999).

More recently, AAT is also being used for academic support, such as with reading (Le Roux, Swartz & Swart, 2014). Animals may serve to increase pupils' motivation by providing a 'carrot' or reward (Johnson & Meadows, 2010). SEB difficulties can also be developed and

rehearsed by using the animal as a metaphor to help children draw meaning and value from learning experiences, using the animal as a concrete aid.

Interest into AAT has risen in the past few decades due to mainstream media's and the popular press' coverage of the impact of animals on humans' lives, for example The Guardian (Pidd, 2017) and BBC News (2016). Articles outline recent movements towards using reading and therapy dogs in schools to support pupils' anxiety and learning, such as in Huntington School in York. However, despite steps being made to understand the science underlying the human/animal connection, the National Institute of Child and Human Development addressed the need for clarity in the research in 2008 (Fine & Beck, 2015).

4.3 Human-Animal Interaction- Understanding the Bond

The rationale for the use of animals stems from a field known as Anthrozoology or Human-Animal Interaction (HAI). HAI suggests that animal contact is sought as a non-judgemental source of support and facilitator of social interaction (Kruger & Serpell, 2010). It is suggested that relationships with animals fulfil human needs (Robinson, 1995), and that the human-animal bond is similar to human functions associated with feelings of pure love and friendship (Bustad, 1983). Although there is no universally agreed definition of HAI, it has been identified that it must be reciprocal, persistent (Russow, 2002), continuous and voluntary (Tannenbaum, 1995).

Whilst empirical evidence of HAI grows, there continues to be gaps in knowledge and further questions raised (Melson, 2011). Melson and Fine (2015) highlight that existing research has not been synthesised into a coherent theoretical framework, however there are theoretical bases on which we can refer to explain the HAI phenomena. Some of these will be discussed below.

4.4 Theoretical Frameworks

4.4.1 The Biophilia Hypothesis

Biophilia implies an innate desire to connect with other living organisms (Frumkin, 2008) and understand and relate with nature (Wilson, 1984). Beck (2014) noted that relationships with pets are natural and rooted in evolutionary development. According to the Biophilia Hypothesis, humans' relationship with animals is innately driven by a basic biological need, subject to the historical prey and predator relationships that made paying attention to animals beneficial for survival (Wilson, 1984). Associating with animals can give meaning and a sense of personal fulfilment to a human's life (Kellert & Wilson, 1995)

However, according to this hypothesis animals can also communicate a lack of safety in the environment. When using animals with children, it is therefore likely that a child's discomfort could be increased by signs exhibited by the animal. This highlights the importance of close monitoring of the animal during AAT.

4.4.2 Psychodynamic Theory

According to Freud (1959), children are closely related to animals as they are governed by their innate primitive drives. Freud refers to the basic, animal aspect of human nature as the 'Id'. It is suggested that children are instinctively drawn to animals because both are directed by the Id. Children are taught to repress such desires as they grow.

Melson and Fine (2015) outline that AAT is successful in its application with children as animals may function as nonthreatening projections of inner conflicts. Animals are considered to go undetected by human defence mechanisms and may offer opportunities to explore the person's underlying issues. Freud suggests that children feel more closely related to animals than adults, which has implications for therapeutic environments; the inclusion of an animal may help create a feeling of safety and familiarity.

4.4.3 Developmental and Life Stages Perspective

Within the first series of Erikson's (1963) life stages, the primary goals needing to be achieved relate to the feeling of being loved and developing industry and competence. Fine (2015) suggests that the stages of psychosocial development should be used in the application of AAT. It can be argued that animals can be effective tools in helping children reach the earliest of Erikson's life stages, by helping adults promote unconditional acceptance (Fine, 2015). The animal's presence may help to communicate a sense of value and worth to the child.

Furthermore, the animal may serve to provide purpose in life. Research suggests that animals are a source of comfort for children over five when they feel stressed or are in need of unconditional love (Bowers & MacDonald, 2001). Pets have been found to be an emotional buffer to help cope with a stressful environment or emotional discord (Strand, 2004). This is no surprise when considering the high regard in which children view their pets. The literature notes that children often describe their animals as siblings (Fine et al., 2011). Fine (2015) highlights Triebenbacher-Lookabaugh's (1988) study in which 98% of participants viewed their pets as important family members. Melson (2001) noted that children describe their interactions with their pet in similar

ways used to describe time spent with peers and siblings. This may help to explain why children often use their pet as confidant to share feelings and secrets (Melson, 2001).

In addition to Erikson's stages, parallels can be drawn between AAT and the work of Vygotsky (1978). AAT sessions provide opportunities for hands on social experiences and reflection, which Vygotsky advocated as essential to learning.

4.4.4 Environmental Perspective

The environment is an important factor to consider for therapeutic input. Such is reflected within milieu therapy which recognises the climate's impact on the client (Fine, 2015). Sklar (1988) highlights there is a constant interaction between client and therapist that is impacted by the physical and emotional environment. Beck and Katcher (1983) suggest that animals have the capacity to modify a person's environment and create a calming atmosphere. Katcher et al., (1983) found that participants were less anxious before and during dental surgery when viewing an aquarium, compared to a control group. Beck et al., (1986) found that patients meeting in a room containing birds attended more faithfully than those of the control group. They also reported a reduction in hostility scores. Friedmann et al., (1983) demonstrated that people appear to exhibit lowered blood pressure and verbally express feelings of relaxation in the presence of a dog. Lockwood (1983) suggests that such findings may occur because people perceive most situations with animals as safe.

Building a safe and positive classroom community is critical to student achievement and is an important component of an engaging learning environment (Rushton & Juola-Rushton, 2008). Research suggests that the presence of a 'facility' dog helps to foster feelings of safety and security in students (Born, 2008). Therefore animals may support the development of an effective emotional learning environment. However, Fine (2015) suggests that very few studies have been implemented investigating the impact that animals have in altering the therapeutic effects of an environment.

4.4.5 Social Support Theory

Cobb (1976) defined social support as resources leading an individual to believe that he or she is cared for, loved, and esteemed. Social support can come from informational, material, or emotional resources and can be protective factors against pathological states, such as depression and social isolation.

Human-human social companionship has been linked to positive health benefits (Lynch, 2000). Animals can serve as facilitators for social interaction, thus aiding in the development of protective factors (Fine, 2010). For example, dog walkers are more likely to interact with other people (Cangelosi & Sorrell, 2010). Animals can also provide social support themselves, with many individuals turning to their pets as they would a friend or family member (Katcher, 1981). Animals can provide buffering effects for loneliness, depression and other stresses on the immune system (Serpell, 1996).

4.4.6 Animals and Emotions

An area of particular interest for schools is AAT's evidenced contribution to the development of social and emotional skills. Maslow's (1943) hierarchy of needs outlines humans' innate physiological, safety, love and belonging, esteem and self-actualization needs. In today's society, children face many stresses that have significant impact on their psychosocial adjustment and how they perform in school (Haynes, 2002). Consequently, teachers are faced with additional challenges of meeting the increasing social and emotional needs of students (Fischman, et al., 2006).

Research has found that animals can fulfil many emotional needs of humans and play a role in the emotional development of children. It is claimed that dogs, in particular, can contribute to primary aged children's emotional stability, even in those diagnosed with severe emotional disorders (Anderson & Olson, 2006). Not only can animals affect the happiness and mood of the room (Fine, Lindsey & Bowers, 2011), they can significantly increase pupils' self-esteem (Bergesen, 1989), encourage sociability (Kotrschal & Ortbauer, 2003), and improve socio-emotional and empathy development (Daly & Suggs, 2010).

It is said that dogs in particular have an ability to understand our behaviours (Hare, 2007). Dogs have a predisposition to rely on humans' faces for critical information (Horowitz, 2009). Being keen observers of our reactions places them in an excellent position to provide hands-on experiences, enhancing psychological well-being (Rud & Beck, 2003). Furthermore, animals are able to show emotions and actions that would not always be considered appropriate for adults, particularly in education settings, such as physical contact (Fine, 2015). For example, a dog can lay on a child's lap. By encouraging tactile contact, animal interaction stimulates physical reactions that are very important in humans (Bowlby, 1980). Harlow's (1958) experiment with monkeys highlighted that physical contact is a basic need in development.

The presence of an animal has been observed to encourage both emotional and behavioural regulation (Nimer & Lundahl, 2007). Fine (2015) states that in his experience children appear respectful and cautious of upsetting the animal.

Bryant (1990) studied the potential social-emotional benefits of having pets with 213 children, recorded from personal perspectives. A factor analysis of Furman's (1989) "My Pet" Inventory identified four factors regarding child/pet relationships that were potentially beneficial. The factors can be seen in table 2 below.

Table 2: Potential social-emotional benefits from child/pet relationship, adapted from Bryant (1990).

Factor	Description
Mutuality	The experience of both giving and receiving care and support for the animals.
Enduring affection	The child's perception of the lasting quality of their relationship with their pet, and focuses on the child's perception of the permanence of the emotional bond.
Enhanced affection	The relationship makes the child feel good and important.
Exclusivity	Internal confidence in the pet as a confidant.

Mallon (1994) provides support for Bryant's fourth factor, exclusivity, in his study. He observed children with behaviour difficulties utilizing the dog as a sounding board to discuss their problems or troubles.

Gee, Fine and Shuck (2015) noted that there are many studies that support the idea that an animal may 'buffer' physiological responses to stress. Lowered blood pressure has been recorded when around unfamiliar dogs (Friedmann et al., 1983). However, results have not been conclusive. Fine (2015) noted that the above results varied according to the order of test condition. Whilst children and young adults who had positive attitudes towards dogs exhibited positive results, adults did not (Rajack, 1997). Gee, Fine and Shuck (2015) commented that this may imply that children and young adults are more likely to benefit from AAT and that a critical period in development may exist where animal presence can effectively buffer stress. They continue that such results may offer a scientific basis for including animals in primary schools.

Studies have also shown that AAT can have a stimulatory effect as opposed to a calming effect, particularly for children with ADHD (Kaminski, Pellino, & Wish, 2002; Somervill et al., 2009). Despite this, Gee, Fine and Schuck (2015) noted that touching the dog may be physiologically arousing, which can be beneficial to cognitive task performance, and increase working memory.

4.4.7 Attachment Theory

Attachment theory explains the need for humans to protect and be protected, by behaviour aimed at attaining or maintaining proximity to someone identified as able to cope with the world (Bowlby, 1988). The key role of the attachment figure enhances security, and separation from this figure causes distress (Bowlby, 1969). HAI researchers suggest that a pet can provide this secure base for children (Harbolt & Ward, 2001; Mallon, 1992; Melson, 2003), with several authors claiming that the human-animal connection fulfils a bond of attachment (Geist, 2011; Zilcha-Mano, Mikulincer, & Shaver, 2011).

Levinson (1969) and others (for example, Melson, 2001; Stuart-Russell, 1997) hold the view that an animal, such as a dog, can act as a transitional attachment 'object' to mediate between the stresses of the development process that young children experience. Becoming a 'holding environment', the attachment to the dog allows the individual to integrate with the environment by giving them a sense of reassurance, calm and security. "During times of stress, a therapy dog can help provide synchrony and therefore self-awareness" (Geist, 2011, p. 252).

Links have been made between the biochemistry of attachment and the chemical responses measured following AAT. Schore (2003) stated that positive affect in a mother's face triggers high levels of opiates in the child's developing brain. Social interaction and attachment are therefore biochemically linked by the released endorphins. Comparisons are made with the simplicity of pleasure a dog demonstrates when greeting, or bringing a child a toy which tends to result in a reciprocated expression of joy. Additionally, a dog's nonverbal nature lends itself well to the attunement of attachment, whereby a baby or infant's intimate, collaborative communication is without words (Siegel, 1999). Geist's (2011) study with pupils who experience severe attachment difficulties, outlined how the therapy dog's stressed behaviour reflected back appropriate empathy when a child was experiencing a crisis. The dog therefore acted as a mirror to support the development of greater self-awareness and resilience, whilst making the child feel safe. The author stated "Intervening in a student's emotional state with animal-assisted therapy will break the sequence of negative automatic thoughts and help the student develop a healthier attachment and self-concept" (Geist, 2011, p. 248).

Insecure attachment representations are associated with low abilities to regulate stress and social relations (Julius et al., 2013). Julius et al., (2013) stated that whilst these representations have been found to transfer to humans, they do not transfer to pets. In a study of insecurely attached children (12 boys and 4 girls, aged 7-9), the presence of guinea pigs during empathy training contributed to lowering their stress levels. The experimental group showed less aggression towards peers and increased prosocial behaviour. The strongest decrease of cortisol levels were obtained in the experimental group, suggesting that insecurely attached children can better regulate stress, become less aggressive and exhibit increased prosocial behaviour in the presence of a guinea pig.

Functioning as significant attachment figures, companion animals promote mental, physical and emotional health and offer unconditional love. Reichert (1998) corroborates such claims by successfully increasing self-esteem, socialisation and problem-solving skills with AAT in children who have been abused or neglected. Hanselman (2001) also used attachment theory to guide her quantitative study, exploring the presence of dogs in an adolescent anger management group. Hanselman found that the presence of dogs contributed to increased feelings of happiness, security, and self-worth and reduced feelings of loneliness, isolation, and stress.

In addition to physiological effects, the literature states that dog owners turn to their pets when stressed, as they would to a human attachment figure (McNicholas & Collis, 1995). This is partly due to the perception that animals are freely available to meet an individual's needs, with no regard for material things, wealth, status, and social skills (McNicholas & Collis, 1995). It is also suggested that human-animal relationships show parallels with mother-child relationships, as the animal becomes reliant on the human, just as a child depends on the parent (Barba, 1995). This likely makes the individual feel needed and valued, as well as providing a sense of responsibility.

Parish-Plass (2008) suggested that AAT offers opportunities for supporting children with insecure attachments, as the animal provides a calm and less threatening environment. Whilst she identified several goals in which AAT can support attachment difficulties, the most important was considered to be helping the child to trust adults. However, it must be noted that developing strong relationships involves commitment over time (Melson & Fine, 2015). Ainsworth (2012) stated that secure attachment bonds are most likely to develop over an extended period of time, in which the child's needs would have been met promptly by the attachment figure. This poses a challenge for AAT, which typically offers limited interaction with the animal. Furthermore, Melson and Fine (2015) indicated that the nature and length of time needed for a therapeutic relationship to emerge is unclear.

Crawford, Worsham, and Swinehart's (2006) assertion that the term 'attachment' is often loosely applied to relationships can be applied as criticism to research regarding AAT and attachment. In a review of AAT research, only seven of the fifteen standard measures of attachment related to attachment theory. Crawford et al. warns that the term 'attachment' used in most human-animal studies does not align fully to the concept of attachment theory.

4.5 Critical Considerations of AAT

Whilst existing literature allows assumptions that AAT is universally beneficial, caution must be taken in consideration of the many limitations that exist within the field. AAT is a varied area of research that has broad application. Some argue that the diversity of outcomes represents a lack of unified understanding of what AAT is and how it is used (Nimer & Lundahl, 2007). Previous AAT research may show potential benefits for children in educational settings (Hergovich et al., 2003; Kotrschal & Ortbauer 2003), however empirical research within a school setting appears to be limited (Fine, 2015; Herzog, 2011).

Crossman (2017) highlights that despite the growing use of animals in therapy, the field has failed to maintain the research required to validate its benefits and increase its credibility. This comes as meta-analyses and systematic reviews have concluded that articles are too disparate to be compared, and are generally of low quality or use small samples (Kamioka et al., 2014). Adding to the difficulties, AAT programmes are often individualised, creating barriers for replicability (Fine, 2015). In short, it is unclear whether the literature's conflicting findings are due to research limitations and methodological weaknesses, or due to unreliable effects (Crossman, 2017).

Additional quantitative research is needed to bring credibility to AAT, particularly in education (Bradley & Maldonado, 2013). A large percentage of the evidence is solely based on anecdotes from case studies, which limit the rigour of the field. Studies assessing AAT effects whilst limiting methodological weaknesses are needed so that it is possible to address questions posited about the importance of the animal (Marino, 2012).

Whilst positive effects are reported, many studies have conducted research on particular populations, such as children with conduct disorder, ADHD, and patients with schizophrenia, limiting generalisation. Additionally, to the author's knowledge, parental views are not well represented in the literature. This comes despite knowledge that a triangulation of data provides a better understanding of effect and increases validity (Breakwell, Smith & Wright, 2012).

Studies that have shown positive outcomes from AAT have tended to focus on short-term changes, rather than evaluating long-term sustainability (e.g. Aydin et al., 2012). Katcher and Wilkins' (2000) study found that effects in aggression and socialisation were not noted by

teachers until towards the end of the six month AAT programme. In addition, once the AAT experiment ended, behaviours of participants worsened, highlighting an ethical concern. Katcher and Wilkins' study suggests that generalization to contexts without animals was slow to happen, which led the authors to speculate that AAT interventions may require on-going animal interaction in order to maintain positive changes.

Whilst there has been an observed increase in dogs used in schools over the past two to three years, the Department of Education is unaware of the exact number of animals employed in this role (Pidd, 2017). This poses a risk, as the need for the 'right' animal is key (MacNamara & Moga, 2014). Factors such as the person's previous experience with animals, their current situation and the species and breed of animal are all significant in determining positive or negative effects (Hart & Yamamoto, 2015). For example, Kidd & Kidd (1989) highlighted that adults tend to be drawn to the species, and breed they had enjoyed previously. AAT requires careful planning and clarity regarding what outcomes are desired. Katcher (2000) reminds us that whilst being around animals is enjoyable, we should not assume the procedure is therapeutic.

Furthermore, it is important to stress that research into AAT and HAI is generally from the Western world, such as United States, Australia and European countries (Hart & Yamamoto, 2015). The cultural, religious and social differences that affect how humans perceive and interact with animals cannot be ignored (Jagatheesan, 2015). Therefore we can assume that AAT could provide different effects for those in different cultures, for example Asian or African cultures.

4.6 AAT and Links to Coping

It has been discussed how AAT can generate positive outcomes for individuals. Parallels between such effects and coping can be drawn, which could imply that AAT supports the development of productive coping styles.

Firstly, AAT has been shown to directly increase problem-solving skills of abused or neglected children (Reichert, 1998). This may be related to emotional support that animals are reported to provide. Links between emotional development and the development of productive coping, such as problem-solving ability (Eisenberg & Fabes, 1998; Izard, 2002), could be accountable for this correlation.

Secondly, the literature suggests that animals can serve as attachment figures and help children build meaningful bonds. Secure attachments tend to indicate later life adjustment, resilience and coping with stress, and as such it is possible that children's attachment to animals is associated with these positive outcomes as well (Melson & Fine, 2015).

Thirdly, children are reported to use animals as buffers or self-calming techniques (Strand, 2004), implying that the animal is a coping mechanism itself. By providing an unlimited source of nurturing and acceptance, approaching animals could be regarded as seeking social support which is an adaptive coping action, especially as pets are seen as family (Fine et al., 2011; Katcher, 1981) and are often told secrets (Melson, 2001). Furthermore, using animals as tools offer modelling opportunities which are typically provided by adults as children develop. Such opportunities provide children with crucial direct hands-on learning experiences within a safe environment (Vygotsky, 1962). It can be argued that coping is in part learned from adults (Bowlby, 1977), and as such animals can be regarded as helpful in teaching effective coping.

Lastly, AAT has been shown to lower levels of cortisol following sessions with guinea pigs. The executive functions react sensitively to elevated levels of cortisol (Diamond & Lee, 2011) and include: concentration, impulse control, memory, cognitive flexibility, self-motivation, self-reflection, problem solving, and strategic planning (Miyake et al., 2000). Lowered levels of the hormone would improve children's stress response and consequently improve their responses to negative emotions, as a result of improved executive functions (Beetz, 2013). It is likely that an improvement in executive functions would enable children to utilize more adaptive coping strategies, given the associated improvements in flexible thinking and impulse control.

In summary, AAT appears to develop and promote protective factors needed to improve well-being and that which is considered helpful in developing productive coping strategies.

5. Relevance to Educational Psychologists

Claims that Educational Psychologists (EPs) should prepare for the growing concerns about children and young people's mental health, with the possible need to contribute to the work that would typically be CAMHS' specialism (Allen & Hardy, 2013) reflect the current climate of change for the profession. Whilst targeting children's coping skills in school is considered ideal (Frydenberg, 2014), the need for EP input has been highlighted as important for the success of interventions (Frydenberg et al., 2004). EPs' knowledge of systems and the evidence-base places them well to support school staff in developing policies, upskill staff and recommend known interventions. The profession enables a distinctive contribution to the development of teachers' capacity to respond to children's needs (Farrell et al., 2006), and so it is crucial that EPs are familiar with the newest developments in therapeutic literature. Being experienced in delivering interventions in schools and familiar with the principles of implementation science (Fixen et al., 2012), EPs are useful resources that can facilitate and guide evidence-based programmes, assisting teachers to target mental health difficulties in the younger population. Furthermore, the increasing use of AAT in schools and other educational settings (Jalongo et al., 2004) provides increasing need for EPs to be aware of the psychological impact it may have. Younggren, et al., (2016) highlight that psychologists are recently being asked to certify the need for patients to have a pet present in settings. EPs consequently need to be mindful of the complexity of the issue. EPs may also benefit from the reported therapeutic effects within their professional practice; animals may serve to encourage participation in individual sessions.

6. The current study

6.1 Overview

The literature review highlighted the importance of improving children's productive coping skills in light of the current upwards trend in mental health difficulties and reduced well-being. Coping skills are crucial in buffering the effects of stressors. The review has examined various factors that may influence the development of coping skills and has made suggestions of what could be considered for future approaches. Importantly, it has highlighted the potential use of AAT to produce increases in well-being and productive coping. Links between theoretical frameworks of AAT and coping have been discussed, offering psychological support for the proposed association. However, it has been recognised that more methodologically sound research into AAT is required in order to bring credibility to the field. Finally, the review has highlighted the relevance this research topic has for EPs.

6.2 Research Aims

The proposed study is designed to explore whether an AAT group intervention is successful in developing the SEB skills of primary aged children. In addition, the study will assess whether the children exhibit more productive coping strategies as a result of the hypothesised increase in SEB skills. Positive effects could indicate that AAT is helpful in building individuals' productive coping skills and would further investigate Nimer and Lundahl's (2007) appeal for investigation of the conditions under which AAT would be most helpful. The study aims to overcome some of the limitations of the present AAT research base by collecting quantitative data. In addition, the study aims to address the observed gap in the literature by exploring the views of parents.

The research questions (RQs) aimed to be explored in this study are:

RQ1: Does an AAT intervention help to address SEBD and well-being/nurture needs in primary aged children?

RQ2: Will the coping style of pupils change or be enhanced as a result of AAT?

RQ3: What are the perceptions about why AAT works, if at all?

RQ4: Are any effects seen outside of the intervention, across contexts (home and classroom), and over time?

7. References

Ainsworth, M. D. S. (1978). The Bowlby-Ainsworth attachment theory. *Behavioral and Brain Sciences*, 1(03), 436-438.

Ainsworth, M. (2012). Attachment as related to mother-infant interaction. In R. Hinde (Ed.), *Industry Statistics & Trends*. Greenwich, Connecticut: American Pet Products Association.

Allen, A.., & Hardy, J. (2013). The future of educational psychology. In C. Arnold (Eds.), *British Educational Psychology: The First Hundred Years* (pp. 141-166). British Leicester: Psychological Society.

Anderson, K. L., & Olson, M. R. (2006). The value of a dog in a classroom of children with severe emotional disorders. *Anthrozoös*, 19(1), 35–49.

Aydin, N., Krueger, J.I., Fischer, J., Hahn, D., Kastenmüller, A., Frey, D., & Fischer, P. (2012). "Man's best friend:" How the presence of a dog reduces mental distress after social exclusion. *Journal of Experimental Social Psychology*, 48, 446-449.

Bagdi, A., & Pfister, I.K. (2006). Childhood Stressors and Coping Actions: A comparison of children and parents' perspectives. *Child & Youth Care Forum, 35(1),* 21-40.

Bal, S., Van Oost, P., Bourdeaudhiuj, I. D., & Crombez, G. (2003). Avoidant coping as a mediator between self-reported sexual abuse and stress-related symptoms in adolescents. *Child Abuse and Neglect*, 27(8), 883–897.

Band, E. B., & Weisz, J. R. (1988). How to feel better when it feels bad: Children's perspectives on coping with everyday stress. *Developmental Psychology*, *24*(2), 247.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, *84*(2), 191.

Barba, B. E. (1995). The positive influence of animals: Animal-assisted therapy in acute care. *Clinical Nurse Specialist*, *9*(4), 199-202.

Bardill, N., & Hutchinson, S. (1997). Animal Assisted Therapy with hospitalized adolescents. *Journal of Child and Adolescent Psychiatric Nursing*, 10(1), 17-24.

BBC News (25th November, 2016). *The therapy dogs that help stressed students*. Retrieved on

    March 2016 from: http://www.bbc.co.uk/news/uk-38094913.

Beck, A.M., & Katcher, A.H. (1983). *Between pets and people: The importance of animal*

    Companionship. New York: G.P. Putnam's Sons.

Beck, A.M. (2014). The biology of the human-animal bond. *Animal Frontiers*, 4(3), 32-36.

Beck, A.M., Seraydarian, L., & Hunter, G.F. (1986). Use of animals in the rehabilitation of

    inpatients. *Psychological Reports*, 58, 63-66.

Beetz, A. (2013). Socio-emotional correlates of a school dog-teacher-team in the classroom.

    Frontiers in Psychology, 4, 886.

Bergesen, F.J. (1989). *The effects of pet facilitated therapy on the self-esteem and socialization*

    of primary school children. Presented at the 5th International Conference on the

    Relationship between Humans and Animals. Monaco.

Bernard, B. (1991). *Fostering resilience in kids: Protective factors in the family, school, and*

    community. Portland, Oregon: Western Regional Center for Drug-Free Schools and

    Communities.

Billings, A. G., & Moos, R. H. (1981). The role of coping responses and social resources in

    attenuating the stress of life events. *Journal of Behavioral Medicine*, *4*(2), 139-157.

Blasey, C.M. (1995). *Measuring young children's coping response to interpersonal conflict*

    (Doctoral dissertation, University of California, USA).

Bolger, N., & Schilling, E. A. (1991). Personality and the problems of everyday life: The role of

    neuroticism in exposure and reactivity to daily stressors. *Journal of Personality*, *59*(3),

    355-386.

Bombèr, L. M. (2007). *Inside I'm hurting: Practical strategies for supporting children with*

    attachment difficulties in schools. London: Worth Publishing.

Born, A. (2008). *The relationship between humans and animals in animal-assisted therapy: A*

    qualitative study (Doctoral dissertation, The Chicago School of Professional Psychology:

    ProQuest Dissertations Publishing).

Bowers, M.J., & MacDonald, P. (2001). The effectiveness of equine-facilitated psychotherapy with at-risk adolescents. *Journal of Psychology and Behavioural Sciences*, 15, 62-76.

Bowlby, J. (1969). *Attachment and Loss: Attachment; John Bowlby*. Basic Books.

Bowlby, J. (1988). Attachment, communication, and the therapeutic process. In J. Bowlby, *A secure base: Parent-child attachment and healthy human development*, (pp.137-157). London: Routledge.

Bowlby, J. (1980). *Attachment and loss*: *Loss: Sadness and depression* (Vol. 3). New York: Basic Books.

Bradley, J., & Maldonado, N. (2013). *Effects of a Facility Dog on Student Learning and the Learning Environment.* Florida: Annual Mid-South Educational Research [MSERA] conference.

Breakwell, G., Smith, J., & Wright, D.B. (2012). *Research Methods in Psychology* (4th ed.). London: Sage.

Bryant, B. (1990). The richness of the child-pet relationship: a consideration of both benefits and costs of pets to children. *Anthrozoös*, 3, 253-261.

Burger, J.M. (1985). Desire for control and achievement-related behaviours. *Journal of Personality and Social Psychology*, 48(6), 1520-33.

Bustad, L.K. (1983).*Symposium summary*. In Paper presented at The International Symposium on Human-Pet Relationship: Vienna, Austria.

Cangelosi, P. R., & Sorrell, J. M. (2010). Walking for therapy with man's best friend. *Journal of Psychosocial Nursing and Mental Health Services*, *48*(3), 19-22.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267.

Causey, D.L., & Dubow, E.F. (1992). Development of a self-report coping measure for elementary school children. *Journal of Clinical Child Psychology*, 21(1), 47-59.

Chalmers, K., Frydenberg, E., & Deans, J. (2011). An exploration into the coping strategies of preschoolers: Implications for professional practice. *Australian Child and Family Welfare*, 36(03), 120-127.

34

Chandler, C. K. (2005). *Animal Assisted Therapy in Counselling.* New York: Routledge.

Chandler, C. K., Fernando, D. M., Barrio Minton, C. A., O'Callaghan, D. M. & Portrie-
Bethke, T. L. (2010). Matching animal-assisted therapy techniques and intentions with
counselling guiding theories. *Journal of Mental Health Counseling, 32*(4), 354-374.

Clutton-Brock, J. (1995). Origins of the dog: domestication and early history. In J.Serpell (Ed.),
The Domestic Dog: Its evolution, behaviour and interactions with people (pp. 7-20).
Cambridge: Cambridge University Press.

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, 38, 300-
314.

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality
in dating couples. *Journal of Personality and Social Psychology*, *58*(4), 644.

Compas, B.E. (1987). Coping With Stress During Childhood and Adolescence. *Psychological
Bulletin*, 3, 393-403.

Compas, B.E. (1998). An agenda for coping research and theory: Basic and applied
developmental issues. *International Journal of Behavioural Development*, 22, 231-237.

Compas, B., Malcarne, V.C., & Fondacoro, K.M. (1988). Coping with stressful events in older
childhood and young adolescents. *Journal of Consulting and Clinical Psychology,* 56,
405-411.

Compas, B.E., Connor-Smith, J.K., Saltzman, H., Harding Thornsen,A., & Wadsworth, M.E.
(2001). Coping With Stress During Childhood and Adolescence: Problems, Progress, and
Potential in Theory and Research. *Psychological Bulletin,* 127(1), 87-127.

Compas, B.E., Jaser, S.S., Dunbar, J.P., Watson, K.H., Bettis, A.H., Gruhn, M.A., & Ellen K.
Williams, E.K. (2014). Coping and Emotion Regulation from Childhood to Early
Adulthood: Points of Convergence and Divergence. *Australian Journal of Psychology*,
66(2): 71–81.

Corson, S. A., & Corson, E. O. (1980). Pet animals as nonverbal communication mediators in

psychotherapy in institutional settings. In S.A. Corsen., & E. O'Leary Corsen (Eds.), *Ethology and nonverbal communication in mental health: an interdisciplinary biopsychosocial exploration,* New York: Pergamon Press.

Cowen, E. L., Pedro Carroll, J. L., & Alpert Gillis, L. J. (1990). Relationships between support and adjustment among children of divorce. *Journal of Child Psychology and Psychiatry*, 31(5), 727-735.

Crawford, E. K., Worsham, N. L., & Swinehart, E. R. (2006). Benefits derived from companion animals, and the use of the term "attachment". *Anthrozoös*, 19(2), 98-112.

Crossman, M. K., Kazdin, A. E., & Knudson, K. (2015). Brief unstructured interaction with a dog reduces distress. *Anthrozoös*, 28(4), 649-659.

Crossman, M.K. (2017). Effects of Interactions with Animals on Human psychological distress. *Journal of Clinical Psychology*, 73(17), 761-784.

Daly, B., & Suggs, S. (2010). Teachers' experiences with humane education and animals in the elementary classroom: implications for empathy development. *Journal of Moral Education*, 39(1), 101-112.

de Boo, G.M., & Wicherts, J.M. (2009). Assessing Cognitive and Behavioral Coping Strategies in Children. *Cognitive Therapy and Research*, 33, 1–20.

Deci, E.L., & Ryan, R.M. (2002). *Handbook of self-determination research*. Rochester: The University of Rochester Press.

Delta Society. (2006). *Introduction to animal-assisted activities and therapy (AAA/AAT)*. Renton, WA: Delta Society. Retrieved on March 2016 from: http://www.deltasociety.org/AnimalsAAAAbout.htm

Denham, S. A. (2006). Social-emotional competence as support for school readiness: What is it and how do we assess it?. *Early Education and Development*, 17(1), 57-89.

Denham, S. A., Blair, K. A., DeMulder, E., Levitas, J., Sawyer, K., Auerbach–Major, S., & Queenan, P. (2003). Preschool emotional competence: Pathway to social competence? *Child Development*, 74(1), 238-256

Department for Education (2003). *Every Child Matters*. London: Stationary Office.

Department for Education and Skills (DfES). (2005). *Excellence and enjoyment: Social and emotional aspects of learning*. London: DfES.

Department for Education and Skills (DfES). (2007a). *Every parent matters*. London: DfES.

Department for Education and Skills (DfES). (2007b). *Social and emotional aspects of learning for secondary schools*. London: DfES.

Department of Health. (2015). *Future in mind: promoting, protecting and improving our children and young people's mental health and well-being.* London: Department of Health.

Diamond, A., & Lee, K. (2001). Interventions shown to aid executive function development in children 4 to 12 years old. *Science*, 333, 959-964.

Diener , E. (2000). Subjective well-being: the science of happiness, and a proposal for a national index. *American Psychologist*, 55, 34-43.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta analysis of school based universal interventions. *Child Development*, 82(1), 405-432.

Dusek, J. B., & Danko, M. (1994). Adolescent coping styles and perceptions of parental child rearing. *Journal of Adolescent Research*, 9(4), 412-426.

Dweck, C. S. (1998). The development of early self-conceptions: Their relevance for motivational processes. In J. Heckhausen, & C.S. Dweck (Eds.), *Motivation and self-regulation across the life span* (pp. 257-280). New York: Cambridge University Press.

Ebata, A. T., & Moos, R. H. (1991). Coping and adjustment in distressed and healthy adolescents. *Journal of Applied Developmental Psychology*, 12(1), 33-54.

Edwards, N. E. & Beck, A. M. (2002). Animal-assisted therapy and nutrition in Alzheimer's disease. *Western Journal of Nursing Research,* 24(6), 697–712.

Eisenberg, N. & Fabes, R.A. (1998). Prosocial development. In W. Damon, and N. Eisenberg (Eds.), *Handbook of Child Psychology: Vol. 3. Social, Emotional, and Personality Development (5th ed,* pp. 701-78). Hoboken, NJ: Wiley.

Elias, M.J. (1991). A multilevel action-research perspective on stress-related interventions. In

M.E. Colten, & S. Gore (Eds.), *Adolescent stress: causes and consequences* (pp. 261-279). New York: Walter de Gruyter.

Elias, M. J., & Weissberg, R. P. (1990). School-based social competence promotion as a primary prevention strategy: A tale of two projects. *Prevention in Human Services*, 7(1), 177-200.

Erikson, E. (1963). *Childhood and Society* (2nd Ed). New York: W.W. Norton.

Eschenbeck, H., Heim-Dreger, U. Tasdaban, E. Lohaus, A. & Kohlmann, C-W. (2012). A Turkish adaptation of the Coping Scales from the German Stress and Coping Questionnaire for children and adolescents. *European Journal of Psychological Assessment,* 28(1), 32-40.

Esteves, S., & Stokes, T. (2008). Social effects of a dog's presence on children with disabilities. *Anthrozoös*, 21(1), 5–15.

Evans, L. D., Kouros, C., Frankel, S. A., McCauley, E., Diamond, G. S., Schloredt, K. A., & Garber, J. (2014). Longitudinal relations between stress and depressive symptoms in youth: Coping as a mediator. *Journal of Abnormal Child Psychology,* 43(2), 355-368.

Farrell, P., Woods, K., Lewis, S., Rooney, S., Squires, G., & O'Connor, M. (2006). *A review of the functions and contribution of educational psychologists in England and Wales in light of "Every Child Matters: Change for Children".* Nottingham: DfES Publications.

Fava, G.A., & Tomba, E. (2009). Increasing Psychological Well-Being and Resilience by Psychotherapeutic Methods. *Journal of Personality* 77(6), 1903-1934.

Fedorowicz, A. E. (1995). *Children's coping questionnaire (CCQ): Development and factor structure* (Doctoral dissertation, Simon Fraser University, British Columbia, Canada).

Fine, A. H. (Ed.). (2010). *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice*. London: Academic Press.

Fine, A. H (2014). *Our faithful companions: Exploring the essence of our kinship with animals*. Crawford, CO: Alpine Publications.

Fine, A., H. (2015). Incorporating Animal-Assisted Interventions into Psychotherapy Guidelines

and Suggestions for Therapists. In A.H. Fine (Ed.), *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for Practice* (4th ed, pp. 141-155). London: Academic Press.

Fine, A.H., & Beck, A. (2015). Understanding out kinship with animals: Input for health care professionals interested in the human/animal bond. In A.H. Fine (Ed.), *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for Practice* (4th ed, pp. 3-10). London: Academic Press.

Fine, A.H., Lindsey, A., & Bowers, C. (2011). Incorporating animal assisted interventions in therapy with boys at risk. In C. Haen (Ed.), *Engaging boys in treatment: Creative approaches to formulating, initiating, and sustaining the therapy process* (pp. 115-134). New York: Routledge.

Fischman, W., DiBara, J. A., & Gardner, H. (2006). Creating good education against the odds. *Cambridge Journal of Education*, *36*(3), 383-398.

Fixsen, K.A., Van Dyke, M., Fixsen, D.L., & Wallace Bailey, F. (2012). Implementation Science: Key concepts, themes, and evidence for practitioners in educational psychology. In B. Kelly and D.F. Perkins (Eds.), *Handbook of Implementation Science for Psychology in Education* (pp. 13-34). New York: Cambridge University Press.

Flink, C., Boggiano, A.K., & Barret, M. (1990). Controlling teaching strategies: Undermining children's self-determination and performance. *Journal of Personality and Social Psychology*, 59, 916-924.

Folkman, S. (1984). Personal control and stress and coping processes: a theoretical analysis. *Journal of Personality and Social Psychology*, *46*(4), 839.

Folkman, S. (2010). Stress, coping, and hope. *Psycho Oncology*, 19(9), 901-908.

Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology,* 55, 745-774.

Freud, S. (1959). In The interpretation of dreams. New York: Basic Books.

Friedmann, E., Katcher, A., Thomas, S., Lynch, J., & Messent, P. (1983). Social Interaction
and Blood Pressure: Influence of Animal Companions. *Journal of Nervous & Mental
Disease*, 171 (8), 461-465.

Friesen, L. (2010). Exploring Animal-Assisted Programs with Children in School and Therapeutic
Contexts. *Early Childhood Education Journal*, 37, 261–267.

Frith, E. (2016a). Progress and challenges in the transformation of children and young people's
mental health care: ***a*** *report of the Education Policy Institute's Mental Health
Commission.* Education Policy Institute. Retrieved on July 2017 from:
https://epi.org.uk/wp-content/uploads/2016/08/progress-and-challenges.pdf

Frith, E. (2016b). *Children and Young People's Mental Health: State of the Nation*.
CentreForum, Retrieved on July 2017 from: http://centreforum.org/live/wp-
content/uploads/2016/04/State-of-the-Nation-report-web.pdf

Frumkin, H. (2008). Nature contact and human health: building the evidence base. In S.R.
Kellert, J.H. Heerwagen, & M.L. Mador (Eds.), *Biophillic design: The theory, science,
and practice of bringing buildings to life.* Hoboken, NJ: John Wiley and Sons.

Frydenberg, E. (2002). *Beyond coping: Meeting goals, visions, and challenges*. New York:
Oxford University Press.

Frydenberg, E. (2008). *Adolescent coping: Advances in theory, research and practice*.
New York: Routledge.

Frydenberg, E. (2014). Coping research: Historical background, links with emotion, and new
research directions on adaptive processes. *Australian Journal of Psychology*, 66(2), 82-
92.

Frydenberg, E. (In press). *Promoting Coping Skills in children, adolescents and parents: What
we have learnt in the Australian context.*

Frydenberg, E., & Brandon, C. (2007). *The Best of Coping: Developing Coping Skills for
Adolescents (Facilitator's guide)*. Melbourne, Australia: ACER Press.

Frydenberg, E., & Deans, J. (2011). Coping competencies in the early years: Identifying the

strategies that preschoolers use. In P. Buchwald, K.A. Moore & T. Ringeisen (Eds.), *Stress and anxiety: Application to education and health*, (pp. 17-26). Berlin: Logos Verlag.

Frydenberg, E., Deans, J., & O'Brian, K. (2012). *Developing everyday coping skills in the early years: Proactive strategies for supporting social and emotional development*. London: Continuum International Publishing Group.

Frydenberg, E., Eacott, C., & Clark, N. (2008). From distress to success: Developing a coping language and programs for adolescents. *The Prevention Researcher*, 15(4), 8-13.

Frydenberg, E., & Lewis, R. (1993). Boys play sport and girls turn to others: Age, gender and ethnicity as determinants of coping. *Journal of Adolescence*, 16(3), 253.

Frydenberg, E., & Lewis, R. (1994). Coping with different concerns: Consistency and variation in coping strategies used by adolescents. *Australian Psychologist*, 29(1), 45-48.

Frydenberg, E., & Lewis, R. (1999). Academic and general well-being: The relationship with coping. *Australian Journal of Guidance and Counselling*, 9(1), 19-36.

Frydenberg, E., & Lewis, R. (2000). Teaching coping to adolescents: When and to whom? *American Educational Research Journal*, 37(3), 727-745.

Frydenberg, E. & Lewis, R. (2002). Adolescent well-being: Building young people's resources. In E. E. Frydenberg, *Beyond coping: Meeting goals, visions, and challenges* (pp. 175-194). Oxford: Oxford University Press.

Frydenberg, E., Lewis, R., Bugalski, K., Cotta, A., McCarthy, C., Luscombe-Smith, N., & Poole, C. (2004). Prevention is better than cure: Coping skills training for adolescents at school. *Educational Psychology in Practice*, 20(2), 117-134.

Frydenberg, E., & Lewis, R. (2009). Relations among well-being, avoidant coping, and active coping in large sample of Australian adolescents. *Psychological Reports,* 104(3), 745–758.

Furman, W. (1989). The development of children's social networks. In D. Belle (Ed.), *Children's social networks and social supports* (pp.151-172). New York: Wiley.

Garner, R. (2016). *Growing number of children self-harming as mental health problems*

amongst pupils rise, says new survey. In Independent, accessed March 2016: http://www.independent.co.uk/news/education/education-news/growing-number-of-children-self-harming-as-mental-health-problems-amongst-pupils-rise-says-new-a6912906.html

Gee, N. R., Fine, A.H., & Shuck, S. (2015). Animals in Education Settings: Research and practice. In A.H. Fine (Ed.), *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for Practice* (4th ed, pp. 195-210). USA: Elsevier.

Gee, N. R., Harris, S. L., & Johnson, K. L. (2007). The role of therapy dogs in speed and accuracy to complete motor skills tasks for preschool children. *Anthrozoos*, 20(4), 375–386.

Geist, T.S. (2011). Conceptual Framework for Animal Assisted Therapy. *Child and Adolescent Social Work Journal*, 28,243–256.

Goodkind, S., Ruffolo, M. C., Bybee, D., & Sarri, R. (2008). Coping as a mediator of the effects of stressors and supports on depression among girls in juvenile justice. *Youth Violence and Juvenile Justice*, 7(2), 100–118.

Handlin, L., Hydbring-Sandberg, E., Nilsson, A., Ejdebäck, M., Jansson, A., & Uvnäs-Moberg, K. (2011). Short-term interaction between dogs and their owners: effects on oxytocin, cortisol, insulin and heart rate—an exploratory study. *Anthrozoös*, 24(3), 301-315.

Hanselman, J. L. (2001). Coping skills interventions with adolescents in anger management using animals in therapy. *Journal of Child and Adolescent Group Therapy*, 11(4), 159-195.

Harbolt, T., & Ward, T. H. (2001). Teaming incarcerated youth with shelter dogs for a second chance. *Society & Animals*, 9(2), 177-182.

Hare, B. (2007). From nonhuman to human mind what changed and why? *Current Directions in Psychological Science*, 16(2), 60-64.

Harlow, H. F. (1958). The nature of love. *American Psychologist*, 13(12), 673.

Hart, L.A., & Yamamoto, M. (2015). Recruiting psychosocial health effects of animals for

families and communities: Transition to practice. In A.H. Fine (Ed.), *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for Practice* (4ᵗʰ ed, pp. 53-72). USA: Elsevier.

Hasking PA (2007) Reinforcement sensitivity, coping, and delinquent behaviour in adolescents. *Journal of Adolescence*, 30, 739–749.

Haynes, N. M. (2002). Addressing students' social and emotional needs: The role of mental health teams in schools. *Journal of Health & Social Policy*, 16(1/2), 109–123.

Hergovich, A., Monshi, B., Semmler, G., & Zieglmayer, V. (2003). The effects of the presence of a dog in the classroom. *Anthrozoös,* 15, 37–50.

Herold, J.A. (2016). *Coping Strategies in Middle Childhood: The Role of Parental Modeling.* (Undergraduate theses, University of Vermont, Vermont, USA). Accessed on June 2017 from:

http://scholarworks.uvm.edu/cgi/viewcontent.cgi?article=1177&context=hcoltheses&se i-

redir=1&referer=http%3A%2F%2Fscholar.google.co.uk%2Fscholar%3Fq%3DKliewer %2Band%2BSandler%2B1993%26btnG%3D%26hl%3Den%26as_sdt%3D0%252C5% 26as_ylo%3D2013#search=%22Kliewer%20Sandler%201993%22

Herzog, H. (2011). The impact of pets on human health and psychological well-being: fact, fiction, or hypothesis? *Current Directions in Psychological Science*, 20, 236.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513.

Hobfall, S.E. (2011). Conservation of Resources Theory: Its Implication for Stress, Health, and Resilience. In S.Folkman (Ed.), *The Oxford Handbook of Stress, Health, And Coping*. New York: Oxford University Press.

Hock, E., & Clinger, J. B. (1981). Infant coping behaviors: Their assessment and their relationship to maternal attributes. *The Journal of Genetic Psychology*, 138(2), 231-243.

Holcomb, R., & Meacham, M. (1989). Effectiveness of an animal-assisted therapy program in

an inpatient psychiatric unit. *Anthrozoös*, 2(4), 259-264.

Horowitz, A. (2009). *Inside of a dog: What dogs see, smell and know*. New York: Scribner.

Hudek-Knežević, J., & Kardum, I. (1996). A model of coping with conflicts between occupational and family roles: Structural analysis. *Personality and Individual Differences*, 21(3), 355-372.

Hussong, A. M., & Chassin, L. (2004). Stress and coping among children of alcoholic parents through the young adult transition. *Development and Psychopathology,* 16(04), 985-1006.

Izard, C. E. (2002). Translating emotion theory and research into preventive interventions. *Psychological Bulletin*, 128(5), 796.

Jagatheesan, B. (2015). Influence of cultural and religious factors on attitudes towards animals. In A.H. Fine (Ed.), *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for Practice* (4th ed, pp. 37-42). USA: Elsevier.

Jalongo, M. R., Astorino, T., & Bomboy, N. (2004). Canine visitors: The influence of therapy dogs on young children's learning and well-being in classrooms and hospitals. *Early Childhood Educational Journal*, 32(1), 9–16.

Jaser S, Fear J, Reeslund J, Champion J, Reising M, Compas B. (2008). Maternal sadness and adolescents' responses to stress in offspring of mothers with and without a history of depression. *Journal of Clinical Child and Adolescent Psychology*, 37, 736–746.

Johnson, R. A., & Meadows, R. L. (2010). Dog-walking: motivation for adherence to a walking program. *Clinical Nursing Research*, 19(4), 387-402.

Jones, S. M., & Bouffard, S. M. (2012). Social and Emotional Learning in Schools: From Programs to Strategies. In *Social Policy Report.* 26(4), 1-22. Society for Research in Child Development.

Julius, H.R., Beetz, A., & Kotrschal, K. (2013). Psychological and physiological effects of an animal-assisted intervention with unsecurely and desorganizedly attached children. *Empirische Sonderpädagogik,* 5(2), 160.162.

Kagan, J. (1984). *The nature of the child.* New York: Basic Books.

Kaminski, M., Pellino, T., & Wish, J. (2002). Play and pets: The physical and emotional impact of child-life and pet therapy on hospitalized children. *Children's Health Care*, 31(4), 321-335

Kamioka, H., Okada, S., Tsutani, K., Park, H., Okuizumi, H., Handa, S., Oshio, T., Park, S-J., Kitayuguchi, J., Abe, T., Honda, T., & Mutoh, Y. (2014). Effectiveness of animal-assisted therapy:A systematic review of randomized controlled trials. *Complementary Therapies in Medicine,* 22, 371—390.

Kardum, I., & Krapić, N. (2001). Personality traits, stressful life events, and coping styles in early adolescence. *Personality and Individual Differences*, 30(3), 503-515.

Katcher, A.H. (1981). Interactions between people and their pets: form and function. In B. Fogle (Ed.), *Interrelationships between people and pets* (pp.41-67). Springfield, IL: Charles C.Thomas.

Katcher, A.H. (2000). Animal assisted therapy and the study of human-animal relationships: discipline or bondage? Context of transitional object? In A.H. Fine (Ed.), *Handbook on Animal Assisted Therapy* (pp.461-474). San Diego: Academic Press.

Katcher, A.H., Friedmann, E., Beck, A.M., & Lynch, J.J. (1983). Looking, talking, and blood pressure: the physiological consequences of interaction with the living environment. In A. Katcher, & A. Beck (Eds.), *New perspectives on our lives with companion animals* (pp. 351-359). Philadelphia, PA: University of Pennsylvania Press.

Katcher, A. H., & Wilkins, G. G. (2000). The centaur's lessons: Therapeutic education through care of animals and nature study. In A.H. Fine (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice*, (pp.153-177). San Diego: Academic Press.

Kellert, S. R., & Wilson, E. O. (1995). *The Biophilia Hypothesis*. Washington, DC: Island Press.

Kidd, A. H., & Kidd, R. M. (1989). Factors in adults' attitudes toward pets. *Psychological Reports*, 65(3), 903-910.

Kliewer, W., & Sandler, I. N. (1993). Social competence and coping among children of divorce.

American Journal of Orthopsychiatry, 63(3), 432.

Kochenderfer-Ladd, B., & Skinner, K. (2002). Children's coping strategies: Moderators of the effects of peer victimization?. *Developmental Psychology*, 38(2), 267.

Kotrschal, K., & Ortbauer, B. (2003). Behavioral effects of the presence of a dog in the classroom. *Anthrozoös,* 16(2), 147–159.

Kraaij, V., & Garnefski, N. (2015). Cognitive, Behavioral and Goal Adjustment Coping and Depressive Symptoms in Young People with Diabetes: A Search for Intervention Targets for Coping Skills Training. *Journal of Clinical Psychology in Medical Settings*, 22(1), 45–53.

Kruger, K. A., & Serpell, J. A. (2010). Animal-assisted interventions in mental health: Definitions and theoretical foundations. In A. H. Fine (Ed.), *Handbook on animal-assisted therapy. Theoretical foundations and guidelines for practice* (3rd ed, pp. 33–48). London: Academic Press.

Kruger, K. A., Trachtenberg, S. W., & Serpell, J. A. (2004). *Can animals help humans heal? Animal-assisted interventions in adolescent mental health*. Philadelphia, PA: Center for the Interaction of Animals and Society (CIAS) and University of Pennsylvania School of Veterinary Medicine.

Landau, M. J., Kay, A. C., & Whitson, J. A. (2015). Compensatory control and the appeal of a structured world. *Psychological Bulletin*, 141, 694–722.

Larsen, R.L. (1992). Neuroticism and selective coding and recall of symptoms: Evidence from combined concurrent-retrospective study. *Journal of Personality and Social Psychology*, 62, 480-488.

Lazarus, R.S. (1991). Emotion and adaption. New York: Oxford University Press.

Lazarus, R.S. (1993). Coping theory and research: Past, present and future. *Psychsomatic Medicine*, 55, 234-47.

Lazarus, R. S., & Folkman, S. (1984). Coping and adaptation. In W. D. Gentry (Ed.), *The Handbook of Behavioral Medicine* (pp. 282-325.). New York: Guilford.

Lazarus, R.S., & Folkman, S. (1987). Transactional Theory and research on emotions and

    Coping. *European Journal of Personality*, 1(3), 141–169.

Le Roux, M.C., Swartz, L., & Swart, E. (2014). The Effect of an Animal-Assisted Reading

    Program on the Reading Rate, Accuracy and Comprehension of Grade 3 Students: A

    Randomized Control Study. *Child Youth Care Forum*, 43,655–673.

Levinson, B. M. (1965). Pet psychotherapy: Use of household pets in the treatment of

    behaviour disorder in childhood. *Psychological Reports* 17, 695-698.

Levinson, B. (1969). *Pet-oriented child psychotherapy*. Springfield, Illinois: Charles C

    Thomas, Bannerstone House.

Levinson, B. M. (1978). Pets and personality development. *Psychological Reports,* 42, 1031-

    1038.

Lewis, R., & Frydenberg, E. (2002). Concomitants of failure to cope: What we should teach

    adolescents about coping. *British Journal of Educational Psychology*, 72(3), 419-431.

Liew, J., Eisenberg, N., Losoya, S.H., Guthrie, I.K., & Murphy, B.C. (2003). Maternal

    expressivity as a moderator of the relations of children's vicarious emotional responses

    to their regulation, emotionality, and social functioning. *Journal of Family Psychology*,

    17(4), 584-97.

Lockwood, R. (1983). The influence of animals on social perception. In A.H. Katcher & A.H.

    Beck (Eds.), *New perspectives on our lives with companion animals* (pp. 351-

    362).Philadelphia: University of Pennsylvania Press.

Luthar, S.S., & Brown, P.J. (2007). Maximising resilience through diverse levels of inquiry:

    Prevailing paradigms, possibilities, and priorities for the future. *Development and

    Psychopathology*, 19, 931-955.

Lynch, J.J. (2000). *A cry unheard: New insights into the medical consequences of loneliness*.

    Baltimore: Bancroft.

Maccoby, E.E. (1983). Social-emotional development and responses to stressors. In N. Garmezy

    & M. Rutter (Eds), *Stress, Coping, and development in children* (pp. 217-234). New

    York: McGraw-Hill Book Company.

MacNamara, M.A. & Moga, J. (2014). The place and consequence of animals in contemporary

    social work. In T. Ryan (Ed.), *Animals in social work: Why and how they matter*.

    Hampshire, England: Palgrave MacMillan.

Mallon, G.P. (1992). Utilization of animals as therapeutic ajuncts with children and youth: a

    review of the literature. *Child and Youth Care Forum*, 21(1), 53-67.

Mallon, G.P. (1994). Cow as co-therapist: utilization of farm animals as therapeutic aides with

    children in residential treatment. *Child and Adolescent Social Work Journal*, 11, 455-474.

Marino, L. (2012). Construct validity of animal-assisted therapy and activities: How important

    in the animal in AAT? *Anthrozoös, 25*, 187-*203*.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370.

McCarthy, J. (2013). *Mental Illness Prevention: Exploring Effective Coping Strategies for

    School-Aged Children.* (Psychology Master's Theses, Paper 2, Sacred Heart University,

    Connecticut, USA).

McCrae, R. R., & Costa, P. T. (1986). Personality, coping, and coping effectiveness in an adult

    sample. *Journal of Personality*, 54(2), 385-404.

McKenzie, V., Frydenberg, E., & Poole, C. (2004). What resources matter to young people: The

    relationship between resources and coping style. *The Australian Educational and

    Developmental Psychologist,* 19(02), 78-96.

McNicholas, J., & Collis, G. (1995). The end of the relationship: coping with pet loss.

    In I.Robinson (Ed.), *The Waltham book of human-animal interaction: Benefits and

    responsibilities of pet ownership* (pp.127-143). Oxford: Pergamon Press.

Meesters, C. & Muris, P. (2004). Perceived parental rearing behaviours and coping in young

    adolescents. *Personality and Individual Differences,* 37(3), 513–522

Melson, G.F., & Fine, A.H. (2015). Animals in the lives of children. In A.H. Fine (Ed.),

    *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for

    Practice* (4th ed, pp. 179-194). London: Academic Press.

Melson, G. (2001). *Why the wild things are: Animals in the lives of children*. Cambridge:

Harvard University Press.

Melson, G.F. (2003). Child development and the human-companion animal bond. *Animal Behavioral Scientist*, 47, 31-39.

Melson, G.F. (2011). Child development and human-animal interaction: directions for research. In P. McCardle, S. McCune, J. Griffin, & V. Maholmes (Eds.), *Directions in human-animal interaction research: Child development, health, and therapeutic interventions* (pp. 13-34). Washington, DC: American Psychological Association.

Michl, L. C., McLaughlin, K. A., Sheperh, K., & Nolen-Hoeksema, S. (2013). Rumination as a mechanism linking stressful life events to symptoms of depression and anxiety: Longitudinal evidence in early adolescents and adults. *Journal of Abnormal Psychology*, 122(2), 339–352.

Mikulincer, M., Florian, V., & Weller, A. (1993). Attachment styles, coping strategies, and posttraumatic psychological distress: the impact of the Gulf War in Israel. *Journal of Personality and Social Psychology*, 64(5), 817.

Mithen, S. (1996). *The Prehistory of the Mind: An Exchange*. London, UK: Thames and Hudson.

Miyake, A., & Friedman, N. P. (2012). The nature and organization of individual differences in executive functions four general conclusions. *Current Directions in Psychological Science*, 21(1), 8-14.

Murphy, L. B. (1974). Coping, vulnerability, and resilience in childhood. In G. V. Coelho, D. A. Hamburg, & J. E. Adams (Eds.), *Coping and adaptation* (pp. 101-124). New York: Basic Books.

Murphy, L. B., & Moriarty, A. E. (1976). *Vulnerability, coping and growth from infancy to adolescence.* Oxford, England: Yale University Press.

Myers, O.E. (1988). *Children and animals. Boulder*. CO: Westview Press.

National Institute for Health & Care Excellence (NICE). (2008). *Promoting children's social and emotional wellbeing in primary education*. London: National Health Service.

Nicolotti, L., El-Sheikh, M., & Whitson, S. M. (2003). Children's coping with marital conflict

and their adjustment and physical health: Vulnerability and protective functions. *Journal of Family Psychology*, 17(3), 315-326.

Nimer, J., & Lundahl, B. (2007). Animal-assisted therapy: A meta-analysis. *Anthrozoös,* 20, 225–238.

O'Haire, M. (2010). Companion animals and human health: Benefits, challenges, and the road ahead. *Journal of Veterinary Behavior: Clinical Applications and Research*, 5(5), 226-234.

Odendaal, J. S., & Meintjes, R. A. (2003). Neurophysiological correlates of affiliative behaviour between humans and dogs. *The Veterinary Journal*, 165(3), 296-301.

Odendaal, J.S.J. (2000). Animal-assisted therapy - magic or medicine? *Journal of Psychosomatic Research*, 49,275-280.

Oxford English Dictionary (3rd Ed). (2010). A. Robertson (Ed.). Oxford University Press. DOI: 10.1093/acref/9780199571123.001.0001

Parish-Plass, N. (2008). Animal assisted therapy and children suffering from insecure attachment due to abuse and neglect: a method to lower the risk of intergenerational transmission of abuse? *Clinical Child Psychology and Psychiatry*, 13(1), 7-30.

Paulhus, D.L., & Vazire, S. (2009). The self-report method. In R.W. Robins, R.C. Fraley & R.F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224-239). New York: Guilford.

Pidd, H. (2017). *Please, Sir- Sit! The tale of a learning support dog*. In The Guardian, accessed on: 28th March 2017: https://www.theguardian.com/education/2017/mar/28/teaching-support-dog-school-teach-read

Rafanelli, C., Park, S. K., Ruini, C., Ottolini, F., Cazzaro, M., & Fava, G. A. (2000). Rating well-being and distress. *Stress and Health*, 16(1), 55-61.

Rajack, L. S. (1997). *Pets and human health: the influence of pets on cardiovascular and other aspects of owners' health* (Doctoral dissertation, University of Cambridge, England).

Reichert, E. (1998). Individual counseling for sexually abused children: A role for animals

and storytelling. *Child and Adolescent Social Work Journal,* 15(3), 177-185.

Reiss, D., & Price, R. H. (1996). National research agenda for prevention research: The

National Institute of Mental Health report. *American Psychologist*, 51(11), 1109.

Robinson, I. (1995). Associations between man and animals. In I.Robinson (Ed.), *The Waltham*

book of human-animal interaction: Benefits and responsibilities of pet ownership (pp.1-

8). Leicestershire, UK: Waltham Centre for Pet Nutrition: Melton Mowbray.

Rossman, B.B.R. (1992). School-age children's perceptions of coping with distress: Strategies

for emotion regulation and the moderation of adjustment. *Journal of Child Psychology*

and Psychiatry, 33, 1373-1397.

Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American*

Psychologist, 41(7), 813.

Roubeni, S., De Haene, L., Keatley, E., Shah, N., & Rasmussen, A. (2015). "If We Can't Do It,

Our Children Will Do It One Day" A Qualitative Study of West African Immigrant

Parents' Losses and Educational Aspirations for Their Children. *American Educational*

Research Journal, 52(2), 275-305.

Ruchkin, V. V., Eisemann, M., & Hägglöf, B. (1999). Coping styles in delinquent adolescents

and controls: The role of personality and parental rearing. *Journal of Youth and*

Adolescence, 28(6), 705-717.

Rud, A.G., & Beck, A.M. (2003). Companion animals in Indiana elementary schools.

Anthrozoös, 16, 241-251.

Ruini, C., Ottolini, F., Rafanelli, C., Tossani, E., Ryff, C. D., & Fava, G. A. (2003). The

relationship of psychological well-being to distress and personality. *Psychotherapy and*

Psychosomatics, 72(5), 268-275.

Rushton, S., & Juola-Rushton, A. (2008). Classroom learning environment, brain research and

the no child left behind initiative: 6 years later. *Early Childhood Education Journal*,

36(1), 87.

Russow, L. M. (2002). Ethical implications of the human-animal bond. *International League of*

Associations for Rheumatology, 43(1), 33-37.

Rutter, M. (1980). Attachment and the development of social relationships. *Scientific Foundations of Developmental Psychiatry*, 267-279.

Rutter, M. (1981). Stress, coping and development: some issues and some questions. *Journal of Child Psychology and Psychiatry*, 22, 323-356.

Ryan, N.M. (1989). Identification of children's coping strategies from the school-agers' perspective. *Research in Nursing and Health*, 12, 111-122.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069.

Sandler, I.N., Wolchik, S.A., MacKinnon, D., Ayers, T.S., & Roosa, M.W. (1997). Developing linkages between theory and intervention in stress and coping responses. In S.A.Wolchick and I.N. Sandler (Eds.), *Handbook of Children's Coping: Linking Theory and Intervention* (pp.3-41). New York: Plenum.

Schneider, M. S., & Harley, L. P. (2006). How dogs influence the evaluation of psychotherapists. *Anthrozoös*, 19(2), 128-142.

Schore, A.N. (2003). *Affect regulation and the repair of the self*. New York: Norton.

Schroder, V.M.D., Hull, P., Mclaughlin, D., & Shirakawa, P. (1996*). Attachment and coping in adults*. (A Clinical Research Project). Honolulu, Hawaii. Retrieved on March 2016 from: http://s3.amazonaws.com/academia.edu.documents/38403858/Attachment_and_Coping. pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1492722889&Signa ture=S6S0GEM73T%2FK2EfGjvzAE2EvtTs%3D&response-content-disposition=inline%3B%20filename%3DAttachment_and_Coping.pdf

Serpell, J. (1996). *In the company of animals: A study of human-animal relationships*. New York: Cambridge University Press.

Serpell, J. (2002). Anthropomorphism and Anthropomorphic Selection—Beyond the "Cute Response". *Society & Animals*, 10(4), 437-454.

Serpell, J.A. (2003). Anthropomorphism and anthromorphic selection-beyond the "cute response". *Society & Animals*, 11, 83-100.

Shankland, R., França, L.R., Genolini, C.M., Guelfi, J-D., & Ionescu, S. (2009). Preliminary study on the role of alternative educational pathways in promoting the use of problem-focused coping strategies. *European Journal of Psychology of Education*, 24(4), 499-512.

Siegel, D.J. (1999). *The developing mind: How relationships and the brain interact to shape who we are*. New York: The Guilford Press.

Skinner, E. A., & Zimmer Gembeck, M. J. (2009). Challenges to the developmental study of coping. *New directions for child and adolescent development*, 124, 5-17.

Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: a review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, 129(2), 216.

Sklar, H. (1988).The impact of the therapeutic environment. *Human Sciences Press,* 18(2), 107-123.

Somervill, J.W., Swanson, A.M., Robertson, R.L., Arnett, M.A., & MacLin, O.H. (2009). Handling a dog by children with attention-deficit/hyperactivity disorder: calming or exciting. *North American Journal of Psychology*, 11(1), 111-120.

Stark, L. J., Spirito, A., Williams, C. A., & Guevremont, D. C. (1989). Common problems and coping strategies I: Findings with normal adolescents. *Journal of Abnormal Child Psychology*, 17(2), 203-212.

Stern, C., & Chur-Hansen, A. (2013). Methodological Considerations in Designing and Evaluating Animal-Assisted Interventions. *Animals,* 3, 127-141.

Strand, E.B. (2004). Interparental conflict and youth maladjustment: the buffering effect of pets. *Stress, Trauma and Crisis: An International Journal*, 7(3), 191-200.

Stuart-Russell, R. (1997). The human-animal bond in the service of stress management. In J. Gammonley, A. Howie, S. Kirwan, S. Zapf, J. Frye, G. Freeman, et al. (Eds.), *Animal assisted therapy: Therapeutic interventions* (pp.1-9). Bellevue, WA: Delta Society.

Tannenbaum, J. (1995). *Veterinary ethics: Animal welfare, client relations, competition and collegiality* (2nd ed.). St Louis, MO: Mosby.

Toma´s, J. M., Sancho, P., Melendez, J. C., & Mayordomo, T. (2012). Resilience and coping as

predictors of general well-being in the elderly: A structural equation modeling approach. *Aging & Mental Health*, 16(3), 317–326.

Triebenbacher-Lookabaugh, S.L. (1988). Pets as transitional objects: their role in children's emotional development. *Psychological Reports*, 82(1), 191-200.

Trouilloud, D., Sarrazin, P., Bressoux, P., & Bois, J. (2006). Relation between teachers' early expectations and students' later perceived competence in physical education classes: Autonomy-supportive climate as a moderator. *Journal of Educational Psychology*, 98(1), 75.

Turner, K., Stetina, B.U., Burger, E., Lederman Maman, T., Handlos, U., & Kryspin-Exner, I. (2009). Enhancing Emotion Regulation And Recognition Among First Graders Through Animal-Assisted Group Training. *Journal of Veterinary Behavior*, 4(2), 93.

Vygotsky, L. S. (1962). *Language and thought*. Ontario, Canada: Massachusetts Institute of Technology Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wallin, D. J. (2007). *Attachment in Psychotherapy*. New York: Guilford Press.

Watson, D., & Hubbard, B. (1996). Adaptational style and dispositional structure: Coping in the context of the Five Factor model. *Journal of Personality*, 64(4), 737-774.

Weber, H. (1997). "Emotionsbewältigung,". In R. Schwarzer (Ed.), *Gesundheitspsychologie*, (pp.279–S.294). Göttingen: Hogrefe.

Weisz, J.R. (1986). Contingency and control beliefs as predictors of psychotherapy outcomes among children and adolescents. *Journal of Consulting and Clinical Psychology*, 66, 1094-1102.

Wells, D. L. (2009). The effects of animals on human health and well-being. *Journal of Social Issues*, 65(3), 523-543.

Wilding, L., & Claridge, S. (2016). The Emotional Literacy Support Assistant (ELSA) programme: parental perceptions of its impact in school and at home. *Educational Psychology in Practice*, 32(2), 180-196.

Wilson, E.O. (1984). *Biophilia: The human bond with other species*. Cambridge: Harvard
University Press.

Wojcik, Z., McKenzie, V., Frydenberg, E., & Poole, C. (2004). Resources loss, gain,
investment, and coping in adolescents. *The Australian Educational and Developmental
Psychologist*, 19(02), 52-77.

Yeo, K., Frydenberg, E., Northam, E., & Deans, J. (2014). Coping with stress among preschool
children and associations with anxiety level and controllability of situations. *Australian
Journal of Psychology*, 66(2), 93-101.

Younggren, J.N., Boisvert, J.A., & Boness, C.L. (2016). Examining Emotional Support
Animals and Role Conflicts in Professional Psychology Professional Psychology:
Research and Practice. *American Psychological Association*, 47(4), 255–260.

Zasloff, R. L., Hart, L. A., & DeArmond, H. (1999). Animals in elementary school education
in California. *Journal of Applied Animal Welfare Science*, 24, 347-357.

Zilcha-Mano, S., Mikulincer, M., & Shaver, P. R. (2011). Pet in the therapy room: An
attachment perspective on animal-assisted therapy. *Attachment and Human Development,*
13, 541-561.

Exploring an Animal Assisted Intervention: Perceptions and Coping

Part B: Major Empirical Study

1. Abstract

The present study aimed to explore potential links between Animal Assisted Therapy (AAT) and children's coping styles. AAT has been shown to bring about change in a range of areas. Based on existing literature within both fields, it was hypothesised that increasing children's social, emotional and behavioural (SEB) skills through AAT, would increase the use of more productive coping strategies. Eight primary aged pupils, aged seven and eight, attended an existing AAT intervention for six weeks in their school. Pre and post intervention measures were taken to assess for changes in SEB skills and exhibited coping styles. The measures were taken using The Boxall Profile and the Self Report Coping Scale (SCRS). Quantitative data was supported by interviews with a selection of pupils, parents and teachers that aimed to explore their views of AAT and changes across time and contexts. The results revealed changes in 17 of the 20 Boxall Profile dimensions, indicating positive changes in the pupils' social, emotional and behavioural skills. Descriptive analysis was used to explore the changes in coping styles. The research provides support for the use of AAT in supporting SEB difficulties. The implications for the use of AAT to promote productive coping styles are discussed and future directions are proposed.

2. Introduction

Productive coping styles provide a buffering effect to stress, have associations with better quality of life, well-being, physical and mental health (Compas et al., 2001), and can be predicators of future well-being (McCarthy, 2013). The link between coping and well-being (Frydenberg & Lewis, 1999) suggests that developing effective coping strategies may support children to become more resilient, and combat the upwards trend in children's mental health difficulties (Garmer, 2016). Schools are considered ideal for addressing this (Frydenberg, 2014).

Coping strategies can be influenced and developed by attachment style, and social, emotional and behavioural (SEB) skills (Eschenbeck et al., 2012; Schroder, et al., 1996). Therefore, SEB skills can be regarded as protective factors and are arguably crucial for improving productive coping.

Animal Assisted Therapy (AAT) is increasingly used in schools as a method to support and develop children's SEB skills (e.g. Fine et al., 2011; Melson, 2001; Nimer & Lundahl, 2007). AAT appears to develop and promote protective factors needed to improve well-being and that which is considered helpful in developing productive coping strategies. This study aims to explore this notion.

3. Methodology

3.1 Research Design

This research was underpinned by a post-positivist research paradigm and based upon the epistemological position of critical realism (Bhaskar, 2008). The study adopted a mixed-methods approach to collect data to explore: the effect of AAT intervention on coping styles; how teachers, pupils and parents perceived AAT; whether change was noted in pupils across all settings; and whether AAT was considered useful. The methodology was used to understand the real-life contextual situation, and to provide complementary data (Creswell, 2013). A triangulation of data provided a better understanding of whole school effect, enhancing validity (Breakwell, Smith & Wright, 2012).

This research aimed to determine whether there was a causal effect of AAT intervention on any changes in the pupils' coping styles and well-being, whilst acknowledging the contribution of social constructions on interpretation of the dependent variables. The researcher believed coping styles and nurture needs existed, however there was recognition of the limitations in

collecting this data. The interviews aimed to gather the views of those involved, and realised that personal values and experiences played a role in their projections of reality.

3.2 Description of AAT intervention

Every Friday the dog arrived at the school supported by two handlers. The group ran for approximately one hour. All eight pupils attended at the same time; the SENCo also attended which meant that three adults were present in total. The first part of the session involved the pupils taking turns to read to the dog. The dog was used as a tool through which the adults guided the children's behaviour; the dog's behaviour was interpreted and translated for the children. For example, the pupils were encouraged to be respectful, quiet, and take turns by stating that the dog's behaviour showed she was unhappy/happy. The second part of the session was planned by the SENCo and involved a discussion about topics or circumstances that were considered to be prominent to the pupils' difficulties. However, it was often the case that discussions would develop from the pupils themselves, including disclosures or worries that they would bring up.

3.3 Methods and Procedure

3.3.1 The Research Process

Following gaining consent from the school's head teacher, a meeting was arranged to discuss and agree the details of the study. The proposed population was established based on the inclusion criteria and the SENCo was requested to randomly select eight pupils to participate. Consent was sent to relevant parents. Subsequent to consent being obtained, the first quantitative data was collected (see below). During this time five parents of the participating pupils were randomly selected and requested to attend interviews via consent forms. The second quantitative data collection occurred six weeks later. At this time the pupil interviews took place, in addition to some of the parent interviews. Following the school summer holidays, and an additional period of four weeks the remaining interviews were conducted.

3.3.2. Quantitative Methodology

Coping style data was collected from consenting pupils, selected by school staff to attend the school's AAT group. A self-report questionnaire, the Self-Report Coping Scale (SRCS) (Causey & Dubow, 1992) (Appendix J), was completed on two occasions; prior to joining the group and after attending for six weeks. The questionnaire was completed with the researcher on an individual basis; pupils were asked to reflect on 'situation B' (i.e. having a fight with a

friend) of the SRCS as it was considered more applicable to children of all ages, particularly as children as young as seven were recruited. The researcher read aloud the situation and all 34 items, each representing a different coping strategy. Pupils answered on a 5-point Likert scale identifying the frequency a coping strategy was used. Pictorial aids were presented for each strategy (Appendix U). The order in which pupils worked through the items was counterbalanced.

The SRCS was chosen as its validity and reliability has been tested with primary school children and supported through significant correlations for self-report and peer ratings of uses of coping strategies (McCarthy, 2013).

For the purpose of measuring SEB difficulties, an observation tool, the Boxall Profile (Bennathan & Boxall, 1998) was used as a pre and post intervention measure. The Boxall Profile is considered to be an effective tool and its measurements were appropriate for the identified needs of the pupils and purpose of the AAT group. Profiles were completed on two occasions by a teacher that knew each child well; prior to commencing the AAT group and again after attending the group for six weeks.

3.3.3. Qualitative Methodology

A selection of pupils in the AAT group, along with parents and teachers, participated in 30 minute semi-structured interviews. Participants were asked their views via open ended questions, encouraging them to elaborate on their answers in order to elicit rich data.

Questions (Appendix K) were inductive and formed from previous interviews in order to establish themes and until no new data was established. Questions aimed to explore AAT in relation to:
- Effects
- Perceptions
- Transferability
- Sustainability

3.4 Sample

A selection of primary aged pupils that fitted the inclusion criteria were identified by the SENCo. School selection criteria to attend the AAT group consisted of children that had needs related to social, emotional and behavioural well-being, and attendance below 90%. To

establish pupils with such needs, the school used Boxall Profiles, teacher referrals and the local authority wellbeing measuring tools. Selection criteria was set at a minimum age of seven, as previous research showed that seven to eleven year olds were able to use both cognitive and behavioural coping strategies (Fedorowisc, 1995). Eight children, aged between seven and eight, were randomly selected to participate in the AAT group by the SENCo and parental consent was requested. Parents of the pupils received a consent form informing them of the intended study and requesting consent (Appendix B). No parents expressed a desire to withdraw their child from selection.

Five of the eight pupils that attended the AAT were randomly selected to attend semi-structured interviews. A further convenience sample of four of the eight pupils' parents and five staff members who knew the pupils well were interviewed using semi-structured interviews in order to explore perceptions and constructs of AAT. Difficulties were met in attempts to obtain consent from parents and teachers which accounts for the small qualitative sample.

3.5 Research Materials

The Self Report Coping Scale (SRCS) (Causey & Dubow, 1992) (Appendix J) was used to establish what coping style each child predominantly used. The SRCS was used as it was developed specifically for use with school-aged children (McCarthy, 2013). Being a self-report questionnaire, it was hoped that adult subjectivity would be limited. The SRCS consisted of 34 items, comprising of five discrete categories relating to coping styles: social support seeking, self-reliance, distancing, internalising and externalising (Causey & Dubow, 1992).

The Boxall Profile (Bennathan & Boxall, 1998) measured the pupils' social and emotional literacy. Two lists of 34 descriptive items were scored by a member of staff who knew the pupil well (Appendix Y).

Semi-structured interviews were conducted using inductive questions (Appendix K) that had emerged from the literature. Questions were guided by the participant's responses.

3.6 Methods of Analysis

Boxall Profile data were analysed using the Statistical Package for the Social Sciences (SPSS version 20) software. A Wilcoxon signed-rank test was used to analyse differences between Boxall Profile data from pre and post AAT group intervention (six weeks) (Appendix X & Y).

The test was chosen as a nonparametric test due to the small set of data not meeting basic assumptions of normal distribution. Each dimension of the Boxall Profile was analysed separately to investigate any change in scores between pre and post AAT intervention.

The SRCS data were analysed using descriptive statistics, enabling a distribution of responses to be established. Coping strategies were firstly scored within Causey and Dubow's five categories: internalising, externalising, distancing, seeking social support, and problem solving. According to traditional binary categorisations, internalising, externalising and distancing would be regarded unproductive strategies, whereas problem solving and seeking social support would be regarded productive (Appendix U). However, with research identifying emotion-based strategies as helpful in some circumstances (Frydenberg, 2002), an additional coping category was added; the category 'effective emotion based' consisted of the internalising and externalising strategies that the author construed as having potential to be helpful (see Appendix W for detailed information). Coping categories were classified as either productive, unproductive or potentially productive (Appendix W). Pupils' scores for each strategy were added together to establish a total.

Thematic analysis, as described by Braun and Clarke (2006) (Appendix L) was employed to analyse data from the semi-structured interviews. Pupils', parents' and teachers' interviews were analysed separately. Thematic analysis was selected to provide a systematic account of responses (Denscombe, 2010). Themes were identified using an inductive approach; ensuring themes were strongly linked to the data (Patton, 1990) (Appendices P, R & T).

As a critical realist epistemology was taken, it was recognised that thematic analysis involves a degree of researcher interpretation and accounts for the context in which reality exists (Braun & Clarke, 2006). This study reported on the participants' reality of their own experiences but also considered the contextual influences involved. Semantic analysis was used to represent this critical realist ontology.

3.7 Ethical Considerations

Full ethical approval was obtained from the School of Psychology, Cardiff University on 11th April 2016. There were a number of ethical issues, which are reported in Table 3.

Table 3: Overview of Ethical Issues and Researcher Actions

Ethical Issues	Researcher Actions
Recruitment	The school's AAT intervention was in existence prior to this study. The research was not intrusive beyond asking questions afterwards and asking participants to complete additional questionnaires. An opportunity sample for the interviews was selected by the researcher from an established AAT group, limiting any selection bias. Pupils scheduled to attend the group were selected by the school from evidence that pupils required additional support regarding nurture needs. Consent for all pupils was sought from parents. Pupils under the age of seven were not included in the study, as research indicates that younger children may not be capable of using cognitive coping strategies because of limitations in abstract reasoning (Fedorowisc, 1995); thus a full assessment of coping strategies would not have been possible. This also prevented younger children becoming distressed or confused by abstract questions; those potentially requiring the use of verbal expression and receptive language that may have surpassed their developmental level.
Consent	Written consent was obtained from parents that allowed the researcher to collect pre and post data about the pupils from two measures (Appendix B). Separate written consent was obtained to allow their child to participate in a semi-structured interview (Appendix C). This provided the parents with an option to consent to one or both parts of the methodology. Pupil participants also completed a consent form prior to taking part in the study (Appendix D & E).

	Consent was obtained from parents and teachers to participate in semi-structured interviews (Appendix F). Participants were informed that interviews would be recorded and stored until transcribed anonymously. Participants had the right to withdraw until interviews had been transcribed. Debriefing and information sharing occurred via the following: Child friendly debrief sheet (Appendices G & H) Adult debrief sheet (Appendix I)
Confidentiality	The study maintained confidentiality around all aspects of sample selection, data collection and analysis. No names were included on pre and post measures; initials were used to identify Boxall Profiles and coping styles questionnaires, along with 1 or 2 to indicate if it was a pre or post intervention score. Parents were fully informed of the limitations around confidentiality with respect to disclosures or if there was indication that someone was at risk of harm. It was also noted that school staff and some pupils were aware of which pupils attended the AAT group. All interviews conducted were confidential; names and personal data were omitted from transcriptions.
Jeopardy	As Boxall Profiles were already used within the school's monitoring procedures, pupils' scores were noted and used to inform appropriate school strategies and interventions. School staff implemented appropriate action regardless of this study; pupils accessing the AAT group were selected for having significant needs and thus low scores were expected. To ensure that pupils' participation was not affected by language or literacy difficulties, the researcher read questions aloud, scribed and was prepared to clarify meaning as necessary. A child-friendly pictorial version of the SRCS was created to aid the understanding of each coping strategy. A visual aid was also offered to pupils during interviews to support their expression of thoughts and feelings.

	The researcher was mindful that reflecting on a stressful situation (having a fight or argument with a friend) could have caused pupils to feel vulnerable from the sensitivity of the topic or due to stressful memories of conflict. Pupils could withdraw to a safety room to return to a neutral mood state if needed. Close observations were made to ensure signs were noticed should the pupils get upset or uncomfortable. The study ceased on one occasion due to this becoming a concern. An allocated teacher was free to talk to the pupil if needed.

4. Results

4.1 The Self Report Coping Scale (Causey & Dubow, 1992)

Of the six categories, five were found to have increases in scores post intervention (see Figure 2). Problem-solving decreased. The largest changes in scores appeared in categories that were considered as having the possibility of being productive: distancing, effective emotion based and problem-solving (see Appendix W). However, with the sample size of 8, the changes would not have the power to reach significance, therefore descriptive analysis alone was used.

Figure 2: Graph of Total Mean Scores of Coping Strategies from SRCS- Pre and Post AAT intervention
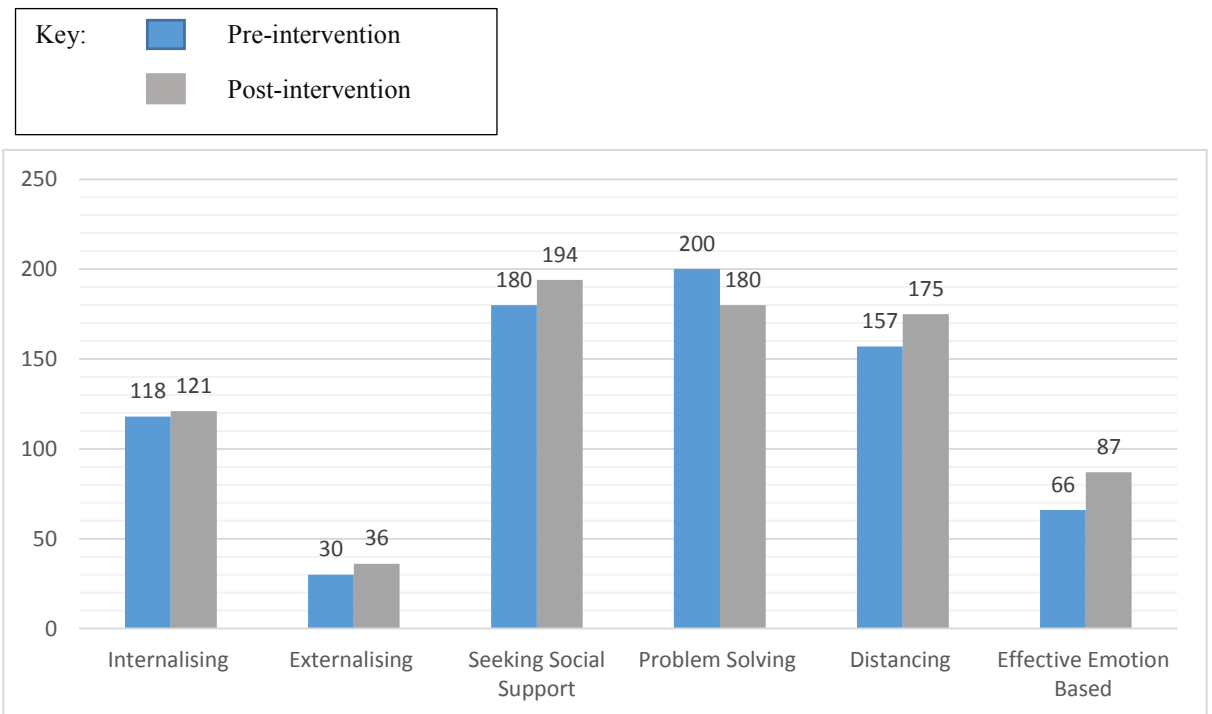
All individual coping strategies were also considered separately (Table 4). Of note, 62.5% of seeking social support strategies increased in reported use. Whereas 62.5% of problem solving strategies were used less. Of all emotion based strategies, those including internalising and externalising strategies, 70% were reportedly used more.

Table 4: Key of Coping Strategies' Codes

SS- Seeking Social Support	PS- Problem Solving
EX- Externalising	IN- Internalising
EE-Effective Emotion Based	DI- Distancing

Table 5: Summary of changes in coping strategies post intervention

	Decrease	Increase	No change
Item	6: Change something so things will work out PS	1: Tell a friend or family member what happened SS	12: Worry too much about it IN
	10: Decide on one way to deal with the problem and I do it PS	2: Try to think of different ways to solve it PS	18: Know there are things I can do to make it better PS
	13: Ask a friend for advice SS	3: Make believe nothing happened DI	
	14: Do something to make up for it PS	4: Take it out on others because I feel sad or angry EX	
	19: Just feel sorry for myself IN	5: Talk to somebody about how it made me feel SS	
	22: Ask someone who has had this problem what he or she would do SS	7: Go off by myself EE	
	24: Do something to take my mind off it DI	8: Become so upset that I can't talk to anyone IN	
	27: Try to understand why this happened to me PS	9: Get help from a friend SS	
	28: Say "I don't care" DI	11: Forget the whole thing DI	
	29: Ignore it when people say something about it DI	15: Tell myself it doesn't matter DI	
	31: Get help from a family member SS	16: Cry about it EE	

67

	32: Get mad at myself for doing something that I shouldn't have done IN	17: Ask a family member for advice SS	
	33: Try extra hard to keep this from happening again PS	20: Refuse to think about it DI	
		21: Yell to let off steam EE	
		23: Go over in my mind what to do or say PS	
		25: Worry that others will think badly of me IN	
		26: Curse out loud EE	
		30: Get mad and throw or hit something EX	
		34: Talk to the teacher about it SS	

4.2 The Boxall Profile

Of the 20 subscales, 17 were measured to be significant based on $p < 0.05$, implying some increase in well-being for pupils (see Appendix Y).

Table 6: Wilcoxon Signed-Rank Test Results for the Boxall Profile Results

Boxall Dimension	Wilcoxon Signed-Rank Test	Significant at $p \leq .05$	Significant at $p \leq .0025$
A	Z= -1.784, p= 0.074	N	N
B	Z= -2.263, p= 0.024	Y	N
C	Z= -2.214, p= 0.027	Y	N
D	Z=-2.375, p= 0.018	Y	N
E	Z= -2.232, p= 0.026	Y	N
F	Z= -2.410, p= 0.016	Y	N
G	Z= -2.410, p= 0.016	Y	N

H	Z= -2.388, p= 0.017	Y	N
I	Z= -2401, p= 0.016	Y	N
J	Z= 2.555, p= 0.011	Y	N
Q	Z= -2.524, p= 0.012	Y	N
R	Z= -2.388, p= 0.017	Y	N
S	Z= -1.633, p= 0.102	N	N
T	Z= -1.826, p= 0.068	N	N
U	Z= -2.410, p= 0.016	Y	N
V	Z= -2.536, p= 0.011	Y	N
W	Z= -2.546, p= 0.011	Y	N
X	Z= -2.536, p= 0.011	Y	N
Y	Z= -2.217, p= 0.027	Y	N
Z	Z= -2.032, p= 0.042	Y	N

However, due to the small sample size the p value was re-calculated in order to prevent a type 1 error (the higher the chance for a false positive). Using Bonferroni type adjustment, (α original = 0.05) was calculated to be (α altered = 0.5/20 = 0.0025). To determine if any of the 20 correlations are statistically significant, the p value must be $\leq$ .0025. None of the Boxall dimensions were significant at the altered p value.

4.3 Thematic Analysis

4.3.1 Pupil Interviews

Figure 3: Final Themes of Pupil Interviews (Appendix S)
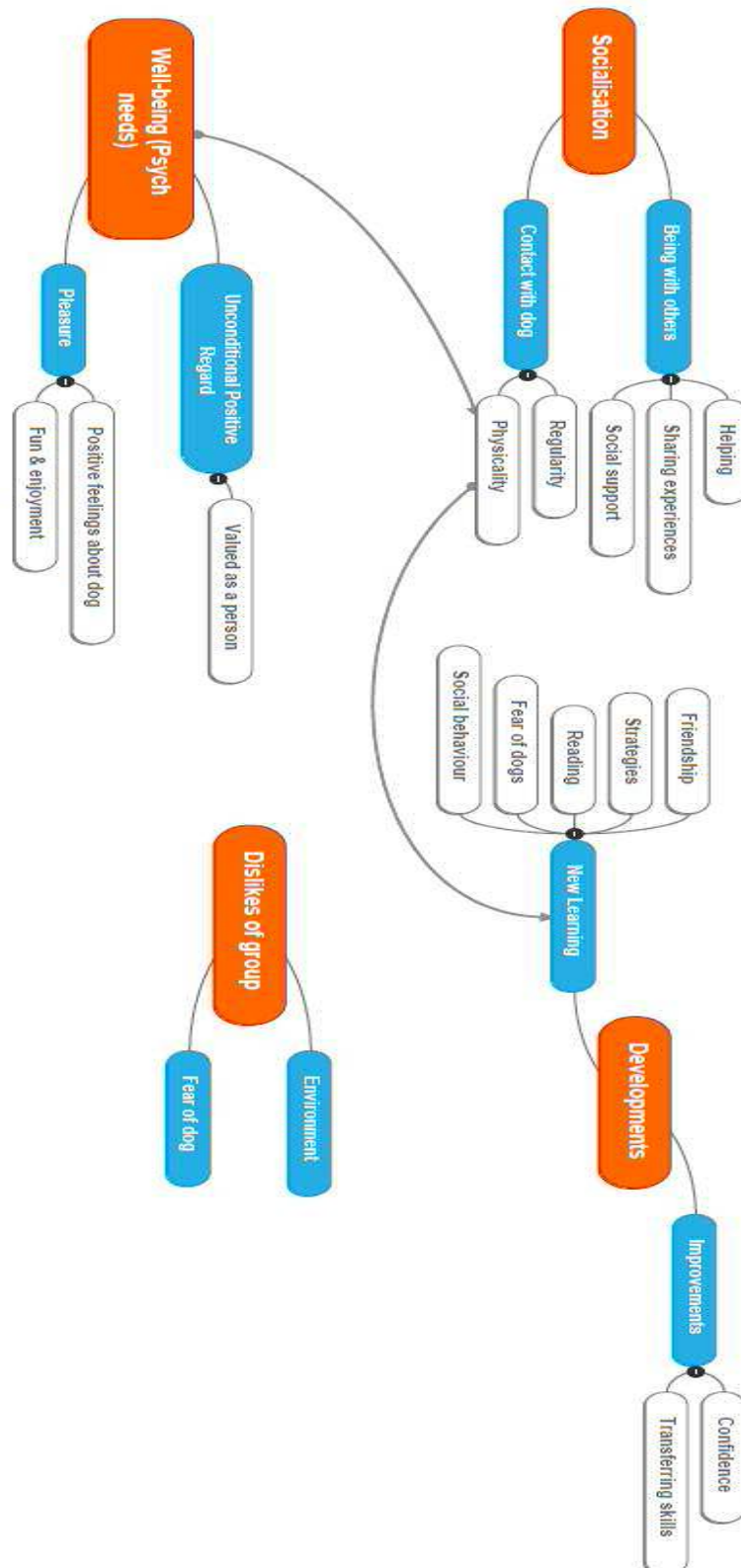
4.3.1.1 Socialisation

Pupils appeared to value the group, particularly in relation to the opportunities to socialise with both peers and the dog.

> Seeing everyone have fun. (Pupil C, line 50)

> Just like seeing her on Fridays, gets you excited.
> (Pupil D, line 16)

> The best part is seeing (dog's name). (Pupil E, line 21)

The dog was considered a 'friend'.

> Because (dog's name) is nice to us…like she's one of our
> friends. (Pupil C, line 159)

Pupils reported they received and provided social support; helping occurred reciprocally.

> …and I've set up my own group with (dog's name) and
> that and they can tell us anything and they'll keep it top
> secret. (Pupil D, line 126-127)

Seeing the dog often was an important factor; of particular note was the significance of touch. Petting and hugging the dog was perceived to help the children learn and fulfil psychological needs (here in relation to Maslow's esteem, belonging and safety needs, 1943).

> so…if I-first time I saw (dog's name) I was a bit shy, and
> then I saw (dog's name) and then I stroked her and it
> made me have confidence. (Pupil E, line 53-54)

4.3.1.2 Well-being (Psychological Needs)

The descriptions of how the dog made the children feel related to the concept of unconditional positive regard (Rogers, 1965) by way of being: special, thought about, remembered, listened to, and made to feel interested in. However, one pupil did not feel that the dog understood her.

> She like, listens to us, and says like "oooh lets listen to
> this person's reading". (Pupil A, line 33)

> …she remembers me because she remembers my mum
> died. (Pupil A, line 121)

> Every time I come out of here I have a big smile on my
> face. (Pupil D, line 40)

> If I'm upset sometimes then (dog's name) comes and
> because she has a sense to whoever is hurt or sad then she
> comes to them. (Pupil E, line 123-125)

The environment created evoked positive feelings towards the dog and allowed the pupils to have fun.

> …seeing (dog's name), because we just get to have like
> fun with her every time we see her. (Pupil D, line 57)

4.3.1.3 Developments

Pupils reported new learning. They stated they were taught skills in relation to: reading, socialising, friendship, and learning.

> Learning reading and stuff [sic]. (Pupil C, line 57)

> …hug your friends more when they are upset. (Pupil C,
> line 165)

> Well we learned that never [sic] be friends with people
> that are being mean to you. (Pupil D, line 32)

Some pupils also experienced a dissipation in their fear of dogs, whilst others still felt nervous.

> Ummm, never be afraid of dogs! (Pupil D, line 34)

Pupils recognised some transferring of skills outside of the group, such as on the playground or in class, however this was not experienced by all.

> Ummm she just always helps me out with stuff when I'm
> in the class and if I just don't know what to do I just think
> of (dog's name). (Pupil D, line 99-100)

> Just doesn't make me scared-that I'm going to get
> something wrong or get a sentence wrong. (Pupil D, line
> 106)

Some pupils reported an increase in confidence, while others did not report any perceived changes.

> It gets your confidence up with reading and you get to
> like improve your reading skills. (Pupil D, line 50)

While some pupils reported they would not make any changes to the group, there were two references to the environment (wanting to change the room). Some pupils also referred to their fear of the dog which presented as a barrier.

> …it is nice and quiet but some people like scream up there, and it is kind of loud sometimes. So I would move to a different place. (Pupil E, line 16-17)

Of note, all pupils stated they wanted the dog in the group, and felt she was important.

4.3.2 Parent Interviews

Figure 4: Final Themes of Parent Interviews (Appendix U)
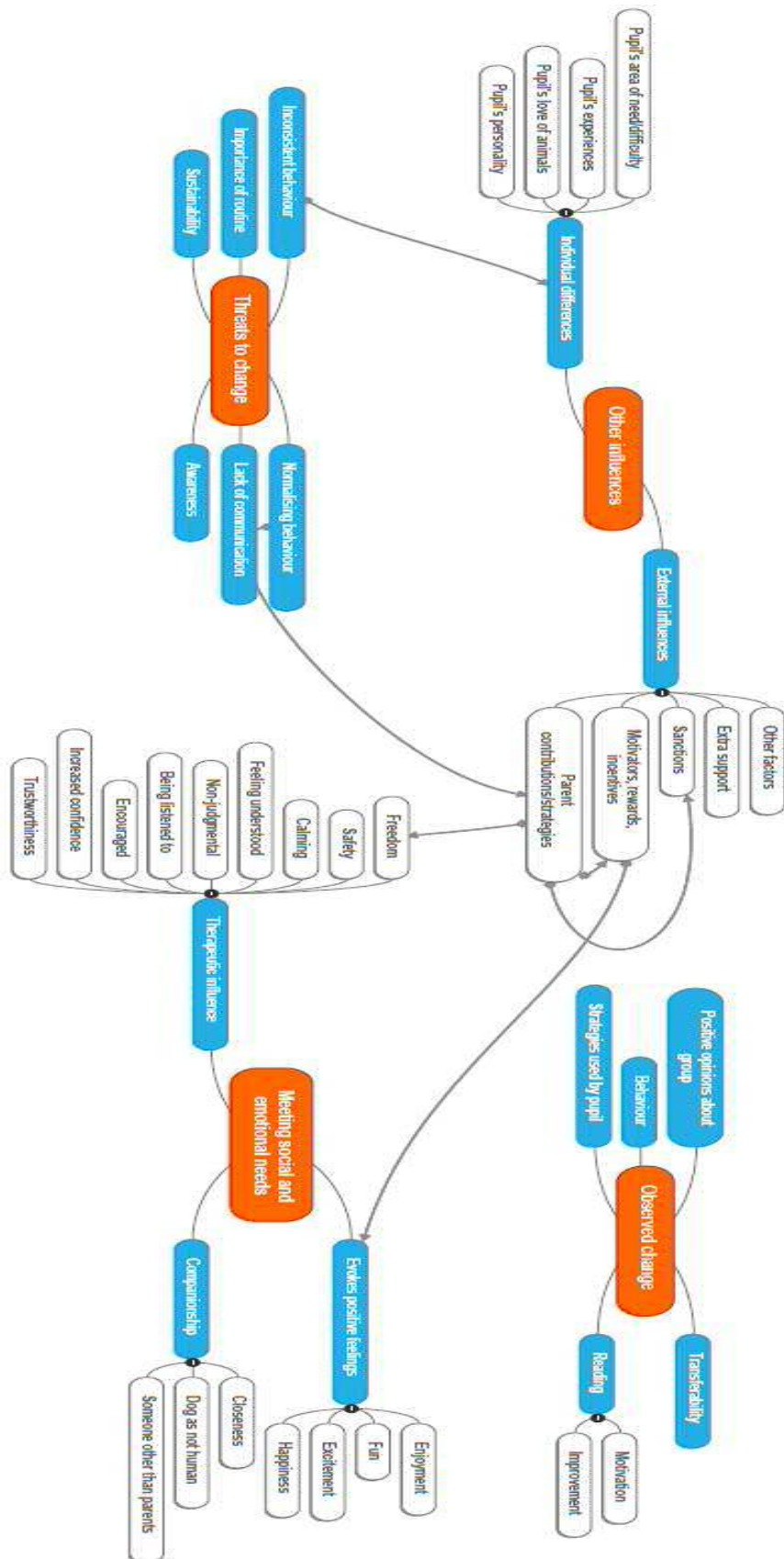
4.3.2.1 Observed Change

Parents noted positive change in regards to behaviour and reading. Pupils were reported to be more motivated to read and reading improved. Some pupils were also reported to be calmer, confident and seen to be using useful strategies to assist with their learning and behaviour. While there was some divide in whether skills were observed to be transferred to the home context, all parents held positive views about the group and saw its benefit.

> …the last couple of weeks he's sort have gone "grrr" and then gone on his own. (Parent A, line 78-79)

> I think he has built up a lit-not loads of confidence, but he has got a bit more than he did. (Parent B, line 54)

> She's just a lot better behaved. (Parent C, line 49)

4.3.2.2 Meeting Social And Emotional Needs

Parents expressed beliefs that the group worked by meeting the children's social and emotional needs. It was hypothesised that the dog provided a therapeutic influence; parents thought the dog was a non-judgemental listener who the children would perceive as understanding them. The dog was considered likely to be a calming influence, evoking feelings of safety and trust. Simply, the pupils were said to enjoy seeing the dog, which made them happy and excited. One parent stated that the dog not being human was significant; having someone or something other than parents was considered an important and confidential outlet for the children's worries. It gave them a freedom to be honest, away from pressure.

> It's like-so-the dog don't answer back does it…the dog's not going to say "oh that's wrong". (Parent B, line 15)

> …I suppose if they tell a dog secrets and things like that they can't really tell nobody. (Parent C, line 13)

> It's a friend isn't it, that she can- you know, it's a friend she can talk to. It won't judge her will it? (Parent C, line 67-68)

4.3.2.3 Other Influences

Despite all parents believing that the AAT group was successful, other factors were considered to have influence. Examples include: in-class support, regular discussions with school staff, pupils' maturity and school reward systems. Some parents discussed things they were doing at home, which may have also played a role in the observed changes. Pupils had a variety of needs/difficulties, each with different home circumstances. Some

parents believed that their child's personality was likely to have been a factor in the AAT group having an effect; most of the children were described as being fond of animals.

> …he's a very caring, loving little boy, so I don't know whether that may have something to do with it quite a bit… (Parent A, line 57-58)

> I think other things as well, because I'm getting extra help anyway, he's got his one to one… (Parent D, line 61)

The presence of other influences means it is not possible to determine if the dog alone created the observed changes.

4.3.2.4 Threats To Change

Despite some acknowledgement of the transferability and sustainability of the changes, certain factors were considered threats to its maintenance. Importantly, pupils were identified as unique with some behaviours being inconsistent. This made parents feel that positive change would in turn be inconsistent.

> Well it did, up until the school holidays where it's gone a bit upsy turvy really. (Parent D, line 36)

External factors, such as routine, were considered crucial and huge influences on the children's presentation, however this also reflected the need for the AAT group to be consistent.

> I think it's just about getting him back into his routine.
> (Parent D, line 41)

Of note to the author, some parents appeared to normalise certain behaviours. This was examined to be a potential barrier to change as parents were 'down playing' the behaviour rather than addressing it. Within the context of school intervention to target SEB difficulties, parents' attitude to behaviour could act as a barrier.

> She goes to bed. She doesn't go straight to sleep [laughs].
> (Parent C, line 120)
> No children do though [sic]. (Parent C, line 121)

The most consistent comment across the parent interviews was in relation to communicated information about the group. Most parents stated they were uninformed about the group, simply providing consent for pupils to attend.

I'd love to know more of what the school is doing…
(Parent A, line 86-87)

Additionally, pupils did not typically discuss the group with their parents. Pupils were reported to keep information to themselves, despite being asked directly. Some parents felt this was purposeful (not wanting parents to know what was discussed), whereas others felt the children simply did not think about it.

Yeah, he's never mentioned the dog at all. (Parent A, line 26)

She hasn't told me much about it to be honest. Nothing, if anything, has she? (Parent C, line 3)

In summary, whilst parents felt that the children's SEB needs were being met, they expressed a desire for more information and communication from school staff. Parents were positive in their views of the AAT group, however they felt that the group was not solely responsible for the changes noted.

4.3.3. Teacher Interviews

Figure 5: Final Themes of Teacher Interviews (Appendix W)
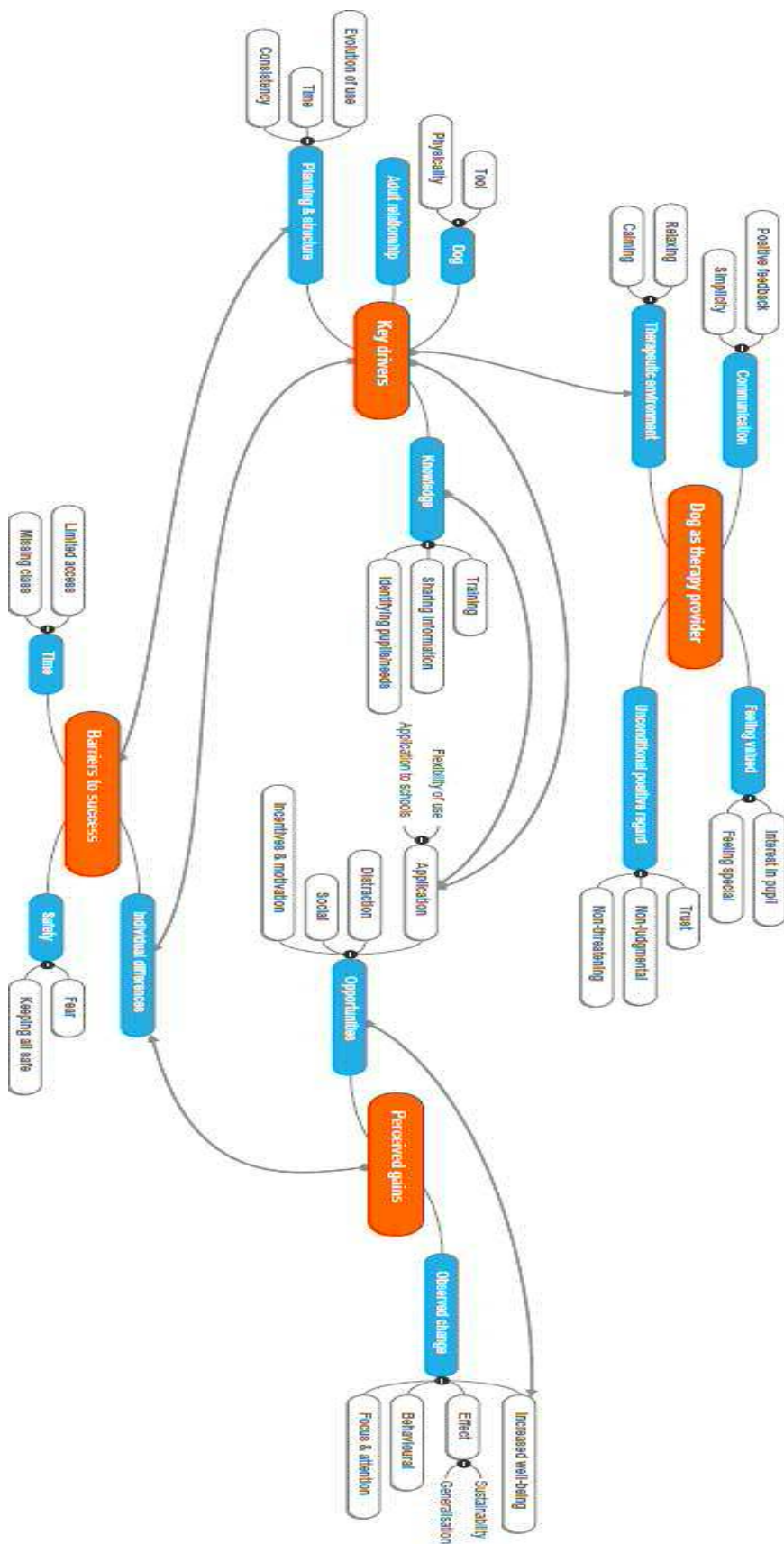
4.3.3.1 Dog as Therapy Provider

Teachers reported that the nature of the AAT group encompassed the dog providing therapeutic input. The dog was deemed able to create a therapeutic environment (relaxing and calming), and communicate unconditional positive regard (Rogers: non-judgemental, non-threatening and trusting, 1965), which staff felt made the children feel valued. The dog's positive and simple communication by way of behavioural cues (walking away, sitting, wagging tail) was hypothesised to be easily understood by the children with little interpretation required.

> … the lead in the class is the teacher and there's a lot of pressure in trying to please the teacher, and the lead in those sessions is the dog. It's a dog who is there, who is listening to you, reacting happily and will never say anything then that will detract or threaten what you are doing. (Teacher A, lines 26- 29)

> The children- even- adults can roll their eyes, their body language. You know, and I think a lot of our children get that outside of school in the home environment, and the dog doesn't. The dog always wags its tail, is always excited to see them. You know, it's just a positive experience. There's not little looks, or um, words than can be misinterpreted, things that can he half heard. (Teacher B, lines 172- 180)

4.3.3.2 Key Drivers

It was noted that the dog was a crucial element in achieving success, using her as a flexible tool. Teachers felt that the physicality of stroking the dog was imperative and produced a calming effect.

> It's the physicality more than anything yeah, definitely. The physicality makes them happy… (Teacher D, line 123)

However, the group needed to be guided by a trusted adult, without whom benefits would be limited. Other key drivers considered needed for creating change include: good planning and structure, consistency, and sufficient time attending the group. The purpose of the AAT group had evolved over time, highlighting the need for adaptation and flexibility in its use. Staff presented as very knowledgeable about AAT which appeared to enable the embedding of the intervention into the school's culture. Most staff stated they actively sought information in order to fully understand the implications of AAT.

4.3.3.3 Perceived Gains

All teachers spoke very positively about the effects of the AAT group. Each had observed change in relation to behaviour, well-being, focus and attention. Improvements in reading were noted. However, it was not agreed that effects were always sustained or generalised. Despite this, teachers saw the benefits of AAT for all pupils and actively sought to apply its principles on a whole school basis. Its application was considered broad, from nursery to end of Key Stage two, and across many areas of need. AAT was appreciated for providing distraction, social opportunities and motivation.

> If there is some way we can reach some children, because sometimes we can't. But if an animal can, then we can build on that, build on that success and- teach them the skills that could perhaps use then in other parts of their lives, its- then it's worth giving it a go. (Teacher A, lines 251-253)

> .. All children have got something from the dog, whether it be it their attendance has improved, their reading has improved, or when they're sharing a book with a dog, um their confidence has improved. Some children have improved in many areas, some children just maybe one. So it has had varying success, but we have had success with all the children. (Teacher B, lines 289-301)

4.3.3.4 Barriers to Success

Success was not considered guaranteed. It was agreed that pupils had to be considered individually as each responds differently to AAT. However, the individualism was well supported by this intervention as each pupil was reported to take something positive from attending. Access to the group was only for a small number which staff deemed unfortunate. Staff also reflected on the many procedures required to ensure pupils, staff and dog are safe. This had both practical and emotional implications, particularly when pupils experience a fear of dogs.

> The only downside I feel is that perhaps [pause], there's not equal access to all children. That although we've identified these children who need extra support, all children could benefit from it. (Teacher B, lines 72-73)

> …you have to go through all that information to make sure it makes local authority recommendations and whatever. (Teacher B, lines 115-116)

In summary, staff felt the AAT group was of great benefit to all who attend. Despite the dog being a focal element, the group was said to require other key drivers in order to be effective. These include positive adult relationships and effective planning and structure of sessions. Staff's knowledge and commitment also appeared to be key in the implementation of the AAT group. A variety of positive changes had been observed; staff emphasised that each child had individual experiences. Being mindful of individual differences influenced the planning of sessions.

5. Discussion

5.1 Overview

This study aimed to explore whether an AAT intervention would indirectly influence the coping strategies of primary school aged children who were experiencing well-being and SEB difficulties. The measures have been discussed in detail. AAT has been shown to improve children's SEB skills (e.g. Anderson & Olson, 2006). SEB skills in turn have been linked to the use of productive coping strategies (e.g. Luthar & Brown, 2007), which led to the author's hypothesis that AAT and productive coping could be linked. This is supported by findings that showed AAT interventions can improve the use of adaptive emotional regulation strategies (Turner et al., 2009).

5.2 RQ 1: Does an AAT intervention help to address SEBD and well-being/nurture needs in primary aged children?

Initial analysis of the Boxall profile scores indicated that there was significant change in 17 of the 20 subscales, however recalculation of the p value to account for small sample size found no significant change. Despite the contradicting statistical significance, changes were observed in the mean figures of 17 subscales (see Appendix Y), which implies an increase in SEB skills and well-being. This small change corroborates with previous research in AAT literature (Crossman, Kazdin & Knudson, 2015).

Statistical analysis was supported by anecdotal evidence from the conducted interviews. Pupils recalled feelings of happiness and unconditional positive regards from the dog. They developed social skills and confidence. Behavioural change was reported by staff and parents. The study found that AAT promoted short-term SEB skills and increased well-being after six weekly sessions, however generalisations cannot be made due to the small sample size and therefore results should be considered with caution.

5.3 RQ 2: Will the coping style of pupils change as a result of AAT?

Self-reported SCRS scores identified changes in pupils' coping styles following AAT intervention, however statistical significance was unable to be measured. All but one coping categories increased; problem-solving decreased. Problem-solving strategies are associated with positive outcomes (e.g. Compas et al., 2001), implying the decrease is a negative effect. However, contemporary literature states that all coping styles can be productive, thus increases in other categories could be a positive result in this case. Decreases in problem-solving could be indicative of the children's developmental levels, as coping styles develop with maturity (Frydenberg, 2014). Use of emotion-focused coping is likely due to pupils' SEB difficulties, as research shows these are linked (Causey & Dubow, 1992; Eschenbeck et al, 2012). As emotion-focused strategies are more useful when situations are appraised to be uncontrollable (Compas, 1998; Frydenberg & Deans, 2011), findings suggest that the children considered an argument or fight with a friend to be something out of their direct management. As avoidance coping is found to be adaptive in bullying circumstances (Kochenderfer-Ladd & Skinner, 2002), it can be deduced that increases in distancing was positive for participants likely to experience similar circumstances in relation to SEB difficulties.

Increases in distancing and seeking social support behaviour could be explained by the topics discussed within the AAT group. The dog was used as a tool to help pupils understand emotions, and explore their behavioural difficulties, likely explaining the prominence of avoiding and reacting to conflict (e.g. becoming upset, going off by oneself, yelling to let off steam). It has been noted that such strategies can be helpful to release tension or in avoiding catastrophizing (Frydenberg, 2002). Pupils' likely began to react to unearthed feelings as pupils stated they told the dog secrets. Using the dog as a tool may have also enabled social learning to take place, where the teacher and animal modelled appropriate reactions and coping responses (Bandura, 1977).

Being involved in a supportive group where trust was built between dog, adults and pupils is likely to account for the rise in seeking social support. Pupils were encouraged to express themselves, leading pupils to feel they could confide in their peers: 'they can tell us anything and they'll keep it top secret' (Pupil D, line 126). Acting as a 'social lubricant' (Kotrschal & Ortbauer, 2003), the dog could have encouraged social conversation, offering a mutual interest (McNicholas & Collins, 2000). The above reflects steps towards pupils becoming more emotionally literate following their AAT intervention. Furthermore, reflection and discussion is vital in learning and problem solving within the social environment (Vygotsky, 1962).

Despite a lack of statistical change in pupils' coping styles, 62.5% of seeking social support strategies were reportedly used more (five out of eight) suggesting that pupils were using some approach coping strategies more following AAT; a positive outcome as these strategies are associated with positive psychological adjustment (Compas et al., 2001). Interviews alluded to some change in strategies that assisted their learning and behaviour, e.g. pupils stated that the dog taught them how to cope better when they approached difficulties. However, it is important to note that other factors appeared important, such as parental influence and class-based support. It is therefore not possible to confirm that the dog alone is responsible for the changes.

5.4 RQ 3: What are the perceptions about why AAT works, if at all?

All interviewed parties shared positive views about the AAT group and advocated its effectiveness. The importance of physical contact was a prominent theme across interviews, which may account for the positive change in Boxall scores. Touch creates a change in cortisol levels (Kotrshcal & Ortbauer, 2003), suggesting that children are able to regulate stress better as a result of stroking an animal.

The dog was perceived to create a therapeutic environment by means of: being relaxing, non-threatening and calming; offering unconditional positive regard; and communicating trust and value. This supports previous research conducted (e.g. Reichert, 1998; Urichuk & Anderson, 2003). Such a therapeutic climate provides the 'right' conditions for natural, self-directed healing (Rogers, 1957). The atmosphere appeared to meet the children's basic needs required to reach their potential, providing fulfilment on physiological, psychological, emotional and academic levels (Maslow, 1943). Results suggest that AAT promotes competencies regarded as protective factors for coping (Denham, 2006).

Both the dog and the facilitating adults were regarded key. Interviews alluded to the development of a secure bond between pupil and dog, and pupil and teacher. This corroborates the literature which postulates that animals can support children develop healthier attachments (Geist, 2011). Particularly for children with SEB difficulties, a trusted adult can act as an additional attachment figure to help them learn adaptive, healthy responses (Bombèr, 2007). Although the development of secure bonds was indicated, it is not possible to determine whether pupils developed attachments to the dog and/or the teacher. However, evidence from the interviews suggests that these bonds are crucial in order for pupils to reach their potential, suggesting that the animal is very important and offering response to Marino's (2012) question. The results fit with research suggesting that

children with insecure attachments are likely to use avoidance and emotion-focused coping (Schroder et al., 1996).

Findings also relate to the concept of rapport building, whereby the single most important factor in achieving therapeutic goals is the relationship between client and worker (Beaver, 2011; Strupp et al., 1969). The dog's behaviour and simple communication can be argued to help maintain congruence which is important in developing rapport (Beaver, 2011), and is significant given that non-verbal communication accounts for 55 per cent of overall interaction (Mehrabian, 1972). This may also be true of the teacher's skills in facilitating the group.

The findings of this study support the literature that states AAT adds to the growing literature of programmes that support SEB skills. Anecdotal evidence from interviews offers support for theories outlined in the literature review regarding: attachment, social support, environment, life stages and emotional development. Most importantly, by making the pupils feel comfortable, by means of being nice, providing comfort and making the children feel special, the AAT group allowed discussions and learning that presented opportunities for the children to start considering productive coping strategies.

5.5. RQ 4: Are any effects seen outside of the intervention, across contexts (home and classroom), and over time?

Teachers found evidence of improvement in approaches to learning and coping outside of the group, across school contexts, however time and onset of deprivation of difficulties may be relevant (Reite, 2012). It is not possible to generalise findings. Within the home context, reports about pupils' behaviour was not consistent, with some divide in parental opinions regarding change in behaviour. However it must be understood that pupils had significant SEB difficulties and it could be argued that at least in part the home environment may not be immediately conducive to experiencing significant change, given the interaction between within child factors and the environment. It may be reasonable to assume that there are likely to be cultural aspects both causing and maintaining SEB behaviour at home. It is also important to note that as parents were not involved or communicating with the school about the group, little would be changing in the home context beyond the child. Teacher interviews highlighted consistency and sufficient time attending as key drivers. It can be assumed that pupils are likely to still need a degree of nurturing in the classroom if they are to maintain changes.

5.6 Limitations

This study aimed to address some of the methodological weakness found with the AAT literature. However, time restrictions meant it was not possible to include a control group in this study. Consequently, positive changes observed cannot be linked to AAT unquestionably.

Limitation remains in the population selection bias; randomisation of participants who had SEB difficulties was not possible. The study recruited on a voluntary basis from an opportunist sample, and so the author cannot generalise results to the wider primary school population. The limited sample meant that interviews were restricted; the small sample of participants failed to meet requirements for statistical significance. Additionally, qualitative data were not checked by an independent verifier thus final themes and codes likely reflect the researcher's personal constructions. Caution must therefore be exercised when evaluating the results, until more rigorous in-depth, longitudinal research has been conducted.

This study did not assess perceptions of controllability, a significant variable that may lead to different patterns of coping (Donaldson et al., 2000). In addition, perceptions of control, coping skills and self-efficacy are important factors of mental health prevention (Rimal, 2000). It would have been interesting to have explored pupils' perceptions of control in regards to the dog's behaviour and their reciprocal relationship.

5.7 Future Directions

Although this study demonstrated some positive outcomes from an AAT group, many questions remain.

This study aimed to specifically investigate the effects of an AAT intervention, however a more rigorous, longitudinal study with a control group would enable the tentative results to be substantiated. Secondly, causality is unclear. This study was not able to determine if being happier makes individuals cope better, or alternatively if being able to cope better makes individuals happier. Sandler et al., (1997) stated that evaluations of programs to improve coping styles have generally not been successful in identifying the mediational paths between improvements in coping and children's mental health. Transparency about what should be targeted may enable more effective interventions to be explored.

Parents highlighted the lack of communication that exists between themselves and pupils/ school. According to Sandler et al., (1997) high levels of perceived parental support

reduces negative effects of stressors on children's mental health. It is important for there to be an exploration of the effects of increased parental involvement in the AAT group on coping styles.

AAT research is dominated by that which has been based in America and Australia, with less research conducted in UK schools. Despite America and Australia being western countries, important cultural differences may mean that research is limited in its generalisability to our schools. In addition, the increased use of AAT in schools and the general recommendation of its usefulness, despite lack of rigorous research, may mean that EPs are increasingly coming into contact with such interventions. Considering the results of this study, it would be interesting to explore British EPs' views and experiences of AAT to date.

6. Conclusion

Eight primary aged pupils (seven and eight years old) showed small, statistically non-significant, but relevant and important changes in their coping styles following a short-term AAT intervention. Whilst changes were small, qualitative analysis supported claims that pupils had started to do some things differently. Pupils were reported to benefit from the AAT group by teachers and some parents; changes were observed in: behaviour, reading, social skills, confidence; and well-being. Increases in well-being and SEB skills were supported by Boxall Profile scores. Whilst the dog was considered an important factor in eliciting these changes by many, many other factors were deemed crucial in AAT's success. It would be naïve to consider simply placing a dog in a room to have resounding effects, however this research advocates that when combined with sufficient implementation factors, animals really could be man's best friend.

7. References

Anderson, K. L., & Olson, M. R. (2006). The value of a dog in a classroom of children with severe emotional disorders. *Anthrozoös*, 19(1), 35–49.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191.

Beaver, R. (2011). *Educational Psychology Casework: A Practice Guide Second Edition*. London: Jessica Kingsley Publishers.

Bennathan, M. & Boxall, M. (1998). *The Boxall Profile: A Guide to Effective Intervention of Pupils with Emotional and Behavioural Difficulties*, East Sutton: Association of Workers for Children with Emotional and Behavioural Difficulties.

Bhaskar, R. (2008) *A Realist Theory of Science* (2nd Ed.). London: Routledge.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology,* 3, 77- 101.

Breakwell, G., Smith, J., & Wright, D.B. (2012). *Research Methods in Psychology* (4th Ed.). London: Sage.

Bombèr, L. M. (2007). *Inside I'm hurting: practical strategies for supporting children with attachment difficulties in schools*. London: Worth Publishing.

Causey, D.L., & Dubow, E.F. (1992). Development of a self-report coping measure for elementary school children. *Journal of Clinical Child Psychology,* 21(1), 47-59.

Compas, B.E., Connor-Smith, J.K., Saltzman, H., Harding Thornsen,A., & Wadsworth, M.E. (2001). Coping With Stress During Childhood and Adolescence: Problems, Progress, and Potential in Theory and Research. *Psychological Bulletin*, 127(1), 87-127.

Compas, B.E. (1998). An agenda for coping research and theory: Basic and applied developmental issues. *International Journal of Behavioural Development*, 22, 231-237.

Compas, B.E., Connor-Smith, J.K., Saltzman, H., Harding Thornsen,A., & Wadsworth, M.E. (2001). Coping With Stress During Childhood and Adolescence: Problems, Progress, and Potential in Theory and Research. *Psychological Bulletin*, 127(1), 87-127.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. California: Sage publications.

Crossman, M. K., Kazdin, A. E., & Knudson, K. (2015). Brief unstructured interaction with a dog reduces distress. *Anthrozoös*, 28(4), 649-659.

Denham, S. A. (2006). Social-emotional competence as support for school readiness: What is it and how do we assess it?. *Early Education and Development*, 17(1), 57-89.

Denscombe, M. (2010). *The good research guide: for small-scale social research projects*. Milton Keynes, UK: McGraw-Hill Education.

Donaldson, D., Prinstein, M. J., Danovsky, M., & Spirito, A. (2000). Patterns of children's coping with life stress: implications for clinicians. *American Journal of Orthopsychiatry*, 70(3), 351.

Eschenbeck, H., Heim-Dreger, U. Tasdaban, E. Lohaus, A. & Kohlmann, C-W. (2012). A Turkish adaptation of the Coping Scales from the German Stress and Coping Questionnaire for children and adolescents. *European Journal of Psychological Assessment,* 28(1), 32-40.

Fedorowicz, A. E. (1995). *Children's coping questionnaire (CCQ): development and factor structure* (Doctoral dissertation, Simon Fraser University: British Columbia, Canada).

Fine, A.H., Lindsey, A., & Bowers, C. (2011). Incorporating animal assisted interventions in therapy with boys at risk. In C. Haen (Ed.), *Engaging boys in treatment: Creative approaches to formulating, initiating, and sustaining the therapy* process (pp.115-134). New York: Routledge.

Frydenberg, E. E. (2002). *Beyond coping: Meeting goals, visions, and challenges*. New York: University Press.

Frydenberg, E. (2014). Coping research: Historical background, links with emotion, and new research directions on adaptive processes. *Australian Journal of Psychology*, 66(2), 82-92.

Frydenberg, E., & Deans, J. (2011). Coping competencies in the early years: Identifying the

strategies that preschoolers use. In P. Buchwald, K.A. Moore & T. Ringeisen (Eds.), *Stress and anxiety: Application to education and health*, (pp. 17-26). Berlin: Logos Verlag.

Frydenberg, E., & Lewis, R. (1999). Academic and general well-being: The relationship with coping. *Australian Journal of Guidance and Counselling*, 9(1), 19-36.

Garner, R. (2016). *Growing number of children self-harming as mental health problems amongst pupils rise, says new survey*. In Independent, accessed March 2016 from: http://www.independent.co.uk/news/education/education-news/growing-number-of-children-self-harming-as-mental-health-problems-amongst-pupils-rise-says-new-a6912906.html

Geist, T.S. (2011). Conceptual Framework for Animal Assisted Therapy. *Child and Adolescent Social Work Journal*, 28,243–256.

Kochenderfer-Ladd, B., & Skinner, K. (2002). Children's coping strategies: Moderators of the effects of peer victimization? *Developmental Psychology*, 38(2), 267.

Kotrschal, K., & Ortbauer, B. (2003). Behavioral effects of the presence of a dog in the classroom. *Anthrozoös,* 16(2), 147–159.

Luthar, S.S., & Brown, P.J. (2007). Maximising resilience through diverse levels of inquiry: Prevailing paradigms, possibilities, and priorities for the future. *Development and Psychopathology*, 19, 931-955.

Marino, L. (2012). Construct validity of animal-assisted therapy and activities: How important in the animal in AAT? *Anthrozoös, 25, 187-203.*

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370.

McNicholas, J., & Collis, G. (1995). The end of the relationship: coping with pet loss. In I.Robinson (Ed.), *The Waltham book of human-animal interaction: Benefits and responsibilities of pet ownership (*pp.127-143). Oxford: Pergamon Press.

McCarthy, J. (2013). *Mental Illness Prevention: Exploring Effective Coping Strategies for*

School-Aged Children. (Psychology Master's Theses, Paper 2, Sacred Heart University, Connecticut, USA).

Mehrabian, A. (1972). *Nonverbal Communication*. Chicago, IL: Aldine-Atherton.

Melson, G. (2001). *Why the wild things are: Animals in the lives of children*. Cambridge: Harvard University Press.

Nimer, J., & Lundahl, B. (2007). Animal-assisted therapy: A meta-analysis. *Anthrozoös, 20*, 225–238.

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA:Sage.

Reichert, E. (1998). Individual counselling for sexually abused children: A role for animals and storytelling. *Child and Adolescent Social Work Journal,* 15(3), 177-185.

Reite, M. (Ed.) (2012). *The Psychobiology of Attachment and Separation*. London: Elsevier.

Rimal, R. N. (2000). Closing the knowledge-behavior gap in health promotion: the mediating role of self-efficacy. *Health Communication*, 12(3), 219-237.

Rogers, C. (1957). The Necessary and Sufficient Conditions of Therapeutic Personality Change. *Journal of Consulting Psychology*, 21.

Rogers, C. (1965). *Client Centered Therapy*. New York: Houghton Mifflin.

Sandler, I.N., Wolchik, S.A., MacKinnon, D., Ayers, T.S., & Roosa, M.W. (1997). Developing linkages between theory and intervention in stress and coping responses. In S.A.Wolchick and I.N. Sandler (Eds), *Handbook of Children's Coping: Linking Theory and Intervention* (pp.3-41). New York:Plenum.

Schroder, V.M.D., Hull, P., Mclaughlin, D., & Shirakawa, P. (1996). *Attachment and coping in adults*. (A Clinical Research Project). Honolulu, Hawaii. Accessed on March 2017 from: http://s3.amazonaws.com/academia.edu.documents/38403858/Attachment_and_Coping. pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1492722889&Signa ture=S6S0GEM73T%2FK2EfGjvzAE2EvtTs%3D&response-content-disposition=inline%3B%20filename%3DAttachment_and_Coping.pdf

Strupp, H.H., Fox, R.E., & Lessler, K. (1969). *Patients View Their Psychotherapy*. Baltimore, MD: Johns Hopkins University Press.

Turner, K., Stetina, B.U., Burger, E., Lederman Maman, T., Handlos, U., & Kryspin-Exner, I. (2009). Enhancing Emotion Regulation And Recognition Among First Graders Through Animal-Assisted Group Training. *Journal of Veterinary Behavior,* 4(2), 93.

Urichuk, L. J., & Anderson, D. L. (2003). *Improving mental health through animal-assisted therapy*. Edmonton, Alberta, Canada: Chimo Project.

Vygotsky, L. S. (1962). *Language and Thought*. Ontario, Canada: Massachusetts Institute of Technology Press.

.

Exploring an Animal Assisted Intervention: Perceptions and Coping

Part C: Critical Review

1. Introduction

This critical appraisal consists of a reflexive account of the research process. The appraisal is written in the first person mirroring the reflexive insight that has developed. Two main themes are discussed: the unique contribution of the study to the fields of coping and animal assisted therapy (AAT), and a critical account of the research practitioner. As themes are considered intertwined, they are discussed in conjunction with one another.

2. Critical review of the research process and researcher practitioner

2.1 Qualitative and Quantitative Design

It is argued that qualitative and quantitative approaches should not be utilised together as they are not compatible with one another (Robson, 2015). It is claimed that the paradigms which underpin both approaches are incongruent, and that combining them is not possible as they do not measure the same phenomena (Sale, Lohfeld & Brazil, 2002). However, this research was carried out based upon the notion that mixed-methods offer a comprehensive insight into complex, real-life contexts (Howe, 1988). Additionally, a triangulation of data provides the researcher with a better understanding of whole school effect and is considered to enhance validity (Breakwell, Smith & Wright, 2012). I therefore felt that the combination of qualitative and quantitative data would be complimentary in this instance, in order to further explore generalisation whilst having the data to assess effect.

2.2 Research Positioning

I sought a paradigm that would enable me to explore the vast areas of 'coping' and 'AAT'. I spent some time thinking about how I perceived each area of my research. Having decided I wanted to explore the views of those involved posed a challenge as it differed somewhat to the proposed measurements of coping (relativism versus realism). As a trainee Educational Psychologist, I was explicitly taught that a social constructionist framework for practice was most suited to the role (Gameson & Rhydderch, 2008). This was my first experience of critically thinking about my views and perceptions of reality and knowledge, and this took considerable time to come to terms with. I felt encouraged by the notion that my reality and 'truth' was as appropriate and relevant as my peers'. I acknowledged that my experiences and language played a large role in how I thought (Burr, 2003), and when mindful of this I was better able to understand the decisions I made.

Social constructionism fitted with the idea of conducting interviews as it considers the relativity of pupils' own experiences and the contextual influences involved. However, after much deliberation I concluded that I was looking for some 'truth', and started to move away from relativism. I was measuring styles of coping that I believed existed, and I assumed outcomes as a result of AAT would be apparent from the reported experiences of others. Furthermore, Fredrickson (2002) accused constructionism of being incompatible with the concept of evidence-based practice, which underpins the EP's role (Kelly, 2008). I deliberated whether it was possible to conduct the research and analyse the data using two paradigms, however it was unclear how conclusions could be drawn if this was so. Corroborating this concern, Giddings and Grant (2007) claimed successful mixed methodology research can be possible when methodologies lie within the same paradigm as the assumptions, values and findings are less likely to be in tension with one another.

Searching for an alternative paradigm, I came across the post-positivist stance in which truth is considered to exist, but limitations in capturing the truth are recognised: reality can be critically examined to determine what can only ever be a close estimate of the truth, consequently multiple interpretations can be made. Researchers are required to "see the whole picture" (Ryan, 2006, p. 18). Research findings cannot be free from context (Robson, 2015) and so my values and experiences likely influenced the research. Ryan's (2006) chapter helped my understanding of post-positivism and reassured me that the fit with my research was apt. Post-positivists are not considered to set out to solve problems, rather the research can set problems and generate further questions. As an exploratory study, I regarded my research to raise further questions about AAT's potential link to coping and come to some understanding about the possibilities through dialogue with participants. The school context of the research remained very important, which was recognised throughout the process. Within this paradigm findings are considered in terms of whether they fit with previous research. Guba and Lincoln (1994) noted that whilst replication of previous findings increases the probability of outcomes being valid, research is still subject to falsification. I sought to explore my findings and apply them to what I knew from the literature base, which did produce some duplication, however I maintained the view that my research was not without flaws and that results should be taken with caution.

2.3 Development of Interest in Research Area

My research idea emerged from my own personal experience of being around animals. I had always been perplexed by how a simple hug from my golden retriever appeared to make all my problems dissolve away. A position I held in a past job gave me my first experience of AAT. A locally run third sector organisation offered support to children on an individual and group basis at a farm. Using the concepts of AAT, the organisation accepted referrals from

Children's Services, schools and other local authority departments to provide therapy and targeted programmes for a range of difficulties, such as SEB, Autism Spectrum Disorder and learning difficulties. Anecdotally, the organisation contributed to a lot of positive change for the children. Having always been passionate about animal welfare, and growing up with the positive influence of my own pets, the idea that animals could theoretically contribute to the well-being of children excited me.

My second experience of AAT occurred during my second year professional placement at an LEA psychology service. During a meeting where children were being considered for a specialist provision, it came to my attention that many schools were using a form of AAT with their most vulnerable children, corroborating claims that AAT is increasingly becoming popular in education settings (Pidd, 2017). I also became familiar with the inclusion of pets in the special schools, where time with dogs, chickens, rabbits and guinea pigs was regularly scheduled into the pupils' timetables. This encounter occurred around the time that I was actively exploring ideas for my thesis. Previous concepts had not elicited a motivation that inspired me to want to commit to them, however the incorporation of AAT in schools began to raise questions and led me to want to know more.

A preliminary literature search of AAT quickly established that it was a vast field that was continually growing. AAT's increasing applicability to education, moving from a clinical perspective, ascertained its relevance to EPs. After identifying the authenticity of AAT, I made the decision that my research would explore this area. However, given my personal interest and experience in this area, I ensured that I was consciously aware of the potential bias that this could cause. I therefore endeavoured to research this area with a critical view.

An interest in how individuals cope derived from my second year professional placement, when attending a training course. In consideration of grief and trauma, the book 'The "Basic Ph" Model of Coping and Resiliency: Theory, Research and Cross-cultural Application' (Lahad, Shacham & Ayalon, 2013), initiated an internal conversation and consideration about how differently I cope to my colleagues. A wider reflection gave rise to wondering about how children typically cope with difficulty. An investigation into coping styles found that children's methods can be improved through taught programmes (McCarthy, 2013), which can act as preventative methods to decrease likelihood of poor outcomes. As a trainee EP, my interest lies in the therapeutic methods which can support children's healthy development. This is particularly important given the increasing mental health and well-being difficulties that are reported (Garner, 2016). I felt that exploring AAT and coping strategies would not only increase my awareness of an increasingly popular therapy, but also improve my

knowledge about the variety of ways in which children can cope and how we can encourage them to use proactive alternatives.

2.4 Summary of the Gaps in the Field

I began my literature search by first trying to confirm that AAT was applicable to children and education. It became immediately clear that AAT originated in the clinical field as my searches for links between AAT and children predominantly yielded papers on physical health and ASD. Due to the vastness of the literature, I had to specify 'education' in my search. It was also evident that AAT had recently become a topical area with articles featuring on day time television and BBC News (2016). One concern that arose from this was whether I was researching a current 'trend' of therapies. However, my rationale became clear by reflecting that if such an approach was increasing in demand, the need for further research into AAT was of vital importance.

Whilst the growing use of AAT in education is observable in its expanded application, from SEB skills to reading skills, my literature search appeared to produce so many variations of AAT intervention and its use that it was very difficult to compare studies. It was also relatively difficult to locate appropriate papers relevant to my study. Nimer and Lundahl (2007) discuss Lajoie's (2003) dissertation that attempted a meta-analysis of AAT studies. She found that it was not possible due to the very few articles found. The studies she found were too disparate to be compared, which infers a universal understanding of AAT and how it is used does not exist. I felt that my exploratory study would further investigate Nimer and Lundahl's (2007) appeal for investigation of the uses to which AAT can be put and contribute to the fundamental question querying whether AAT is actually useful.

2.5 Searches of the Literature

Fredrickson (2002) states that evidence-based practice is imperative to EPs in their roles both as researchers and applied psychologists. There is increasing insistence that research carried out regarding AAT should address the numerous methodological weaknesses that dominate the field. Evidence in support of effects typically relies on anecdotal data, predominantly from case studies or small samples with no inclusion of a control group. Findings are generally reported after a short period of time, with no follow up exploration of its longitudinal effects. It is also considered to be no reporting of negative findings. In conclusion, literature that presented positive findings had to be carefully considered. Being mindful of my own constructions about AAT, and consciously critical of the research contributed to a realistic view of AAT, with attention paid to the lack of rigour that shrouded the research.

The coping literature was found to be more difficult to navigate. Being one of the most researched areas in psychology made the challenge of understanding frameworks and models of coping perplexing. As the literature spanned many decades, Frydenberg's (2014) review paper provided clarity on the historical background and new directions of the researched area. Erica Frydenberg's literature dominated my search for relevant research about children's coping, particular in relation to emotional development and well-being. It was difficult to avoid her work, especially considering its pertinence to my own research. Consequently, her papers became fundamental to my understanding of the research area. However, it is recognised that a resulting weakness of my research is the reliance on her own published articles. It may be said that my understanding and developed views about coping were heavily influenced by her theories and research, which may have biased my work. This can also be said regarding Aubrey Fine, as his work was also crucial in navigating and understanding the AAT field.

A major barrier during this process was found to be the distinctions between productive and unproductive coping. As the argument has developed to suggest that all coping strategies can be helpful (Frydenberg, 2002), a lot of papers found still employed the traditional dyads of emotion/ avoidance vs problem/ approach coping. A decision to be made was how I was going to categorise coping, and whilst I recognised the research that confirmed problem/ approach coping correlated with better adjustment and positive outcomes (for example. Compas et al., 2001), I could not ignore those that found emotion/ avoidance strategies had some benefit. I felt that my additionally constructed category of 'effective emotion based' paid homage to the development and contemporary understanding of how children cope.

The differences of epistemological positions of both areas of research was also recognised. Whereas coping is typically measured by quantitative means, AAT's evidence is predominantly experiential narratives or single case studies, which may be best described as anecdotal. The literature likely maintains a subjective bias, only telling the positive story of personal experience. It was important to be considerate of this conflict when looking at the research within each field and how this impacted on my own research paradigm.

2.6 Tools Used To Collect Data

Oakland and Ostell's (1996) critical review highlighted that quantitative coping measures "cannot adequately assess the dynamic, ever-changing nature of the coping process" (p. 153). They corroborated the statements of a number of researchers, that alternative methodologies combing quantitative and qualitative data was required for a deeper understanding of the relationship between stress, coping and outcomes. Thus the present study adheres to this

appeal by combining the views of staff, parents and pupils with quantitative measures within a mixed-methods design.

Furthermore, a gap in the AAT literature was found to be the views of relevant patrons, particularly parents. A triangulated approach is considered to provide a better understanding of whole school effect and enhances validity (Breakwell, Smith & Wright, (2012). Semi-structured interviews were carried out as this allowed the research questions to be explored purposefully. As the study was considered exploratory it was felt that structured interviews or the use of questionnaires would be too restrictive. Semi-structured interviews allowed in-depth investigations into the pertinent ideas and hypotheses that were generated by the parents, pupils and staff (Alshenqeeti, 2014). Asking restricted questions would not have allowed such an exploration of hypotheses to take place, and consequently the data provided may not have been as useful.

The Boxall Profiles, whilst supported by research that advocates its effectiveness (Bennathan & Boxall, 1998), may have been susceptible to subjective bias from the teacher that completed each form for each of the pupils. The teacher in question had a personal investment in the group which may have affected her answers and scoring of the pupils. Her own personal constructs about AAT and desire for the group to succeed may have influenced her perceptions of how the children were presenting. An element of bias may also have been present, as a result of the teacher's potential interpretation that I was critiquing and evaluating the school's provision. As the pupils had completed their AAT intervention following the six week period, if pupils were not showing progress it is unclear whether they would still be able to access the group as other children had been allocated their time. This may have acted as an additional motivational factor for the children to be rated as having made improvements, in order to avoid school staff appearing to ignore the needs of the pupils. The staff may have also been influenced by demand characteristics, derived from a desire to satisfy the researcher. The delegation of administering the Boxall Profiles meant that the time I spent at the school was limited, and so it was not possible to establish if the SENCo was the most appropriate staff member to complete the forms.

2.7 Methodological Weakness of Current Research

It is acknowledged that the children were unfamiliar with the author upon first meeting them to complete the SCRS. Despite attempts to build rapport with each child, being wary of a stranger may have effected their desire to disclose personal information about themselves. Pupils may have feared they would receive a consequence should they admit to exhibiting

negatively perceived behaviours. This may mean that the post intervention scores are a more accurate reflection of the children's coping strategies as they potentially felt more comfortable disclosing after meeting me on a few occasions. Furthermore, demand characteristics may exist where the desire to please the author may have influenced the children's responses.

A further limitation remains in the population selection bias, as it was not possible to randomise the selection of pupils. The study recruited on a voluntary basis from an opportunist sample, so it may not be possible to generalise the results as they are not reflective of the wider primary school population. Selection was subject to school staff's knowledge of the children and school assessments that identified them as appropriate for the selection criteria. Again, the possibility of staff's constructs and their own agenda influencing the population identified cannot be ignored. Restrictions imposed on the selection process also made it very difficult to carry out the intended plan of including a control group. It was not possible to ensure that the two participant groups were comparable. Secondly, the available timescale that allowed the intervention to be carried out prior to the pupils going on summer leave did not permit consent to be returned by all parents.

The study originally planned for a third data collection, to assess for sustained change over the school holidays. Following the first collection, pupils and teaching staff had six weeks of summer vacation. Arrangements were made with the SENCo to resume contact at the start of the autumn term. Decisions were made in consideration of the workload and busy schedules of teaching staff, for example no contact was made during the first two weeks of the autumn term as I appreciated staff would be contending with new classes, assessment baselines and settling pupils back into the school routine. However, subsequent attempts to initiate contact were unsuccessful. A long period of time passed with numerous attempts to contact the SENCo. The lost time had a significant impact on the timescale of the research; a mid-collection of data was abolished and plans had to be adapted. Thus the study was less able to assess for sustained change, as was planned.

Involving parents is considered an important and protective factor in the development of effective coping (Sandler et al., 1997). It was not possible to fully explore the home circumstances in the present study, which may have impacted on the improvements found. Parents alluded to changes that occurred in the family home during the interviews when stating they had started to do some things differently, e.g. sanctions and rewards. Such changes could be an influencing factor to the changes experienced elsewhere and in the home, rather than resulting from the therapeutic input. It is unfortunate that the study did not allow a deeper analysis into the changes that had been observed.

2.8 Analysis

Analysis was originally going to be conducted using Grounded Theory (Glaser & Strauss, 1967). Grounded Theory involves analysing data using an interactive, iterative, inductive method, ensuring that theory is derived directly from the research (Strauss & Corbin, 1994). However, during the research process it was not possible to have the time and space to analyse individual interviews before one another. Time constraints of the school term and end of school trips necessitated the interviews to be completed in 'bulk', which did not allow a gradual development of relevant questions in order to reach a point of saturation. Grounded Theory develops new theory from the data collected. It was acknowledged that the research questions had already been constructed prior to the research, which does not fit the philosophy of a Grounded Theory analysis.

Interpretive Phenomenological Analysis (IPA) was also considered as an alternative method of analysis. IPA explores how participants are making sense of their personal and social world and what meanings particular experiences hold for them. The approach "involves detailed examination of the participant's lifeworld; it attempts to explore personal experience and is concerned with an individual's personal perception or account of an object or event, as opposed to an attempt to produce an objective statement of the object or event itself" (Smith & Osborn, 2015, p.53). Different perspectives can be understood by a third party focusing on patterns of meaning–making. IPA was not considered appropriate for this study as the parent participants did not have *direct* experience of the AAT group. Parents were asked to reflect on what they experienced at home, in relation to the behaviour, well-being and skills that had been observed.

Thematic analysis (TA) was considered the best qualitative method of analysis due to the ability to organise and describe data sets in rich details. "Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data" (Braun & Clarke, 2006, p.6). Furthermore, the method interprets various aspects of the research topic (Boyatzis, 1998). Researching a complex topic, TA was appreciated for its ability to be flexible in its approach and applicable to many epistemological and ontological positions.

During the analysis phase, the addition of the constructed 'effective emotion based' category of strategies was created to incorporate the emotion-focused strategies that were considered productive. This was based on my own opinion of what could be helpful in some circumstances, and on previous literature (Frydenberg, 2002; Kochenderfer-Ladd & Skinner, 2002). Acknowledging the limitations associated with the application of my personal constructs, it is

recognised that such strategies may be effective in the short-term rather than over an indefinite period.

2.9 Contribution to Knowledge

Research question 1: Does an AAT intervention help to address SEBD and well-being/nurture needs in primary aged children?

This study of a small sample of Welsh primary school aged (7-8 years) children revealed that Boxall scores improved on all twenty scales. Despite some initial significance of scores, re-calculation of the p value indicated that none of these improvements were significant at the altered p value. However, the improvements are still considered important. As the Boxall Profile assesses the child's organisation of their learning experiences, their internalisation of controls and behaviours that inhibit or interfere with satisfactory involvement in school, it can be assumed that these changes reflect positive changes in SEB difficulties and well-being. The findings contribute to the existing literature base that specifically focuses on the use of a reading dog with primary aged children experiencing SEB difficulties. It supports that AAT used for academic tasks can also contribute to improving well-being. However, the study also recognises that there are other important factors that need to be present in order for the intervention to be successful, such as an adult whose relationship with the pupil fosters warmth and trust. As with any intervention, planning and appropriate skill and knowledge are crucial to its success. This study corroborates that which is outlined in implementation science (Fixsen et al., 2012), highlighting the importance of implementation drivers. Additionally, whilst the study's findings offer some support to the body of literature, it is of crucial importance to note that the small sample necessitates a level of caution to be taken and when interpreting the findings, which limits generalisation.

Research question 2: Will the coping style of pupils change as a result of AAT?

This research showed that pupils' coping styles did change, however changes did not reach statistical significance. The exploration of the direct link between AAT and changes in how children cope is considered novel to the literature, to my knowledge. Of note, there were increases in distancing and seeking support which when cross referenced to the qualitative data, suggests that the AAT group taught the pupils new coping strategies. Tentative links have been made between AAT and coping, which I feel deserves further exploration.

Research question3: What are the perceptions about why AAT works, if at all?

The current research is considered novel as it considers the views of all individuals involved. There appeared to be a distinct lack of parental views in the literature base. Additionally, I was unable to locate literature that triangulated data as in this study. The reporting of the findings attempts to draw direct parallels between the reported theories, hypotheses and views of the individuals involved and the literature base. The qualitative data appeared to fit with previous theoretical explanations.

Research question 4: Are any effects seen outside of the intervention, across contexts (home and classroom), and over time?

It was important to explore the sustainability and transferability of effects. Within the area of social skills training (SST), literature suggests that generalisation of skills from intervention to real-life contexts is a crucial factor in determining the efficacy of SST (Bellini, Peters, Benner & Hopf, 2007). This is considered to be applicable to AAT. This study attempted to explore effects across contexts and time. However, limitations of the short-term research meant that the timescales were restricted. Although the findings suggest that teachers observed changes in the pupils outside of the AAT intervention group, there was some agreement that a longer period of time in the group was important. In contrast, parents' reports regarding changes at home were divided, with some noting no difference and others noticing slight improvements. It would be of interest to follow up the research and re-assess pupils' progress one year on. It must be noted that the developmental level of the pupils cannot be ignored; pupils may have matured over the period of research, which may have accounted for some of the changes.

2.10 Reflections of the research practitioner

The experiences I have encountered during this research process have taught me a great deal about my role as a researcher and practitioner.

My research was largely governed and motivated by my personal interests. Hidi & Harackiewicz, (2000) state that when participants' interest is higher, participation and information seeking behaviours are greater. Being fortunate to channel my passion in my work highlighted the importance of enjoyment and personal interest with regards to levels of motivation. Within my practice, and in the exploration of pupils' difficulties, I will be mindful of the importance of personal motivation of both students and staff. Glasser's (1998) choice

theory advocates that enjoyment or fun is a basic need. I intend to operate according to Glasser's principles in my professional practice. This process has demonstrated that focusing on the strengths and interests of an individual can be successful in promoting personal change and success. The move to think and work using a person-centred planning approach (Sanderson, 2000) in accordance to the new ALN Code of Practice (Welsh Government, 2015) promotes such a positive, child-centred ethos. I feel that the personal lessons learned from this research have prepared me well for the anticipated changes in EP practice.

Having an understanding about how children cope, how productive coping is developed and what can be done to influence coping has implications for my EP practice. When working with children who experience social, emotional and behavioural difficulties, or those who have difficulty dealing with challenge, this developed knowledge will have implications for how to better support and upskill children in the use of more beneficial strategies. This information can be used to guide teachers and parents alike.

As stated in my research, I believe that it is important for EPs to be mindful of the current therapies that are being used and recommended. Having an understanding of numerous approaches and the literature-base that exists around them places EPs in a position to advocate particular therapies for individual pupils. They may also offer opportunities for CPD which may prove to be advantageous in the climate of traded services.

On reflection, I believe that my research could have been made less complex. Within the confinements of the study, an exploration of the views of relevant stakeholders about AAT may have sufficed. This would have addressed an identified gap in the literature and a more complex in-depth analysis, using IPA or grounded theory, could have been employed. However, by combining two complex subject matters with vast research bases and exploring potential links, I feel I have engaged in a level of analytical thinking that has challenged my own perceptions and research skills. There are a lot of interesting things elicited from the interviews and consequent thematic analysis that I would have liked to have discussed in more depth. The size of this study prevented further exploration of significant themes, which would have been beneficial to have considered in light of existing literature. The skills developed as part of this research process include: effective time management and planning; having difficult conversations and moving past 'stuck' situations; empowering others and delegating tasks; reviewing the process; working within systems; and managing a lot of data. Such skills all have relevance to my role as EP practitioner and highlight the effectiveness of working within the Constructionist Model of Informed and Reasoned Action (Gameson & Rhydderch, 2008).

2.11 Difficulties encountered

There were many difficulties encountered during the research process, which impacted the overall results and validity of the findings.

The first stage of searching through the literature elicited many emotions. The literature searches were achieving extremely large numbers of results, often many thousands of articles. I experienced a sense of relief knowing that research had been carried out within the two fields of interest, and I felt optimistic that I would be able to find and discuss many interesting articles. However, relief was met with an equal amount of dread and uncertainty, unsure of where to start with this monumental task ahead. Narrowing the search results down to the appropriate literature was a long, time-consuming task. Filtering results to show education based articles and those which adhered to the inclusion criteria was extremely difficult. At this point, early on in the research process I began to question my decisions and I wondered if I was faced with an unmanageable and unrealistic assignment. The mass of literature was intimidating and I became concerned that I would have to be an 'expert' in the coping and AAT fields. My constructions of my role as researcher at this early stage was that I had to know everything about the evidence-base. Such high and unrealistic expectations were difficult to challenge and professional supervision was essential to the management and containment of my personal demands.

This is synonymous to the short time I have spent in my training as an Educational Psychologist, as there have been numerous times that I have felt inundated and overwhelmed by the amount of literature and knowledge I felt I needed to know. The process has challenged personal constructions of feeling I needed to know everything. Moving away from the 'expert' model has had implications for my mindset. Over the course of my training, I have recognised that I have mostly employed a fixed mindset throughout my academic career (Dweck, 1998), which has made challenges encountered during my training additionally difficult to overcome. On reflection, my thesis topic may have been too ambitious for the timescale and size of this piece of research.

Obtaining consent from parents was very difficult and a major barrier to the start of this research. Using an opportunist sample provided little room for error; the small number of children available to participate meant that an extremely high return of parental consent was needed for the research to take place. On reflection, the level of risk was extremely high. Had few parents returned consent, the process would have had to be reconsidered and a different direction taken. Obtaining parental consent was solely reliant upon the relationship between parents and the SENCo. The research benefitted from the trust that the SENCo had built up

with the parents, who were typically hard to reach. This reflects one of the key elements in creating positive change, developing rapport with others as a way to foster a positive relationship (Beaver, 2011). Strupp et al., (1969) found that patients' trust was the single most important variable in the success of therapeutic work. The process of this research corroborates Strupp and colleagues' finding.

Having been reliant upon one member of staff, sudden lack of her engagement created great difficulty in resuming data collection following summer break. Subsequent to numerous failed attempts to contact the SENCo, I made the decision to visit the school in person. Upon arrival, the many hypotheses I had generated for the lack of communication became irrelevant as the research was resumed without quarrel. Upon reflection, the importance of face to face as opposed to remote communication became apparent. By approaching difficulties in person, I was better able to communicate warmth, empathy and genuineness (Rogers, 1965). Mehrabian (1972) states that 55 per cent of communication is attributed to non-verbal influence (distance, posture, gestures). The powerful influence of non-language aspects of communication was invaluable in maintaining my professional relationships and keeping this study on track. My physical presence appeared to influence decisions made and increase helping behaviour. This reflection has practical implications for professional practice; building professional relationships is of crucial importance. Extremely difficult conversations are better to have in person.

My research would not have been possible without the support of the SENCo. The SENCo acted as the 'active purveyor' of the process (Fixsen et al., 2012); "an individual… representing a program or practice who actively work to implement that practice or program with fidelity and good effect" (Fixsen et al., 2009, p. 537). Whilst in this role, the SENCo contributed to moving the process along and consequently the research developed at a satisfying rate. In addition, the SENCo's passion for AAT was evident throughout the process. She advocated the effectiveness of AAT. Given that when participant's interest is higher, participation and information seeking behaviours are greater (Hidi & Harackiewicz, 2000), it is likely that the SENCo's personal interest in my research greatly improved her motivation to assist in its implementation.

Following the summer holidays, the break in communication for reasons unknown consequently led to the breakdown in the active purveyor. The head teacher became my primary contact who did not have as good relationships with parents as the SENCo. This acted as a significant barrier to obtaining the desired number of parent interviews. It became apparent that when conducting research, priorities and commitments change. It was clear that my

research was not the school's priority. Despite very strong, positive professional relationships, factors outside of my control affected the success of my research.

What this also highlights is the importance of timescales, and when research is carried out. It would not have been my preference to carry out my study over the summer holidays as it felt the momentum and enthusiasm for the study diminished. It also gave way to compounding variables that may have influenced the outcomes. It is unclear what the pupils experienced during the six week period, and so it is not possible to rule out the possibility that the long period of time may have been responsible for any changes.

In addition to the inconvenient timescales, I was subject to time restrictions within the school. When conducting individual interviews, many had to be conducted after school, during breaks, allocated or teacher planning time. It is likely that motivation to participate was consequently affected as there were minimal personal gains for individuals. Pupils that participated close to lunch or break times were not as engaged as they were distracted and had priorities elsewhere. Furthermore, the room in which I ran the study had a window that connected to the school corridor and so pupils were often attending to the pupils passing by.

Prior to the commencement of my research, I feel I may have been naïve when thinking about the pupil interviews. The difficulties encountered were not anticipated; the first interview with a pupil produced numerous "I don't know" responses, which elicited very little helpful information. Visual aids were helpful. Reflecting upon the transcripts, I asked many closed questions, and there were also some answers which could have been explored further. Pupil participants needed a lot of prompting in order to expand answers to previous questions. Questions were asked a number of times in slightly different ways to try and elicit more detailed responses.

I perhaps should have also paid more attention to the abilities of participants; particularly parents and pupils. Emotional, academic and oracy skills may have influenced their ability to talk to me in depth about their experiences with the group. Whilst the visual aids were used to aid expressive communication, they may have also supported the pupils to recognise emotions.

In summary, reflecting on the process of implementing my research highlights very simple errors and interfering factors that may have had significant implications for my study. Giving thought to such factors is imperative in the designing and implementation of rigorous research. They also have implications for professional practice in regards of guiding and executing effective programmes.

3. References

Alshenqeeti, H. (2014). Interviewing as a Data Collection Method: A Critical Review. *English Linguistics Research*, *3*(1), 39.

BBC News (2016). *The therapy dogs that help stressed students*. Accessed in December 2016 from: http://www.bbc.co.uk/news/uk-38094913

Beaver, R. (2011). *Educational Psychology Casework: A Practice Guide Second Edition*. London: Jessica Kingsley Publishers.

Bellini, S., Peters, J. K., Benner, L., & Hopf, A. (2007). A meta-analysis of school-based social skills interventions for children with autism spectrum disorders. *Remedial and Special Education*, 28(3), 153-162.

Bennathan, M. & Boxall, M. (1998). *The Boxall Profile: A Guide to Effective Intervention of Pupils with Emotional and Behavioural Difficulties*, East Sutton: Association of Workers for Children with Emotional and Behavioural Difficulties.

Boyatzis, R.E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. Thousand Oaks, CA: Sage.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77- 101.

Breakwell, G., Smith, J., & Wright, D.B. (2012). *Research Methods in Psychology* (4th Ed.). London: Sage.

Burr, V. (2003). Social constructivism. *London and New York: Routledge*.

Compas, B.E., Connor-Smith, J.K., Saltzman, H., Harding Thornsen,A., & Wadsworth, M.E. (2001). Coping With Stress During Childhood and Adolescence: Problems, Progress, and Potential in Theory and Research. *Psychological Bulletin*, 127(1), 87-127.

Dweck, C. S. (1998). The development of early self-conceptions: Their relevance for motivational Processes. In J. Heckhausen & C.S. Dweck (Eds), *Motivation and self-regulation across the life span*, (pp. 257-280). New York, NY, US: Cambridge University Press,

Fixsen, D. L., Blase, K. A., Naoom, S. F., & Wallace, F. (2009). Core implementation components. *Research on Social Work Practice*, 19(5), 531-540

Fixsen, K.A., Van Dyke, M., Fixsen, D.L., & Wallace Bailey, F. (2012). Implementation Science: Key concepts, themes, and evidence for practitioners in educational psychology. In B. Kelly & D.F. Perkins (Eds.), *Handbook of Implementation Science for Psychology in Education* (pp. 13-34). Cambridge: Cambridge University Press.

Frederickson, N. (2002). Evidence-based practice and educational psychology. *Educational and Child Psychology*, 19(3), 2002, 96-111.

Frydenberg, E. (2002). *Beyond coping: Meeting goals, visions, and challenges*. Oxford: Oxford University Press.

Frydenberg, E. (2014). Coping research: Historical background, links with emotion, and new research directions on adaptive processes. *Australian Journal of Psychology*, 66(2), 82-92.

Gameson, J., & Rhydderch, G. (2008). The constructionist model of informed and reasoned action (COMOIRA). In B. Kelly, L. Woolfson, & J. Boyle (Eds.), *Frameworks for practice in educational psychology: A textbook for trainees and practitioners* (pp. 123-150). London: Jessica Kingsley Publishers.

Garner, R. (2016). *Growing number of children self-harming as mental health problems amongst pupils rise, says new survey*. In The Independent, accessed March 2016: http://www.independent.co.uk/news/education/education-news/growing-number-of-children-self-harming-as-mental-health-problems-amongst-pupils-rise-says-new-a6912906.html

Giddings, L. S., & Grant, B. M. (2007). A Trojan Horse for positivism? A critique of mixed methods research. *Advances in Nursing Science,* 30(1), 52-60.

Glaser, B. G., & Strauss, A. (1967). *The discovery of ground theory*. New York: Alpine,

Glasser, W. (1998). *Choice Theory: A New Psychology of Personal Freedom*. New York: Harper Perennial.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K.

Denzin & Y.S. Lincoln (Eds.) *Handbook of qualitative research*, (pp. 105- 117). Thousand Oaks, CA, US: Sage Publications, Inc.

Hidi, S., & Harackiewicz, J. M. (2000). Motivating the academically unmotivated: A critical issue for the 21st century. *Review of Educational Research*, 70(2), 151-179.

Howe, K. R. (1988). Against the quantitative-qualitative incompatibility thesis or dogmas die hard. *Educational Researcher, 19,* 10-16.

Kelly, B. (2008). Frameworks for practice in educational psychology: Coherent perspectives for a developing profession. In B. Kelly, L. Woolfson, & J. Boyle. (Eds.), *Frameworks for practice in educational psychology – a textbook for trainees and practitioners*. London: Jessica Kingsley.

Kochenderfer-Ladd, B., & Skinner, K. (2002). Children's coping strategies: Moderators of the effects of peer victimization? *Developmental Psychology*, 38(2), 267.

Lahad, M., Shacham, M., & Ayalon, O. (2013). *The "BASIC-Ph" Model of Coping and Resiliency. Theory, research and cross-cultural application*. Philadelphia, PA: Jessica Kingsley Publishers.

LaJoie, K. R. (2003). *An evaluation of the effectiveness of using animals in therapy*. (Unpublished doctoral dissertation, Spalding University, Louisville, KY).

McCarthy, J. (2013). *Mental Illness Prevention: Exploring Effective Coping Strategies for School-Aged Children.* (Psychology Master's Theses, Paper 2, Sacred Heart University. Connecticut, USA).

Mehrabian, A. (1972). *Nonverbal Communication*. Chicago, IL: Aldine-Atherton.

Nimer, J., & Lundahl, B. (2007). Animal-assisted therapy: A meta-analysis. *Anthrozoös,* 20, 225–238.

Oakland, S., & Ostell, A. (1996). Measuring coping: A review and critique. *Human Relations*, 49(2), 133-155.

Pidd, H. (2017). *Please, Sir- Sit! The tale of a learning support dog*. In The Guardian, accessed on 28th March 2017: https://www.theguardian.com/education/2017/mar/28/teaching-support-dog-school-teach-read

Robson, C. (2015) *Real World Research*. 3rd Ed. Cornwall: Wiley

Rogers, C. (1965). *Client Centered Therapy*. New York: Houghton Mifflin.

Ryan, A. B. (2006). Post-positivist approaches to research. *Researching and Writing your Thesis: a guide for postgraduate students*, 12-26. Retrieved March 2016 from: http://eprints.maynoothuniversity.ie/874/1/post-positivist_approaches_to_research.pdf

Sale, J. E. M., Lohfeld, L. H., & Brazil, K. (2002). Revisiting the quantitative-qualitative debate: implications for mixed-methods research. *Quality and Quantity*, 36, 43-53.

Sanderson, H. (2000). *Person-centred planning: Key features and approaches*. York: Joseph Rowntree Foundation.

Sandler, I.N., Wolchik, S.A., MacKinnon, D., Ayers, T.S., & Roosa, M.W. (1997). Developing linkages between theory and intervention in stress and coping responses. In S.A.Wolchick and I.N. Sandler (Eds.), *Handbook of Children's Coping: Linking Theory and Intervention* (pp.3-41). New York: Plenum.

Smith, J.A. & Osborn, M. (2015). Interpretative Phonomenological Analysis. In J.A. Smith , *Qualitative psychology: A practical guide to research methods* (pp. 25-53). London: Sage.

Strauss, A., & Corbin, J. (1994). Grounded theory methodology: An overview. In A Strauss & J. Corbin (Eds.), *Handbook of qualitative research* (pp. 273-285). Thousand Oaks: Sage.

Strupp, H.H., Fox, R.E., & Lessler, K. (1969). *Patients View Their Psychotherapy*. Baltimore, MD: Johns Hopkins University Press.

Welsh Government (WG). (2015). *Draft Additional Learning Needs Code*. Cardiff: Welsh Government.

Appendices
Appendix A: School Gatekeeper Letter

Address: School

Date:

Dear

I am a postgraduate student in the School of Psychology, Cardiff University. As part of my Doctorate, I am carrying out a study on Animal Assisted Therapy (AAT) and I am aware that an AAT intervention is currently being adopted in your school. I am writing to enquire whether you would be willing to grant me permission to conduct my research in your school setting.

The study will look at the effectiveness of AAT used in schools. Views on the effectiveness of the approach will be sought from teaching staff, pupils and parents. This will involve a semi-structured interview that should take no longer than 30 minutes. In addition to interviews, I will request consent for the pupils attending your AAT intervention to have pre and post measures conducted. These will measure the children's nurture needs as well as their coping strategies. Pupils' teachers will be asked to complete a Boxall Profile both before and after the intervention (around 1 term). Additionally, pupils will be asked to complete a self-rating scale to assess which coping style they generally use. This will also be done prior to the intervention and again after 1 term.

Consent forms will be given to parents and additional consent will be obtained from the pupils prior to commencing the study. The study will be approved by Cardiff University Ethics Committee, and supervised by Simon Claridge.

The study would require:

- Consent forms given to relevant teaching staff on my behalf;
- Allowing and enabling the confidential recruitment of the pupils attending the AAT group;
- Requesting and allowing staff to complete Boxall Profiles for each child in the study;
- Sending information letters and consent forms to parents on my behalf;
- Allowing staff, pupil and parent interviews to be completed during school hours and
- Allowing pupils to complete coping styles measure during school hours.

Many thanks in advance for your consideration of this project. Please let me know if you require further information.

Regards,

Samantha Williams

Samantha Williams

Samantha Williams	Dr Simon Claridge	Secretary of the Ethics Committee
Trainee Educational Psychologist	Research Director (DEdPsy)	School of Psychology
Cardiff University,	Cardiff University,	Cardiff University
Tower Building,	Tower Building,	Tower Building
Cardiff,	Cardiff,	Park Place
+44 (0)29 2087 5393	+44(0)29 2087 6497	Cardiff
dedpsyadmin@cardiff.ac.uk	ClardigeS@cardiff.ac.uk	CF10 3AT
		02920 870360
		psychethics@cardiff.ac.uk

I _____ confirm that I give my full consent for Samantha Williams to conduct her Doctoral research in my school, as outlined above.

Signed _____   Date: _____

Appendix B: Parent Consent Form

School of Psychology, Cardiff University

Animal Assisted Therapy Study

As you might know your child is currently part of a group that spends time with the reading dog (the weekly sessions he/she attends). Your child has been selected to take part in a study that aims to evaluate the Animal Assisted intervention group that his/her school uses to support some children. The study will be run by a post-graduate student at Cardiff University as part of their training. The outline of the study is described below, please take your time to read the information. It would be greatly appreciated if you would consider allowing your child to be involved.

Your child taking part in this project will involve:

- His/her teacher completing a questionnaire about your child's emotional and social needs before and after the group has finished (about 1 term after he/she has started).
- A questionnaire about his/her coping styles (how he/she copes with stress), taking approximately 20 minutes of his/ her time. This will be done before and after the group has finished (about 1 term after he/she has started).
- Possibly being asked to be interviewed by the researcher, asking about his/her experiences in the group. This should take no longer than 30 minutes. An additional consent form will be sent to you if they are selected, before any interviews are started.
- His/ her answers being kept confidential for an indefinite time.
- His/ her anonymous answers being written up in a report. This report will be available to other organisations such as: Cardiff University, xxx Educational Psychology Service, the Local authority.

Your child's participation in this study is entirely voluntary and he/she can withdraw from the study at any time without giving a reason and without any consequence.

The information that your child gives will be kept confidential. However, though the researcher and school staff will maintain confidentiality, you must be aware that the researcher cannot control what is said between the pupils. The coping style questionnaires that your child completes will only be seen by the researcher. The teacher's questionnaire about your child's social and emotional needs may be seen by teaching staff as the school uses it to help support your child.

You can ask for additional information about this study from the school or from the researcher. At the end of the study your child will be provided with extra information about the purpose of the study.

I, _____(NAME) consent for

my child_____(NAME) to

participate in the study conducted by Samantha Williams, School of Psychology, Cardiff University with the supervision of Dr Simon Claridge.

Signed: Date:

Please contact below if you have any further questions:

Samantha Williams   Dr Simon Claridge

Trainee Educational Psychologist   Research Director (DEdPsy)

Cardiff University,   Cardiff University,

Tower Building,   Tower Building,

Cardiff,   Cardiff,

+44 (0)29 2087 5393   *+44(0)29 2087 6497*

dedpsyadmin@cardiff.ac.uk   ClardigeS@cardiff.ac.uk

Secretary of the Ethics Committee

School of Psychology

Cardiff University

Tower Building

Park Place

Cardiff

CF10 3AT

02920 870360

psychethics@cardiff.ac.uk

As part of the study, parents will also be interviewed. Please tick this box if you would be interested in taking part in the study. Information and consent forms will be sent to you with more information.

☐ *I am interested in taking part in this study, and being interviewed at a later date*

Please can this form be returned to Mrs xxxx at the school before xxx

Your child has been selected to take part in the <u>second part</u> of a study that aims to evaluate the Animal Assisted intervention group that his/her school uses to support some children (the weekly sessions he/she attends with the reading dog). The study will be run by a post-graduate student at Cardiff University as part of their training. The outline of the study is described below, please take your time to read the information. It would be greatly appreciated if you would consider allowing your child to be involved.

Your child taking part in this project will involve:

- Being interviewed by the researcher, asking about his/her experiences in the group. This should take no longer than 30 minutes.
- His/ her answers being kept confidential for an indefinite time.
- His/ her anonymous answers being written up in a report. This report will be available to other organisations such as: Cardiff University, xxx Educational Psychology Service, the Local authority.

Your child's participation in this study is entirely voluntary and he/she can withdraw from the study at any time without giving a reason and without any consequence.

The information that your child gives will be kept confidential. However, though the researcher and school staff will maintain confidentiality, you must be aware that the researcher cannot control what is said between the pupils.

You can ask for additional information about this study from the school or from the researcher. At the end of the study your child will be provided with extra information about the purpose of the study.

I, _____(NAME) consent for

my child_____(NAME) to

participate in the study conducted by Samantha Williams, School of Psychology, Cardiff University with the supervision of Dr Simon Claridge.

Signed:

Date:

As part of the study, parents will also be interviewed. Please tick this box if you would be interested in taking part in the study. Information and consent forms will be sent to you with more information.

☐ *I am interested in taking part in this study, and being interviewed at a later date*

Please contact below if you have any further questions:

Samantha Williams	Dr Simon Claridge	Secretary of the Ethics Committee
Trainee Educational Psychologist	Research Director (DEdPsy)	School of Psychology
Cardiff University,	Cardiff University,	Cardiff University
Tower Building,	Tower Building,	Tower Building
Cardiff,	Cardiff,	Park Place
dedpsyadmin@cardiff.ac.uk	ClardigeS@cardiff.ac.uk	Cardiff
+44 (0)29 2087 5393	+44(0)29 2087 6497	CF10 3AT
		02920 870360
		psychethics@cardiff.ac.uk

Today I am going to take part in a study. A study is where people try and find something out, like a science experiment.

Miss Williams is going to read some questions to me. They are going to be about how I am sometimes and what I think.

I am going to be sat here with Miss Williams for about 20 minutes.

Miss Williams will come back at another time and ask me the same questions.

I can leave whenever I want. I won't get in trouble.

I don't have to answer every question if I don't want to.

I can ask whatever I want.

No one is going to find out what I've said. Miss Williams will keep my answers, but in secret and safe so no one can see them.

Miss Williams is going to write a report about everything she's found out.

After all the questions, Miss Williams will tell me even more things about the study.

I understand what Miss Williams has said:

Yes   No

I want to take part in the study and answer some questions:

Yes   No

My name is: _____

Date: _____

Today I am going to take part in a study. A study is where people try and find something out, like a science experiment.

Miss Williams is going to ask me some questions. They are going to be about the group I go to on Fridays with X the dog.

I am going to be sat here with Miss Williams for about 30 minutes.

I can leave whenever I want. I won't get in trouble.

I don't have to answer every question if I don't want to.

I can ask whatever I want.

Miss Williams is going to record what I say. She is going to keep it safe and she is going to write everything I say onto paper. When she has written it, she is going to delete what she has recorded.

No one is going to find out what I've said. Miss Williams will keep my answers, but in secret and safe so no one can see them.

Miss Williams is going to write a report about everything she's found out.

After all the questions, Miss Williams will tell me even more things about the study.

I understand what Miss Williams has said:
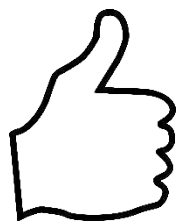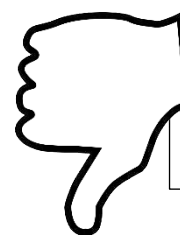
Yes   No

I want to take part in the study and answer some questions:
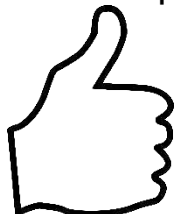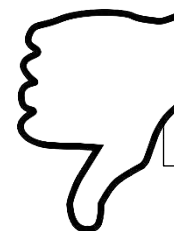
Yes   No

My name is: _____

Date: _____

Appendix F: Adult Interview Consent Form

Thank you for agreeing to take part in the Animal Assisted Therapy study that I am conducting.

The purpose of the interview is to gather information about your views about the group that the child/children you know attends. The study aims to explore whether people think it works, why this is so, whether any effects have been seen in the child that you know and if this has lasted.

I will ask you some questions that have already been prepared, however I will also ask you questions about some of the things that you have said. You do not have to answer something if you do not want to. You can also end the interview at any time.

The interview should take no longer than 30 minutes, however, if it carries on over this time please feel free to end the interview if you do not want to keep going.

The interview will be recorded using an electric recording device. Interviews will be transcribed within 1 month following the interview. Any personal details will not be included. Interview recordings will be deleted as soon as transcriptions have been done.

Once transcribed, your data cannot be withdrawn as it will be anonymised. You may ask questions about this study at any time, or alternatively, you may contact my university supervisor.

The study aims to gather data from the teaching staff at the school, parents and pupils. This will be used together with responses from pupil questionnaires. On completion of this, a report will be written. The answers you give will remain completely anonymous as I do not state which school is involved in the study. No names will be known. Data may be kept for an indefinite amount of time.

I am a Doctoral student studying at Cardiff University and this study is a part of my course. This study will be approved by Cardiff University Ethics Committee.
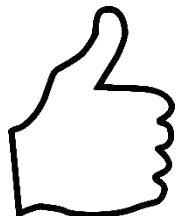
Samantha Williams	Dr Simon Claridge	Secretary of the Ethics Committee
Trainee Educational Psychologist	Research Director (DEdPsy)	School of Psychology
Cardiff University,	Cardiff University,	Cardiff University
Tower Building,	Tower Building,	Tower Building
Cardiff,	Cardiff,	Park Place
+44 (0)29 2087 5393	+44(0)29 2087 6497	Cardiff
dedpsyadmin@cardiff.ac.uk	ClardigeS@cardiff.ac.uk	CF10 3AT
		02920 870360
		psychethics@cardiff.ac.uk

I _____ confirm that I understand what participating in this study involves, as above.

I give my full consent to be interviewed by Samantha Williams and to take part in her study.

Signed _____   Date:

Miss Williams is trying to find out if the group with x the dog helps children. She is trying to find out if being around animals helps children to feel better when they are sad or upset.

She is trying to find out if being around animals helps children to do things better when they find some things hard, like having an argument with friends.

Miss Williams is going to look at my scores before and after I go to the group. She is going to see if my scores are different. Miss Williams will see if I have changed how I think about things.

Miss Williams is also going to ask some pupils, some teachers and some parents what they think of the group with x the dog. She wants to find out if other children and people have seen things change just because they've been around animals.

Miss Williams is going to keep your answers, but she doesn't know how long for. No one is going to know what your answers are.

Miss Williams is going to write a report about what she's found out.

If you want to know more, you can ask Miss Williams, Mrs X or Miss X.

Miss Williams would like to say a big Thank You for helping her!

Thank you! Woof.

Miss Williams is trying to find out if the group with x the dog helps children. She is trying to find out if being around animals helps children to feel better when they are sad or upset.

She is trying to find out if being around animals helps children to do things better when they find some things hard, like having an argument with friends.

Miss Williams is also going to ask some pupils, some teachers and some parents what they think of the group with x the dog. She wants to find out if other children and people have seen things change just because they've been around animals.

 Miss Williams is going to write down everything people have said when they have spoken to her. Miss Williams wants to see what everyone thinks about the group with X the dog. . Miss Williams will put everyone's ideas together so that she can understand why people go to the group.

Miss Williams is going to keep your answers, but she doesn't know how long for. No one is going to know what your answers are.

Miss Williams is going to write a report about what she's found out.

If you want to know more, you can ask Miss Williams, Mrs X or Miss X.

Miss Williams would like to say a big Thank You for helping her!

Thank you! Woof.

The title of the study is: Exploring Animal Assisted Intervention:

Perceptions and Coping Styles.

The study is looking at what happens in Animal Assisted Therapy (AAT) interventions. AAT involves a qualified person who guides interactions between a person and an animal to reach specific goals. AAT has been used in many areas, such as: mental health, physical health, ASD, elderly patients with Alzheimer's disease and Dementia and many many more. It is thought to have a lot of benefits. There are a few schools in XXX that have been using animals. It's going to be helpful to see how the pupils and teachers at your school think it is going. Parents are also important as they will see if it has any impact at home.

Pupils and teachers have filled in questionnaires which have looked at pupils' social and emotional needs and coping styles. The questionnaires will be completed before and after the group with x the dog (about 1 term later). The questions should show if there has been a change after the pupils have attended the group. It will be interesting to see if being around an animal helps children to improve their social and emotional skills, and as a result, if their coping styles change. Coping styles are what people use when they face stress. It is thought that some coping styles are more helpful than others, and what styles we use impact our adjustment in life.

Your information will be kept anonymous for an indefinite period of time. This means that no one will know what you have said. Your interview will be transcribed and typed up within a month. After that, the recording will be deleted. Because I don't know which answers are yours, I can't take out your answers from now.

All information will be kept private and confidential, in a secure place.

You can contact myself or Dr Simon Claridge (my university supervisor) if you have any questions. You may also ask Mrs XXX if you would like to find out more information. I am going to write a report about what I've found because it is a part of my course in University.

Thank you for answering my questions and taking part.

Please contact below if you have any further questions:

Samantha Williams	Dr Simon Claridge	Secretary of the Ethics Committee
Trainee Educational Psychologist	Research Director (DEdPsy)	School of Psychology
Cardiff University,	Cardiff University,	Cardiff University
Tower Building,	Tower Building,	Tower Building
Cardiff,	Cardiff,	Park Place
+44 (0)29 2087 5393	+44(0)29 2087 6497	Cardiff
dedpsyadmin@cardiff.ac.uk	ClardigeS@cardiff.ac.uk	CF10 3AT
		02920 870360
		psychethics@cardiff.ac.uk

Situation B:
"When I have an argument or a fight with a friend, I usually…"

1. Tell a friend or family member what happened

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

2. Try to think of different ways to solve it

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

3. Make believe nothing happened

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

4. Take it out on others because I feel sad or angry

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

5. Talk to somebody about how it made me feel

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

6. Change something so things will work out

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

7. Go off by myself

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

8. Become so upset that I can't talk to anyone.

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

9. Get help from a friend

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

10. Decide on one way to deal with the problem and I do it

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

11. Forget the whole thing

None of the time   A little of the time   Some of the time   A lot of the time   All of the time

12. Worry too much about it

None of the time A little of the time Some of the time A lot of the time All of the time

13. Ask a friend for advice

None of the time A little of the time Some of the time A lot of the time All of the time

14. Do something to make up for it

None of the time A little of the time Some of the time A lot of the time All of the time

15. Tell myself it doesn't matter

None of the time A little of the time Some of the time A lot of the time All of the time

16. Cry about it

None of the time A little of the time Some of the time A lot of the time All of the time

17. Ask a family member for advice

None of the time A little of the time Some of the time A lot of the time All of the time

18. Know there are things I can do to make it better

None of the time A little of the time Some of the time A lot of the time All of the time

19. Just feel sorry for myself

None of the time A little of the time Some of the time A lot of the time All of the time

20. Refuse to think about it

None of the time A little of the time Some of the time A lot of the time All of the time

21. Yell to let off steam

None of the time A little of the time Some of the time A lot of the time All of the time

22. Ask someone who has had this problem what he or she would do

None of the time A little of the time Some of the time A lot of the time All of the time

23. Go over in my mind what to do or say

None of the time A little of the time Some of the time A lot of the time All of the time

24. Do something to take my mind off of it

None of the time A little of the time Some of the time A lot of the time All of the time

25. Worry that others will think badly of me

None of the time A little of the time Some of the time A lot of the time All of the time

26. Curse out loud

None of the time A little of the time Some of the time A lot of the time All of the time

27. Try to understand why this happened to me

None of the time A little of the time Some of the time A lot of the time All of the time

28. Say " I don't care"

None of the time A little of the time Some of the time A lot of the time All of the time

29. Ignore it when people say something about it

None of the time A little of the time Some of the time A lot of the time All of the time

30. Get mad and throw or hit something

None of the time A little of the time Some of the time A lot of the time All of the time

31. Get help from a family member

None of the time A little of the time Some of the time A lot of the time All of the time

32. Get mad at myself for doing something that I shouldn't have done

None of the time A little of the time Some of the time A lot of the time All of the time

33. Try extra hard to keep this from happening again

None of the time A little of the time Some of the time A lot of the time All of the time

34. Talk to the teacher about it

None of the time A little of the time Some of the time A lot of the time All of the time

Appendix K: Semi-structured Interview Schedule- Inductive Questions

Questions are subject to amendments according to question results and interviews

General question categories: if/why it works; transferability/ sustainability of learned skills.

1. Can you tell me about your experience of the AAT group?

2. Why is there a dog in the group?

3. Why was it decided to have an AAT group in the school?

4. Have you seen any changes in X/ the pupils since s/he/they have been going? Are they like this at home/ in class?

5. Do you think that the dog helps you? How? Why?

6. Why did you agree to your son/daughter attending the group?

7. What do you like about the group?

8. What don't you like about the group?

9. Do you think that the dog is important/ makes a difference?

10. What would the group be like if the dog wasn't there?

11. How would X/ you feel about the group if the dog wasn't there?

12. Do you think that the group works? Why?

Appendix L: Thematic Analysis Stages (Taken from Braun & Clarke, 2006)

Phases of Thematic Analysis

Phase	Description of the process
1	Familiarising yourself with your data: Transcribing data (if necessary), reading and rereading the data, noting down initial ideas.
2	Generating initial codes: Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3	Searching for themes: Collating codes into potential themes, gathering all data relevant to each potential theme.
4	Reviewing themes: Checking in the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic map of the analysis.
5	Defining and naming themes: Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.
6	Producing the report: The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

I: So, can you tell me about the group you go to on Fridays?

P: So first, um (teacher's name) comes and collects us and then we, um, get a book and start reading and then sometimes she just comes and licks me all the time [laughs].

I: What, the dog comes and licks you all the time?

P: Yeah [smiling].

I: And how do you feel about that?

P: Happy.

I: Yeah? What do you think the group is for (pupil's name)?

P: Um, I think it's for to help us read because some people get nervous reading, and they help us to read sometimes, and they help us um, like to be happy all the time, and understand the book.

I: Fantastic. What do you like about being part of the group?

P: I like, um (dog's name) the most really. Reading to (dog's name).

I: Is there anything you don't like about the group?

P: No.

I: Nothing? Is there anything you'd change?

P: Hmmmm, change like…it is nice and quiet but some people like scream up there, and it is kind of loud sometimes. So I would move to a different place.

I: Ah, so it would be a lot quieter in a different place?

P: Yeah.

I: I got you. What's the best part about being in the group?

P: The best part is seeing (dog's name).

I: Seeing (dog's name)? And is there a worst part about being in the group?

P: No. It's actually nothing, because I like it.

I: Lovely. How does the group make you feel?

P: Umm. Sometimes a bit sad, because sometimes they talk about sad things, sometimes they talk about funny things, sometimes they talk about loads of happy stuff.

I: Yeah? And what kind of things do you talk about when you're in a group?

P: Like sign language.

I: Right okay...

P: And what- did you understand the questions that was in the stories, because sometimes there's questions in the stories. And then we stop there, and then we ask everybody the questions.

I: And does the group make you think about other things?

P: Yeah, um. It makes me think about what's happening in the story. It makes me imagine like I'm in it.

I: Oooh okay. In the actual story?

P: Yeah.

I: Wow. Okay. And what does that help you do?

P: It helps me think a lot more when I'm struggling with things. And then with the story, if I think back to the story, it might help me think more.

I: Okay, and you know when you come to the group and you do things, does that help you do anything in class? Does it help you in the classroom?

P: Yeah, sometimes its maths books, and sometimes (teacher's name) reads the book sometimes and then asks us questions, what happened in the story? What were their names and stuff?

I: So have you learned anything when you've been with (dog's name)?

P: Yeah.

I: What types of things have you learned?

P: I've learned that not to be shy. I've learned that I can make loads of new friends, and I've learned that no dogs will ever hurt me because (dog's name) is nice, and she's a big dog.

I: She is big, and she's got lots of energy hasn't she?

P: Yeah.

I: She runs around lots. That's good. So what types of things do you do to make you not be shy anymore?

P: So...if I-first time I saw (dog's name) I was a bit shy, and then I saw (dog's name) and then I stroked her and it made me have confidence.

I: Fantastic. Are you confident in the class like you are in the group?

P: No.

I: Why not?

P: Because I need a little bit more help in class because sometimes it's like really really hard questions that I need to do. And sometimes it's not even out the books I read.

I: So why are you more confident when you're in this group with (dog's name) then (pupil's name)?

P: Because, um, (dog's name) makes me happy. And some people do, but (dog's name) makes me *very* happy.

I: So you're more happy when you're with (dog's name) are you?

P: Yeah.

I: Brilliant. How do you feel when you're not in the group?

P: Kind of worried.

I: What do you worry about?

P: Well sometimes in class when I'm not with (dog's name), then I'm kinda [sic] of worried that it's going to be a hard test. And then I can't even think straight, and then some people ask me for help and then loads of people ask me for help, and then I'm totally scared then. Then it confuses me.

I: Right, and have you learned anything in the group that can help you when you feel like that?

P: Hmmm [pause]. Well I sometimes put my hand up to ask for help, and then everybody else can ask for help then so…I normally do that with Miss to say I'm stuck on a word. And sometimes these books make me *very* happy, because it's these code books that I really like. Now I've passed them, and now it's aliens adventures, I really like.

I: Ohh that sounds really fun. So did you used to put your hand up in class before you started to come to see (dog's name)?

P: Yeah.

I: You've always done that have you?

P: Yeah.

I: Okay. Is there anything else you've learned in the group to help you in the class?

P: Hmm, no.

I: Okay. Why do you think (dog's name) comes to the group?

P: To help people have confidence, because my friend was scared of dogs, and he was afraid. And he's not been afraid ever since, and now he's starting to like (dog's name).

I: And what's she done to help him feel like that?

P: Well, umm. So at first he was scared because he was almost got bitten by a dog when he was little, he told me. And then (dog's name), he saw everybody playing with (dog's name) and licking us. So he tried it, and then it was funny.

I: And he's not scared any more is he?

P: No.

I: Fantastic. What would the group be like if (dog's name) wasn't there?

P: Umm. It will still be fine. It's just like, it won't be much kind of fun anymore.

I: Okay, wouldn't be as fun?

P: No.

I: Okay. Would you still want to come to the group if (dog's name) wasn't there?

P: Yeah!

I: Okay, but its better with (dog's name) is it?

P: Yeah.

I: Um, do you do anything different because you come to (dog's name)?

P: I do, like play around more than I do play around with my friends outside.

I: You play more with (dog's name)?

P: Yeah.

I: And has the group helped you with anything in school?

P: It helped me read more, and it helped me understand the books more. And if I'm stuck on the word then I have to split it up, and it helps me split the big words.

I: And did you used to do that in the class?

P: No.

I: So that's only because you've come and learned that in the group, is it?

P: Hmmm hmmm [nods].

I: Let me have a think. Do you know when you find things hard, you know if you've had an argument with somebody, what do you do?

P: Well, if I'm having an argument with somebody then normally I get really mad at then, but sometimes I just run away and they keep following me. I say "I don't want to hurt you, so stay away". And then I breathe in through my nose and out through my mouth.

I: And who taught you how to do that?

P: My daddy, well step-dad.

I: Okay. Does that make things a bit better for you?

P: Yeah.

I: What do you do if you feel sad or upset?

P: I just go and find somebody who is alone and then I go and play with them.

I: Lovely. And what's it been like since you've been coming to see (dog's name)? Do you find it better when you're upset?

P: If I'm upset sometimes then (dog's name) comes and because she has a sense to whoever is hurt or sad then she comes to them.

I: So she's got a sense?

P: Yeah, whoever is sad or upset she just comes to them and slobs all over us.

I: Does that make you feel better?

P: Yeah.

I: How does she know who is sad or upset?

P: I think it's her nose. I don't know really, but I think it's her nose sensitive.

I: So what is (dog's name) like?

P: She is funny because sometimes the people who bring her, sometimes she goes back and fore, back and fore. And sometimes she hides behind the chair and then we're looking for her.

I: So what do you like the most about coming to see (dog's name)?

P: Um, when I'm reading to her. I like reading to her, and um when I always read to her and she always comes to look at it. And sometimes she licks it.

I: She likes to come and look at the book?

P: Yeah.

I: And what's she like when you're reading to her?

P: She lays down and sometimes she falls asleep.

I: What does that mean, when she does that?

P: It's like a story when you go to sleep, and she is calm.

I: Reading a story makes her calm?

P: [Nods].

I: When she's calm-

P: She goes to sleep. She actually lays there [points to the floor].

I: Is there anything that you'd prefer the group to be like? So if I gave you a magic wand (pupil's name), what would you do?

P: I would [thinks]. I would get the walls new paint, and I would have the wall painted as…all of the Avengers.

I: You'd change the room would you?

P: Yeah. All the painting, because it's actually making me feel like I'm in the ocean. And sometimes when I come in here I feel like I'm in the ocean so then I hold my breath.

I: Do you feel relaxed when you come in here?

P: Yeah. I feel like I'm floating in water sometimes, because of all these.

I: We're surrounded by fish on these walls aren't we? Is that a nice feeling?

P: Yeah.

Reading

Pupil A:

12 P: We like [pause], (teacher's name) will sometimes like read us a book and sometimes we read (dog's name) 13 our books.

49 I: So you like reading to her?
50 P: [Nods head].

86 What's your reading been like since you've been in the group?
87 Good.

117 P: She likes helps us reading, she like if we get stuck on a word and someone helps us she says in her 118 head "oh ill help you".

134 P: We only read and then we say to her that (teacher's name) says that umm how you feel and all that 135 and (dog's name) listens.
136 I: It's important that she listens to you is it?
137 P: [Nods].

Pupil B:
23 We read to (dog's name)…or (teacher's name) reads to us and (dog's name).
35 What's the best thing?
36 Because I like reading to her.

Pupil C:
7 We read to (dog's name).
21 I: What do you think the group is for (pupil's name)?
22 P: Start reading better.

56 I: What do you learn?
57 P: Learning reading and stuff [sic].

60 (Teacher's name) read with us the last time and she read about this girl like feeling down, and she 61 was just hiding by the bins.

88 Why do you think (dog's name) comes to the group (pupil's name)?
89 P: Help us read.
90 I: Does she do that?
91 P: [Nods].
95 She likes us reading to her.

119 What do you think the group would be like if (dog's name) wasn't here?
120 P: Boring.
121 I: Why would it be boring?
122 P: Because it would just be read and stuff [sic].
123 I: …What does she do that makes it not boring?
124 P: Wags her tails and cuddles people and stuff.
125 …Has (dog's name) helped you with anything?
126 P: My reading.

127 I: And what's she done to help you with your reading?
128 P: She's made me sit down and read.

Pupil D:
6 I:…So, can you tell me about the group?
7 P: We sometimes read to each other and (teacher's name) sometimes reads to us.

50 P: It gets your confidence up with reading and you get to like improve your reading skills. Ummm, 51   probably [sic] I think it's fun as well because we get to like always see our friends and stuff.

142 I: Has what you've learned helped you in school?
143 P: Ummm sometimes. Probably my reading skills and probably asking someone for help.

144 I: Do you think that coming to the group works?
145 P: Yeah because you get to see how their reading skills are and see how we can tell them to improve 146 it.

Pupil E:
2 So first, um (teacher's name) comes and collects us and then we, um, get a book and start reading 3 and then sometimes she just comes and licks me all the time [laughs].

9 Um, I think it's for to help us read because some people get nervous reading, and they help us to 10 read sometimes, and they help us um, like to be happy all the time, and understand the book

12 I like, um (dog's name) the most really. Reading to (dog's name).

105 It helped me read more, and it helped me understand the books more. And if I'm stuck on the 106 word then I have to split it up, and it helps me split the big words.
109 So that's only because you've come and learned that in the group, is it?
110 Hmmm hmmm [nods].

136 Um, when I'm reading to her. I like reading to her, and um when I always read to her and she 137 always comes to look at it. And sometimes she licks it.

Fun

Pupil A:
17 It's fun because I have no dogs.

Pupil C:
49 I: What's the best thing about the group then?
50 P: Seeing everyone have fun.

Pupil D:
9   P: Umm [pause] we sometimes kind of have fun with (dog's name).
10 I: And what do you mean by fun? What type of things do you do?

11 P: Umm, we stroke her [pause] umm, probably surround her sometimes and try to stroke her 12 quite a lot.
13 I: And why do you like stroking her?
14 P: She's fun.
15 I: What makes it fun?
16 P: Just like seeing her on Fridays, gets you excited.

17 I: … how do you know when you're excited?
18 P: Umm because I know that it's going to be fun and that we'll get to like see what other people think of (dog's name).

21 I: So what do you do in your group with (dog's name)?
22 P: Just have a laugh, talk…

44 P: Because umm, we always get to have fun with her.
47 I: … why do you like stroking her so much?
48 P: It's just fun.

56 I: What do you think the best part of the group is?
57 P: Seeing (dog's name), because we just get to have like fun with her every time we see her.

Pupil E:
92 What would the group be like if (dog's name) wasn't there?
93 Umm. It will still be fine. It's just like, it won't be much kind of fun anymore.

Physical contact
Pupil A:

61 I: How do you know she's listening to you?
62 Because she just like sits on your lap and then looks at me and the birds on the paper.

105 P: Because you can stroke them and especially babies, you can hold them.
106 I: How do you feel when you're holding them and stroking them?
P: Happy. I'd be a bit more happier if I had a pet at home.

127 She like, she sometimes goes under this table and bumps her head when she comes out. And then 128 she comes to see me and lay by me.

150 I: Why do you think she helps you?
151 P: Because she's nice and soft like my hamster.

Pupil B:
41 P: When I'm reading she sometimes goes over to the other person…or she jumps up on people.
44 I: What do they do when she does that?
45 P: They just stroke her.

Pupil C:

9 She likes, lie down and likes, everyone cuddles and hugs her.

29 I: And why is (dog's name) the best thing?
30 P: Because she cuddles everyone.

73 P: Happy. [Points to picture of two people hugging].
75P: Because it looks like cuddling (dog's name).

84 I: Why do you love (dog's name)? What do you love about her?
85 P: Because she's cuddly and soft and nice.
86 I: How is she nice to you, what does she do?
87 P: Cuddles me and [inaudible] people and stuff.

118 Because she wags her tail and cuddles people.

123 I: …What does she do that makes it not boring?
124 P: Wags her tails and cuddles people and stuff.

150 Has (dog's name) helped you when you're feeling sad or upset?
151 P: Yeah. She just cuddles me.

Pupil D:
11 P: Umm, we stroke her [pause] umm, probably surround her sometimes and try to stroke her 12 quite a lot.
13 I: And why do you like stroking her?
14 P: She's fun.

46 P: Just play around with her and stroking her.
47 I: … why do you like stroking her so much?
48 P: It's just fun.

70 P: She always tries to be nosy and like comes over and so we just try to stroke her.

Pupil E:
2 So first, um (teacher's name) comes and collects us and then we, um, get a book and start reading 3 and then sometimes she just comes and licks me all the time [laughs].

53 P: So…if I-first time I saw (dog's name) I was a bit shy, and then I saw (dog's name) and then I stroked 54 her and it made me have confidence.

Feelings and emotions
Pupil A:

14 I: And what type of things do you talk about in your group?
15 P: Like how do you feel, what's your dreams about and other stuff [sic].

24 How does that make you feel when you come in and you see her?
25 Happy.

73 I: Let's pretend (dog's name) wasn't here, what would the group be like?
74 P: They might be unhappy because (dog's name)'s not here and they were unable to see her

106 I: How do you feel when you're holding them and stroking them?
P: Happy. I'd be a bit more happier if I had a pet at home.

132 : I'm really happy because she remembers me and my little sister.

152 I: How do you feel when you have to leave (dog's name)?
153 P: Really sad.

Pupil B:
12 I: …Are you scared of (dog's name)?
13 P: A bit.
14 I: So how does she make you feel when she's there?
15 P: A bit scared.

29 Before we talked about what our frightened thing was [sic].

77 So how do you feel when you're in the group, and you're sitting with (dog's name)?
78 P: Fine.
79 I: [Shows pupil sheet of picture prompts]. Which one do you think is like you when you're in the group?
80 P: [Points to picture of person standing at the top, smiling].

86 I: But you feel really happy when you're in the group?
87 P: [Nods head].

88 I: How about when you have to leave the group and go back to class, which one is like you then?
92 I: Let's have a look…this one is swinging isn't she. What's making her do that?
93 P: I think it's because she's happy.

Pupil C:
60 (Teacher's name) read with us the last time and she read about this girl like feeling down, and she 61 was just hiding by the bins.

68 …How do you feel when you're in the group?
69 P: Nice.

72 How do you feel when you're in the group with (dog's name)?
73 P: Happy. [Points to picture of two people hugging].

78 Which one looks like you when you have to leave the group? When you leave, how do you feel?
79 Sad. [Points to a person falling].
80 …Why do you feel like that when you've got to go?
81 Because I won't see (dog's name).

82 And why does that make you sad?
83 Because I *love* (dog's name).

113 I: How does she make you feel?
114 P: Nice.

150 Has (dog's name) helped you when you're feeling sad or upset?
151 P: Yeah. She just cuddles me.

Pupil D:
16 P: Just like seeing her on Fridays, gets you excited.
40 P: Every time I come out of here I have a big smile on my face.
41 What puts that big smile on your face?
42 P: Every time I see (dog's name).

63 So how does the group make you feel (pupil name)?
64 P: Happy.
65 I: And how do you feel when you're in the group, and sat with (dog's name)?
66 P: Quite safe.
67 I: What makes you feel safe?
68 P: Because she's just keeps me happy every time I feel sad.

75 I: So how do you feel when you're not in the group?
76 P: Kind of sad, because we all have to wait more- to wait until Friday and then it's like here we 77 go again, we don't get to see (dog's name) until Friday.
78 I: And how do you feel about not seeing (dog's name) for a couple of weeks now because you're 79 going on summer holidays aren't you?
80 P: Oh, it's going to be kind of hard.
81 I: Why will it be hard?
82 P: Because I won't get her to, umm help me quite a bit.

89 I: So what's (dog's name) done to make you feel more confident then?
90 P: Umm just like, umm- that I don't have to be worried about anything that comes in my way, I 91 can just sort it out on my own.

Pupil E:
4 …the dog comes and licks you all the time?
6 And how do you feel about that?
7 Happy

9 Um, I think it's for to help us read because some people get nervous reading, and they help us to 10 read sometimes, and they help us um, like to be happy all the time, and understand the book.

24 How does the group make you feel?
25 P: Umm. Sometimes a bit sad, because sometimes they talk about sad things, sometimes they talk 26 about funny things, sometimes they talk about loads of happy stuff.

63 So you're more happy when you're with (dog's name) are you?
64 Yeah.

65 How do you feel when you're not in the group?
66 Kind of worried.

68 Well sometimes in class when I'm not with (dog's name), then I'm kinda [sic] of worried that it's 69 going to be a hard test. And then I can't even think straight, and then some people ask me for help 70 and then loads of people ask me for help, and then I'm totally scared then. Then it confuses me.

73 And sometimes 74 these books make me *very* happy, because it's these code books that I really like.

Having contact with the dog

Pupil A:
17 It's fun because I have no dogs.
18 What's the best part about coming to the group then?
19 P: Coming to see the dog.

47 Because I like seeing (dog's name) because we haven't seen (dog's name) maybe because we been 48 reading all day.

73 I: Let's pretend (dog's name) wasn't here, what would the group be like?
74 P: They might be unhappy because (dog's name)'s not here and they were unable to see her

79 I: What do you like about coming to the group then?
80 P: I come to see (dog's name).

Pupil B:
70 Would you still let her come to the group?
71 [Nods], still let her come to the group.

Pupil C:
80 …Why do you feel like that when you've got to go?
81 Because I won't see (dog's name).

Pupil D:
16 P: Just like seeing her on Fridays, gets you excited.

35 I: … what do you think the group is for (pupil name)?
36 P: Umm [pause] to get you used to being around dogs. To build your confidence up in school.

41 What puts that big smile on your face?
42 P: Every time I see (dog's name).
56 I: What do you think the best part of the group is?
57 P: Seeing (dog's name), because we just get to have like fun with her every time we see her.

Pupil E:
21 The best part is seeing (dog's name).

Being with others
Pupil D:
17 I: … how do you know when you're excited?
18 P: Umm because I know that it's going to be fun and that we'll get to like see what other people think of (dog's name).
50 P: It gets your confidence up with reading and you get to like improve your reading skills. Ummm, 51   probably [sic] I think it's fun as well because we get to like always see our friends and stuff.

Talking
Pupil B:
29 Before we talked about what our frightened thing was [sic].
Pupil C:
57 I: Do you talk about anything else while you're in the group?
58 P: Uh where they have been because they been loads of places [sic].
136 P: I tell them I read with the reading dog and you know (pupil name) in Year six, he used to read with the reading dog and he talks about it *loads* of times.
140 I: So you both talk about (dog's name) together?
141 P: [Nods head].
Pupil D:
21 I: So what do you do in your group with (dog's name)?
22 P: Just have a laugh, talk…
23 P: Just like, once we talked about like… once, umm… (classmate's name) was talking to like all 24 like swearing at someone [sic] and it's already been dealt with so it's just not right.
Pupil E:
24 How does the group make you feel?
25 P: Umm. Sometimes a bit sad, because sometimes they talk about sad things, sometimes they talk 26 about funny things, sometimes they talk about loads of happy stuff.

Social behaviour
Pupil C:
49 I: What's the best thing about the group then?
50 P: Seeing everyone have fun.
62 : And what did you learn about that then (pupil's name)?

63 P: They're bullying you and stuff.

66 I: Do you learn anything when you go outside?
67 P: Learning playing nicely.

156 I: Has the group helped you in school?
157 P: [Nods]. My reading and my playing together.
158 I: What did you learn about playing together?
159 P: Because (dog's name) is nice to us…like she's one of our friends…it's made us nice with our friends, 160 and I used to argue with them all the time.
161 I: (Dog's name) has showed you how to be a good friend has she?
162 P: Yeah.

169 Just like fighting, and like punching people.
170 I: And what do you do now?
171 P: Just play nicely with them, but sometimes (pupil name) and (pupil name) won't let me play with them.

Pupil D:
23 P: Just like, once we talked about like… once, umm… (classmate's name) was talking to like all 24 like swearing at someone [sic] and it's already been dealt with so it's just not right.

32 P: Ummm yeah. Well we learned that never [sic] be friends with people that are being mean to you.

Friendship

Pupil A:
84 I: Why has it helped you in school?
85 P: Thinking about my friends.

Pupil C:
116 Being nice to me when she sees me…like one of my friends.

156 I: Has the group helped you in school?
157 P: [Nods]. My reading and my playing together.
158 I: What did you learn about playing together?
159 P: Because (dog's name) is nice to us…like she's one of our friends…it's made us nice with our friends, 160 and I used to argue with them all the time.
161 I: (Dog's name) has showed you how to be a good friend has she?
162 P: Yeah.

163 How has she taught you, can you teach me how to be a good friend?
164 P: Be good at reading and just like [pause] doing stuff, playing with her like hide and seek…and just 165 hug your friends more when they are upset.
166 I: And is that what (dog's name) does to you?
167 P: Yeah.

Pupil D:

32 P: Ummm yeah. Well we learned that never [sic] be friends with people that are being mean to you.

50 P: It gets your confidence up with reading and you get to like improve your reading skills. Ummm, 51   probably [sic] I think it's fun as well because we get to like always see our friends and stuff.

109 Has she helped you with anything else?

111 …and always stick with your friends.

126 P: and like all my friends there-and I've set up my own group with (dog's name) and 127 that and they can tell us anything and they'll keep it top secret.

Pupil E:

47 I've learned that not to be shy. I've learned that I can make loads of new friends, and I've learned 48 that no dogs will ever hurt me because (dog's name) is nice, and she's a big dog.

New learning

Pupil C:

21 I: What do you think the group is for (pupil's name)?

22 P: Start reading better.

56 I: What do you learn?

57 P: Learning reading and stuff [sic].

62 : And what did you learn about that then (pupil's name)?

63 P: They're bullying you and stuff.

66 I: Do you learn anything when you go outside?

67 P: Learning playing nicely.

142 I: Have you learned anything in the group?

143 P: My reading, and… because… I have…I'm allergic to dog fur and I was a scared of dogs [sic] because 144 they used to really hurt my eyes and he stopped me being scared of dogs now.

145 I: So you're not scared of dogs anymore?

146 P: No, and I have a dog now.

156 I: Has the group helped you in school?

157 P: [Nods]. My reading and my playing together.

158 I: What did you learn about playing together?

159 P: Because (dog's name) is nice to us…like she's one of our friends…it's made us nice with our friends, 160 and I used to argue with them all the time.

161 I: (Dog's name) has showed you how to be a good friend has she?

162 P: Yeah.

163 How has she taught you, can you teach me how to be a good friend?

164 P: Be good at reading and just like [pause] doing stuff, playing with her like hide and seek…and just 165 hug your friends more when they are upset.
166 I: And is that what (dog's name) does to you?
167 P: Yeah.

178 Be nice to animals. Say, they like, hate people just like poke them and let them calm down.

Pupil D:
32 P: Ummm yeah. Well we learned that never [sic] be friends with people that are being mean to you.

33 I: Did (dog's name) help you learn anything when she was there?
34 P: Ummm, never be afraid of dogs!
50 P: It gets your confidence up with reading and you get to like improve your reading skills. Ummm, 51   probably [sic] I think it's fun as well because we get to like always see our friends and stuff.

89 I: So what's (dog's name) done to make you feel more confident then?
90 P: Umm just like, umm- that I don't have to be worried about anything that comes in my way, I 91 can just sort it out on my own.

93 Probably to like not get us scared or anything. To get our confidence over dogs.

122 P: Never be afraid of dogs and like always don't be [sic] scared to tell someone anything.

Pupil E:
27 …And what kind of things do you talk about when you're in a group?
28 Like sign language.
30 And what- did you understand the questions that was in the stories, because sometimes there's 31 questions in the stories. And then we stop there, and then we ask everybody the questions.

32 I: And does the group make you think about other things?
33 P: Yeah, um. It makes me think about what's happening in the story. It makes me imagine like I'm in 34 it.

81 Is there anything else you've learned in the group to help you in the class?
82 Hmm, no.

Fear of dogs
Pupil B: 7 When she like comes over there, when I'm sitting over there, she like frightens me. 9 When she comes over when I dunno [sic] she's coming over. 10 I:…Do you like dogs (pupil name)? 11 P: [Shakes head]. 12 I: …Are you scared of (dog's name)?

13 P: A bit.
14 I: So how does she make you feel when she's there?
15 P: A bit scared.
16 I: …So what does she do that makes you feel a little bit scared?
17 P: When she shakes… she frightens me.

46 I: Were you scared of her when you first came to the group?
47 P: [Nods].
48 I: Are you a little bit less scared?
49 P: [Nods].
50 I: What's she done to make you feel less scared?
51: P: I don't know.

Pupil C:
13 two 14 people are scared of dogs.

142 I: Have you learned anything in the group?
143 P: …I have…I'm allergic to dog fur and I was a scared of dogs [sic] because
144 they used to really hurt my eyes and he stopped me being scared of dogs now.
145 I: So you're not scared of dogs anymore?
146 P: No, and I have a dog now.

Pupil D:
33 I: Did (dog's name) help you learn anything when she was there?
34 P: Ummm, never be afraid of dogs!

84 P: It's like confidence around dogs. Well I did have a fear of dogs and now I don't because
of   85 (dog's name) and now I get to- umm my family are starting to say good things about
me because 86 I'm walking past dogs without being scared.

88 Sometimes they freak me out, I just have- jump when they just jump out.

93 Probably to like not get us scared or anything. To get our confidence over dogs.

122 P: Never be afraid of dogs and like always don't be [sic] scared to tell someone anything.

Pupil E:
47 I've learned that not to be shy. I've learned that I can make loads of new friends, and I've
learned 48 that no dogs will ever hurt me because (dog's name) is nice, and she's a big dog.

83 Why do you think (dog's name) comes to the group?
84 To help people have confidence, because my friend was scared of dogs, and he was
afraid. And he's 85 not been afraid ever since, and now he's starting to like (dog's name).

90 And he's not scared any more is he?
91 No.

Confidence

Pupil D:

35 I: … what do you think the group is for (pupil name)?

36 P: Umm [pause] to get you used to being around dogs. To build your confidence up in school.

37 I: Do you think that's worked?

38 P: Yeah.

50 P: It gets your confidence up with reading and you get to like improve your reading skills. Ummm, 51   probably [sic] I think it's fun as well because we get to like always see our friends and stuff.

84 P: It's like confidence around dogs. Well I did have a fear of dogs and now I don't because of   85 (dog's name) and now I get to- umm my family are starting to say good things about me because 86 I'm walking past dogs without being scared.

89 I: So what's (dog's name) done to make you feel more confident then?

90 P: Umm just like, umm- that I don't have to be worried about anything that comes in my way, I 91 can just sort it out on my own.

93 Probably to like not get us scared or anything. To get our confidence over dogs.

103 I: And then you think of (dog's name)?

104 P: Yeah.

105 I: How does thinking about (dog's name) help you in class?

106 P: Just doesn't make me scared-that I'm going to get something wrong or get a sentence wrong.

109 Has she helped you with anything else?

110 P: Probably my confidence around dogs and seeing and trying to [pause] umm…

115 I: How would you feel if (dog's name) wasn't part of the group?

116 P: Probably wouldn't have much confidence as I do now.

122 P: Never be afraid of dogs and like always don't be [sic] scared to tell someone anything.

Pupil E:

47 I've learned that not to be shy. I've learned that I can make loads of new friends, and I've learned 48 that no dogs will ever hurt me because (dog's name) is nice, and she's a big dog.

53 P: So…if I-first time I saw (dog's name) I was a bit shy, and then I saw (dog's name) and then I stroked 54 her and it made me have confidence.

61 Because, um, (dog's name) makes me happy. And some people do, but (dog's name) makes me 62 *very* happy.

83 Why do you think (dog's name) comes to the group?

84 To help people have confidence, because my friend was scared of dogs, and he was afraid. And he's 85 not been afraid ever since, and now he's starting to like (dog's name).

Play

Pupil A:

109 P: You can play with it, take it for walks…

Pupil C:

66 I: Do you learn anything when you go outside?

67 P: Learning playing nicely.

154 I: What do you do different when you're in school because you've been in the group?

155 P: We play games and stuff.

156 I: Has the group helped you in school?

157 P: [Nods]. My reading and my playing together.

158 I: What did you learn about playing together?

159 P: Because (dog's name) is nice to us…like she's one of our friends…it's made us nice with our friends, 160 and I used to argue with them all the time.

161 I: (Dog's name) has showed you how to be a good friend has she?

162 P: Yeah.

163 How has she taught you, can you teach me how to be a good friend?

164 P: Be good at reading and just like [pause] doing stuff, playing with her like hide and seek…and just 165 hug your friends more when they are upset.

166 I: And is that what (dog's name) does to you?

167 P: Yeah.

169 Just like fighting, and like punching people.

170 I: And what do you do now?

171 P: Just play nicely with them, but sometimes (pupil name) and (pupil name) won't let me play with them.

Pupil D:

46 P: Just play around with her and stroking her.

Pupil E:

87 So at first he was scared because he was almost got bitten by a dog when he was

88 little, he told me. And then (dog's name), he saw everybody playing with (dog's name) and licking us. 89 So he tried it, and then it was funny.

100 do you do anything different because you come to (dog's name)?

101 I do, like play around more than I do play around with my friends outside.

102 You play more with (dog's name)?

103 Yeah.

120 What do you do if you feel sad or upset?

121 I just go and find somebody who is alone and then I go and play with them.

Dislikes

Pupil B:

10 I:…Do you like dogs (pupil name)?

11 P: [Shakes head].

17 P: When she shakes… she frightens me.

46 So what don't you like about the group, is there anything?

47 [Shakes head].

Pupil C:

38 P: I don't like reading out loud because it makes my throat really sore.

39 Does (teacher's name) know that?

40 P: [Shakes head]. Or I don't like talking.

104 Because when she wags her tail…it really…her tail is really strong…and it hurts

Pupil D:

52 What don't you like about the group?

53 P: Nothing.

54 I: Is there anything you wished was different?

55 P: No.

58 I: That's lovely, what's the worst part of the group then?

59 P: Nothing

60 I: Wow. So if I gave you a magic wand and said "you can make this group whatever you want", 61 what would you do?'

62 P: Nothing.

113 What don't you like about (dog's name) being in the group?

114 P: Nothing.

Pupil E:

13 I: Is there anything you don't like about the group?

14 P: No.

23 No. It's actually nothing, because I like it.

Changes

Pupil A:

88 Have you been different since you've been in the group?

89 No.

107 I'd be a bit more happier if I had a pet at home.

Pupil B:

46 So what don't you like about the group, is there anything?

47 [Shakes head].

60 I would change the paint on the wall.

62 I wouldn't do the sea but I'd do the land

Pupil C:
45 I: Would you change anything with your magic powers?
46 P: [Shakes head].
47 I: You wouldn't change anything? Would you still let (dog's name) come to the group?
48 P: Yeah.

Pupil D:
52 What don't you like about the group?
53 P: Nothing.
54 I: Is there anything you wished was different?
55 P: No.

138 I: Do you do anything different because you've been in the group?
139 P: Ummm [pause] probably not really.

144 I: Do you think that coming to the group works?
145 P: Yeah because you get to see how their reading skills are and see how we can tell them to improve 146 it.

Pupil E:
15 Is there anything you'd change?
16 Hmmmm, change like…it is nice and quiet but some people like scream up there, and it is kind of 17 loud sometimes. So I would move to a different place.

150 I would get the walls new paint, and I would have the wall painted as…all of the 151 Avengers.

Safety
Pupil D:
65 I: And how do you feel when you're in the group, and sat with (dog's name)?
66 P: Quite safe.
67 I: What makes you feel safe?
68 P: Because she's just keeps me happy every time I feel sad.

Regular contact with dog
Pupil A:
67 Why do you think the group would be different without (dog's name)?
68 Because they might get like…I don't know. She comes in every Friday.
Pupil D:
75 I: So how do you feel when you're not in the group?
76 P: Kind of sad, because we all have to wait more- to wait until Friday and then it's like here we 77 go again, we don't get to see (dog's name) until Friday.

78 I: And how do you feel about not seeing (dog's name) for a couple of weeks now because you're 79 going on summer holidays aren't you?
80 P: Oh, it's going to be kind of hard.
81 I: Why will it be hard?
82 P: Because I won't get her to, umm help me quite a bit.

Help

Pupil A:
40 Do you think she helps any of the other children?
41 P: Yeah.

84 I: Why has it helped you in school?
85 P: Thinking about my friends.

117 P: She likes helps us reading, she like if we get stuck on a word and someone helps us she says in her 118 head "oh ill help you".

Pupil C:
125 …Has (dog's name) helped you with anything?
126 P: My reading.
127 I: And what's she done to help you with your reading?
128 P: She's made me sit down and read.

Pupil D:
78 I: And how do you feel about not seeing (dog's name) for a couple of weeks now because you're 79 going on summer holidays aren't you?
80 P: Oh, it's going to be kind of hard.
81 I: Why will it be hard?
82 P: Because I won't get her to, umm help me quite a bit.

84 P: It's like confidence around dogs. Well I did have a fear of dogs and now I don't because of   85 (dog's name) and now I get to- umm my family are starting to say good things about me because 86 I'm walking past dogs without being scared.

93 Probably to like not get us scared or anything. To get our confidence over dogs.

99 Ummm she just always helps me out with stuff when I'm in the class and if I just don't know what 100 to do I just think of (dog's name).

103 I: And then you think of (dog's name)?
104 P: Yeah.
105 I: How does thinking about (dog's name) help you in class?
106 P: Just doesn't make me scared-that I'm going to get something wrong or get a sentence wrong.
107 I: … Does that mean she's helping you even when she's not here?
108 P: Yeah.

Pupil E:

9 Um, I think it's for to help us read because some people get nervous reading, and they help us to 10 read sometimes, and they help us um, like to be happy all the time, and understand the book

38 It helps me think a lot more when I'm struggling with things. And then with the story, if I think 39 back to the story, it might help me think more.

58 P: Because I need a little bit more help in class because sometimes it's like really really hard
59 questions that I need to do. And sometimes it's not even out the books I read.

68 Well sometimes in class when I'm not with (dog's name), then I'm kinda [sic] of worried that it's 69 going to be a hard test. And then I can't even think straight, and then some people ask me for help 70 and then loads of people ask me for help, and then I'm totally scared then. Then it confuses me.

105 It helped me read more, and it helped me understand the books more. And if I'm stuck on the 106 word then I have to split it up, and it helps me split the big words.
109 So that's only because you've come and learned that in the group, is it?
110 Hmmm hmmm [nods].

Difficulties
Pupil D:
102 P: Hard sums, hard words and I don't know what to write.

Transferring skills
Pupil A:
114 do you do anything differently at home?
115 No.
Pupil D:
99 Ummm she just always helps me out with stuff when I'm in the class and if I just don't know what 100 to do I just think of (dog's name).
106 P: Just doesn't make me scared-that I'm going to get something wrong or get a sentence wrong.
107 I: … Does that mean she's helping you even when she's not here?
108 P: Yeah.
126 P: …and I've set up my own group with (dog's name) and 127 that and they can tell us anything and they'll keep it top secret.
Pupil E:

55 Are you confident in the class like you are in the group?
56 P: No.

Boredom
Pupil C:
119 What do you think the group would be like if (dog's name) wasn't here?
120 P: Boring.
121 I: Why would it be boring?
122 P: Because it would just be read and stuff [sic].
123 I: (Dog's name) makes it less boring does she? What does she do that makes it not boring?
124 P: Wags her tails and cuddles people and stuff.
Pupil D:
117 What would the group be like if (dog's name) wasn't there?
118 P: Bit bored or something.

Seeking support
Pupil D:
122 P: …and like always don't be [sic] scared to tell someone anything.
123 Do you tell (dog's name) things in the group?
124 P: No.
125 I: Who would you go and tell things to?
126 P: (Teacher's name) and like all my friends there
133 P: Well if they like tell us not good stuff [sic] about other people then that's kind of good because 134 they've told us and we can go and tell (teacher's name), and then like (teacher's name) can sort it out 135 because it's in this school.
140 I: What has the group helped you do?
141 P: Never be scared to ask someone for help.
142 I: Has what you've learned helped you in school?
143 P: Ummm sometimes. Probably my reading skills and probably asking someone for help.
Pupil E:
72 Well I sometimes put my hand up to ask for help, and then everybody else can
73 ask for help then so…I normally do that with Miss to say I'm stuck on a word.

Helping others
Pupil D:
126 P: …and I've set up my own group with (dog's name) and 127 that and they can tell us anything and they'll keep it top secret.

133 P: Well if they like tell us not good stuff [sic] about other people then that's kind of good because 134 they've told us and we can go and tell (teacher's name), and then like (teacher's name) can sort it out 135 because it's in this school.

Problem solving
Pupil D:
133 P: Well if they like tell us not good stuff [sic] about other people then that's kind of good because 134 they've told us and we can go and tell (teacher's name), and then like (teacher's name) can sort it out
136 I: So it helps people solve their problems?
137 P: Yeah.

Improvements
Pupil A:
93 I: Do you do things different in class because you've been to the group?
94 Yeah, I get better getting changed, being listening and having lots…we have…we haven't lost a point 95 since I been back. (Pupil name) has and (pupil name) has but I've lost zero
Pupil C:
127 I: And what's she done to help you with your reading?
128 P: She's made me sit down and read.
142 I: Have you learned anything in the group?
143 P: My reading, and… because… I have…I'm allergic to dog fur and I was a scared of dogs [sic] because 144 they used to really hurt my eyes and he stopped me being scared of dogs now.
145 I: So you're not scared of dogs anymore?
146 P: No, and I have a dog now.
156 I: Has the group helped you in school?
157 P: [Nods]. My reading and my playing together.
158 I: What did you learn about playing together?
159 P: Because (dog's name) is nice to us…like she's one of our friends…it's made us nice with our friends, 160 and I used to argue with them all the time.
161 I: (Dog's name) has showed you how to be a good friend has she?
162 P: Yeah.
Pupil E:
53 P: So…if I-first time I saw (dog's name) I was a bit shy, and then I saw (dog's name) and then I stroked 54 her and it made me have confidence.
76 So did you used to put your hand up in class before you started to come to see (dog's name)?
77 P: Yeah.
78 I: You've always done that have you?
79 P: Yeah.

87 So at first he was scared because he was almost got bitten by a dog when he was 88 little, he told me. And then (dog's name), he saw everybody playing with (dog's name) and licking us. 89 So he tried it, and then it was funny. 90 And he's not scared any more is he? 91 No.

Reciprocal behaviour

Feelings about the dog
Pupil C: 84 I: Why do you love (dog's name)? What do you love about her? 85 P: Because she's cuddly and soft and nice. 86 I: How is she nice to you, what does she do? 87 P: Cuddles me and [inaudible] people and stuff. 109 What would you guess she's happy about? 110 Coming here. 111 Coming to see you maybe. 112 [Nods].

Receiving positive feedback
Pupil A: 91 Sometimes, she like umm she looks around who's listening and if you're listening she comes near 92 you. 141 Like we put our books down on the floor and we don't mess with (dog's name). And (pupil name) 142 always mess [sic] with (dog's name) when others are reading. She comes near me because everyone 143 else is calling her name and she doesn't like it. 144 I: So she goes to the people who are quiet? 145 P: Yeah, only the quiet ones. 146 I: So you know you're doing good listening then? 147 P: [Nods]. Pupil C: 33 I: Why do you think she cuddles everybody for? 34 P: Because they're nice to her. 95 She likes us reading to her. 96 I: Why do you think she likes that? 97 P: Because she will just fall asleep.

98 I: Why do you think she falls asleep?
99 P: Because she likes our reading.

106 No, she's just really happy and when dogs are happy they wag their tail.

116 Being nice to me when she sees me…like one of my friends.
118 Because she wags her tail and cuddles people.

123 I: …What does she do that makes it not boring?
124 P: Wags her tails and cuddles people and stuff.

156 I: Has the group helped you in school?
157 P: [Nods]. My reading and my playing together.

Pupil E:
136 Um, when I'm reading to her. I like reading to her, and um when I always read to her and she 137 always comes to look at it. And sometimes she licks it.

140 And what's she like when you're reading to her?
141 She lays down and sometimes she falls asleep.

143 It's like a story when you go to sleep, and she is calm.
144 Reading a story makes her calm?
145 [Nods].
146 When she's calm-
147 She goes to sleep. She actually lays there [points to the floor].

Sharing experiences with others

Pupil C:
136 P: I tell them I read with the reading dog and you know (pupil name) in Year six, he used to read with the reading dog and he talks about it *loads* of times.
140 I: So you both talk about (dog's name) together?
141 P: [Nods head].

Having positive experiences

Pupil C:
116 Being nice to me when she sees me…like one of my friends.

159 P: Because (dog's name) is nice to us…like she's one of our friends…it's made us nice with our friends…

Use of strategies
Pupil C:
174 I just walk away.
176 And I ignore it.
178 Be nice to animals. Say, they like, hate people just like poke them and let them calm down.
Pupil E:
32 I: And does the group make you think about other things?
33 P: Yeah, um. It makes me think about what's happening in the story. It makes me imagine like I'm in 34 it.
38 It helps me think a lot more when I'm struggling with things. And then with the story, if I think 39 back to the story, it might help me think more.
72 Well I sometimes put my hand up to ask for help, and then everybody else can
73 ask for help then so…I normally do that with Miss to say I'm stuck on a word.
105 It helped me read more, and it helped me understand the books more. And if I'm stuck on the 106 word then I have to split it up, and it helps me split the big words.
109 So that's only because you've come and learned that in the group, is it?
110 Hmmm hmmm [nods].
113 Well, if I'm having an argument with somebody then normally I get really mad at then, but sometimes I just run away and they keep following me. I say "I don't want to hurt you, so stay away". And then I breathe in through my nose and out through my mouth.
114 And who taught you how to do that?
115 My daddy, well step-dad.
120 What do you do if you feel sad or upset?
121 I just go and find somebody who is alone and then I go and play with them.

The dog as being important
Pupil A:
28 I: Do you think it's important that she comes to the group?
29 P: Yeah.
30 I: Why do you think it's important?
31 P: I don't know.
65 Do you think that the group would be the same if (dog's name) didn't come?
66 No.
Pupil E:
96 Would you still want to come to the group if (dog's name) wasn't there?
97 Yeah!
98 Okay, but its better with (dog's name) is it?
99 Yeah.

Being listened to
Pupil A:
33 P: She like, listens to us, and says like "oooh lets listen to this person's reading".
91 Sometimes, she like umm she looks around who's listening and if you're listening she comes near 92 you.
61 I: How do you know she's listening to you?   62 Because she just like sits on your lap and then looks at me and the birds on the paper.
93 I: Do you do things different in class because you've been to the group?   94 Yeah, I get better getting changed, being listening and having lots…we have…we haven't lost a point 95 since I been back. (Pupil name) has and (pupil name) has but I've lost zero.
134 P: We only read and then we say to her that (teacher's name) says that umm how you feel and all that 135 and (dog's name) listens.   136 I: It's important that she listens to you is it?   137 P: [Nods].

The dog being interested in the children
Pupil A:
43 She likes to do the same as me, watch, see what the picture is and then if she gets tired she lies 44 over there and goes to sleep and listens to us reading.
Pupil D:
70 P: She always tries to be nosy and like comes over and so we just try to stroke her.
73 I: Why do you think she comes over to you?   74 P: To be nosy, she just wants to look in people's stuff and sniff around.

Enjoyment
Pupil A:
49 I: So you like reading to her?   50 P: [Nods head].
79 P: I come to see (dog's name).   80 I: Just for her is it?   81 P: [Nods].
Pupil B:
33 P: I like seeing (dog's name).   36 Because I like reading to her.
Pupil E:

12 I like, um (dog's name) the most really. Reading to (dog's name).

136 Um, when I'm reading to her. I like reading to her, and um when I always read to her and she 137 always comes to look at it. And sometimes she licks it.

Being thought about/ remembered

Pupil A:
52 Because I like seeing a dog because I got no family. Nearly all of my family died.
54 She remembers me and about my family.

120 It's like when she comes near me and I'm remembering the word, she remembers me because she 121 remembers my mum died.
125 Because her owners said she will remember us.
127 She like, she sometimes goes under this table and bumps her head when she comes out. And then 128 she comes to see me and lay by me.

132 : I'm really happy because she remembers me and my little sister.

Pupil E:
124 If I'm upset sometimes then (dog's name) comes and because she has a sense to whoever is hurt
125 or sad then she comes to them.

Exclusivity

Pupil A:
76 But the people in (teacher's name)'s group they are the only ones to see (dog's name),
77 everyone else doesn't see her.

Love of animals

Being understood

Pupil D:
71 I: Do you think she knows when you feel sad?
72 P: No, I don't think so.

Appendix O: Thematic Map Phase 3 (Pupils)
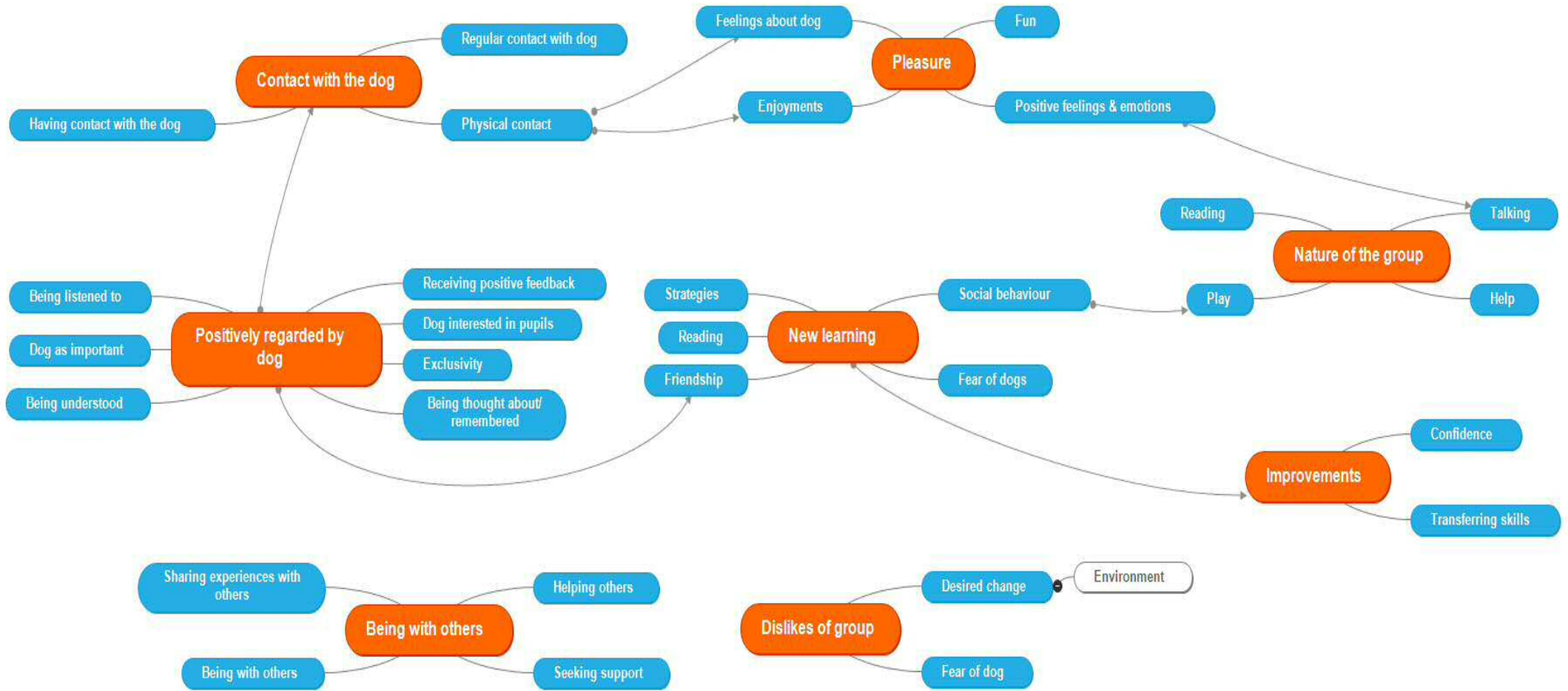
Appendix P: Final Thematic Map (Pupils)
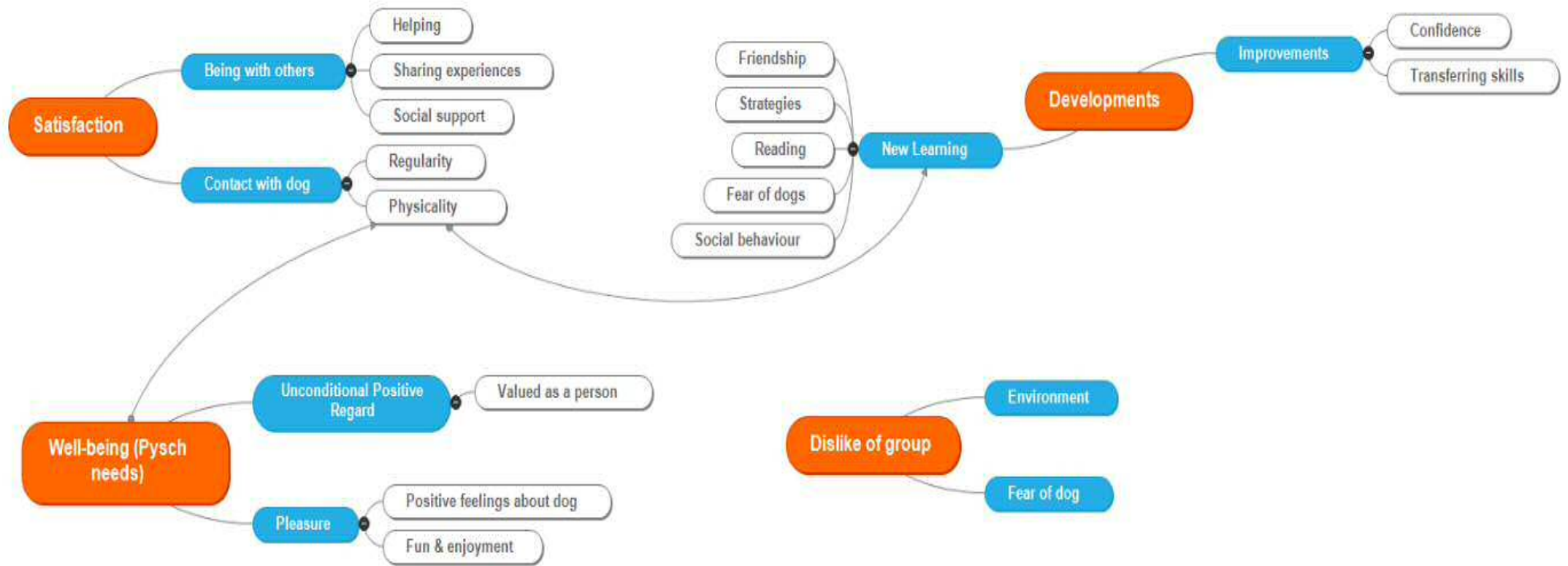
Appendix Q: Thematic Map Phase 3 (Parents)
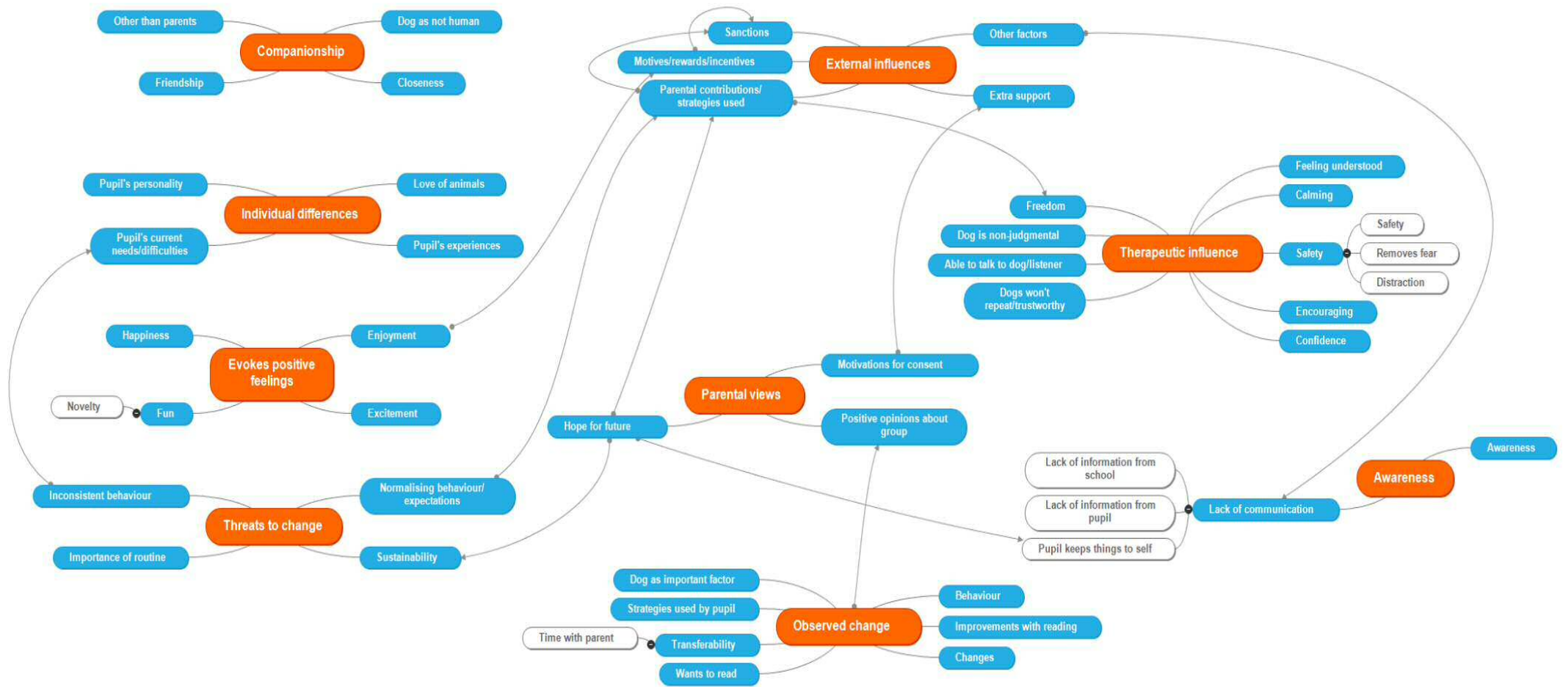
Appendix R: Final Thematic Map (Parents)
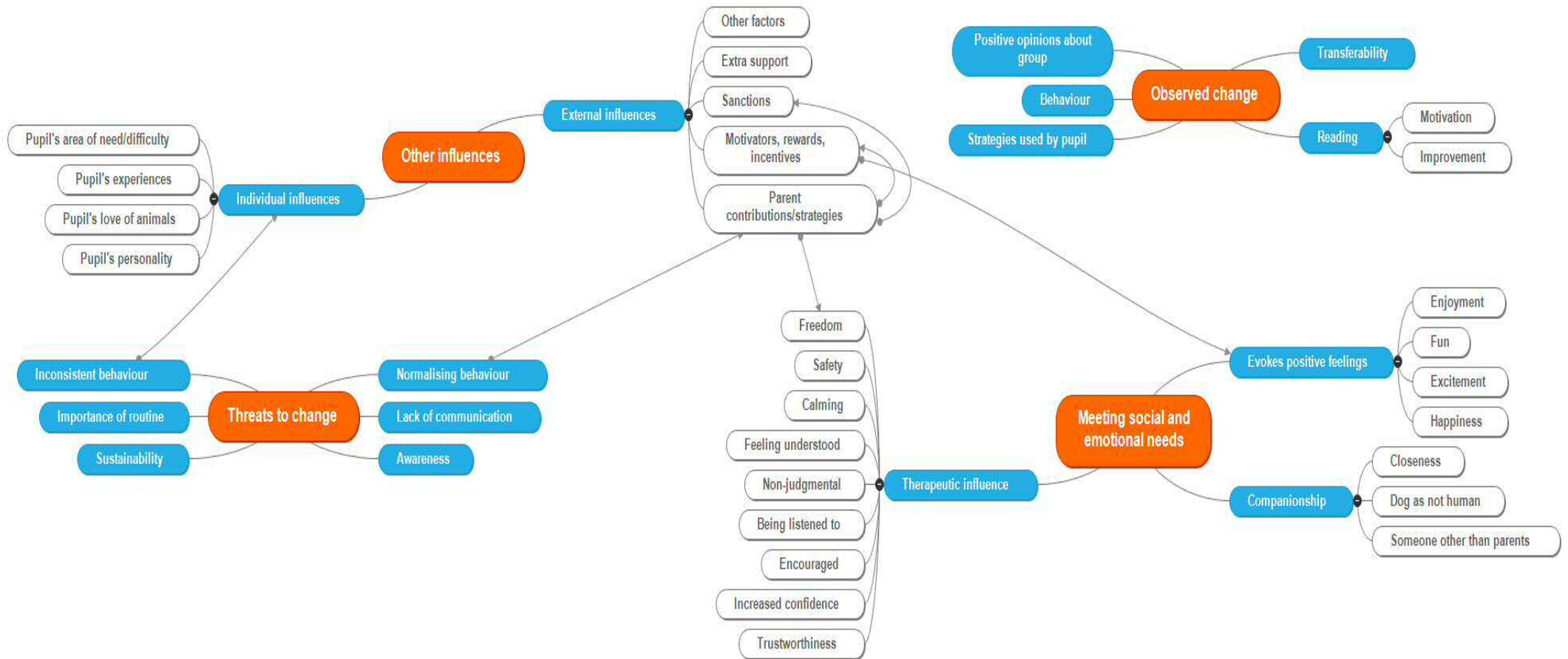
Appendix S: Thematic Map Phase 3 (Teachers)
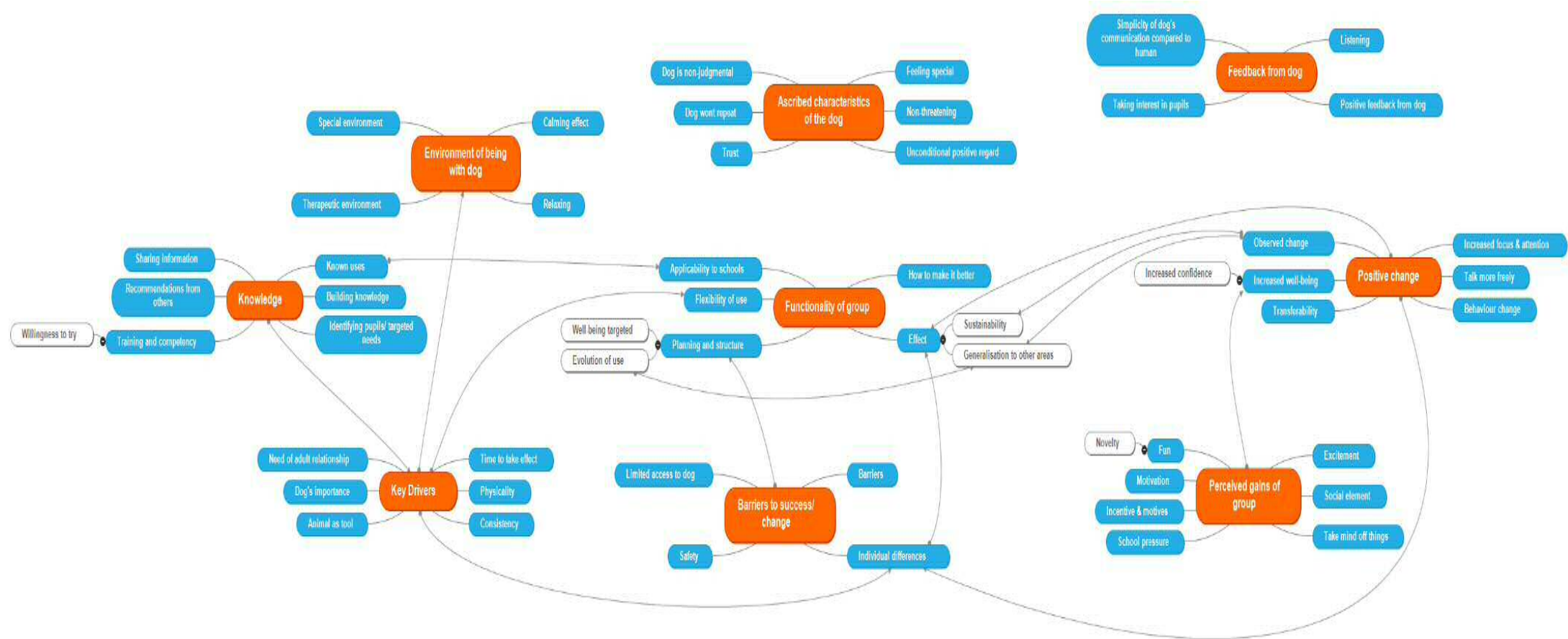
Appendix T: Final Thematic Map (Teachers)
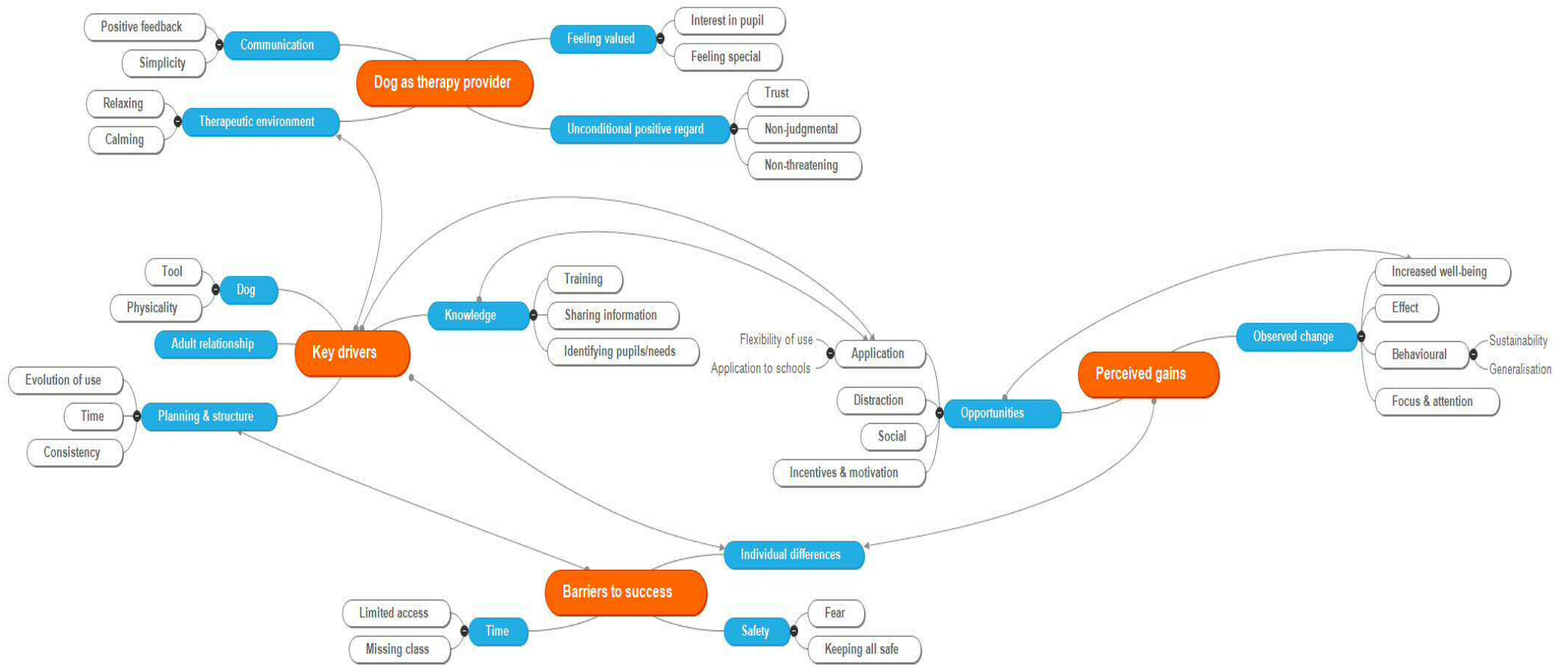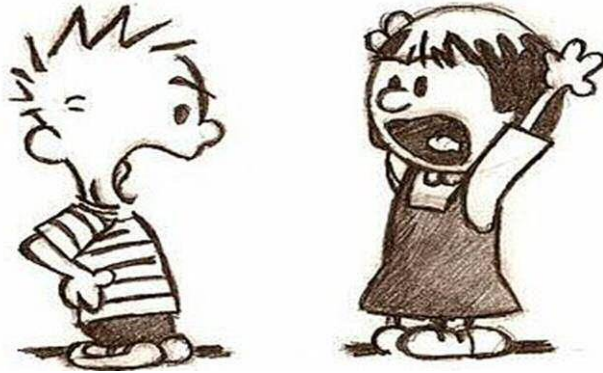
When I have an argument or a fight with a friend

Tell a friend or family member what happened
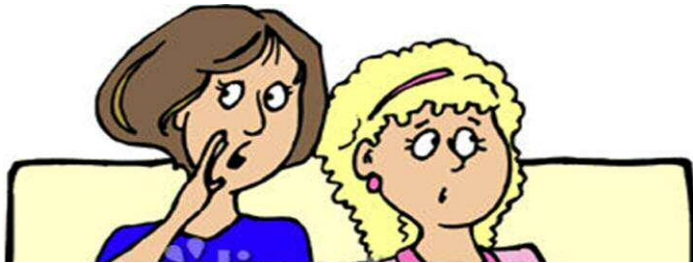
Try to think of different ways to solve it

Make believe nothing happened

Take it out on others because I feel sad or angry
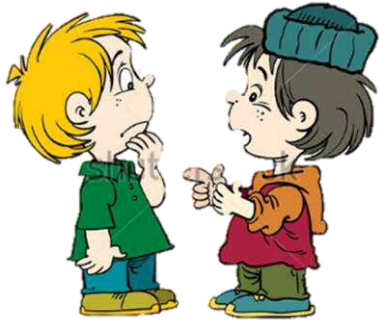
Talk to somebody about how it made me feel	Change something so things will work
Go off by myself	Become so upset that I can't talk to anyone
Get help from a friend	Decide on one way to deal with the problem and I do it

Forget the whole thing	Worry too much about it all
Ask a friend for advice	Do something to make up for it
Tell myself it doesn't matter	Cry about it
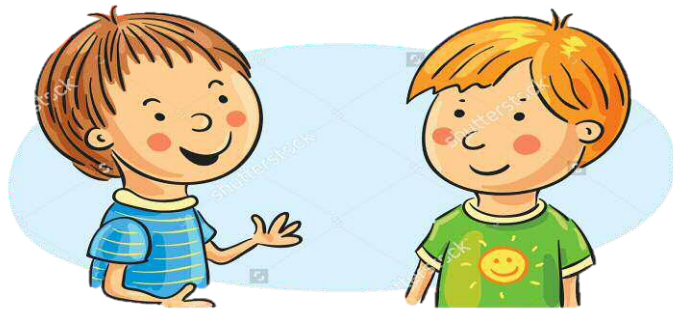
Ask someone in my family for advice

Know there are things I can do to make it better

Just feel sorry for myself

Refuse to think about it

Yell to let off steam

Ask someone who has had this problem what they would do
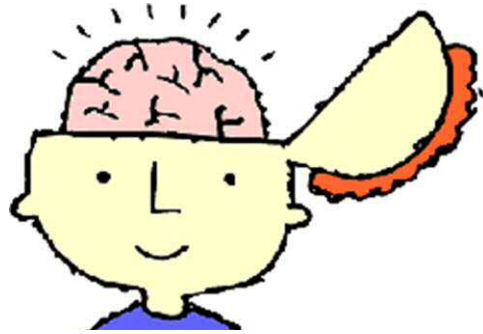
Go over in my mind what to do or say	Do something to take my mind off it
Worry that others will think badly of me	Curse out loud
Try to understand why this happened	Say "I don't care"
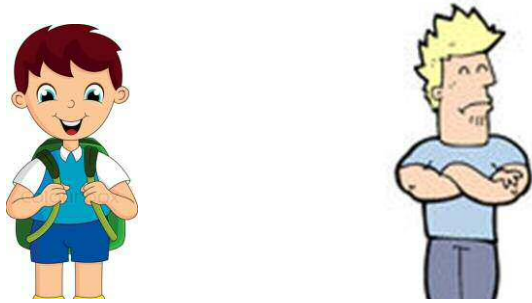
Ignore it when people say something about it	Get mad and throw or hit something

Get help from someone in my family	Get mad at myself for doing something that I shouldn't have done
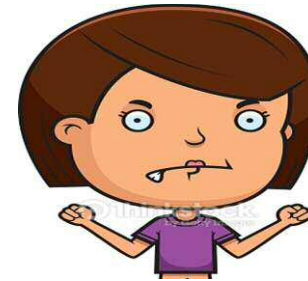
Try extra hard to keep this from happening	Talk to the teacher about it

169

Appendix V: Table of SRCS' Coping Strategies Categorisations

Roth & Cohen's (1986) conceptualisation	Approach Coping		Avoidance Coping		
Category of Coping Style	Seeking Social Support	Problem Solving/ self-reliance	Distancing	Internalizing	Externalising
Coping Strategies	1 Tell a friend or family member what happened	2 Try to think of different ways to solve it	3 Make believe nothing happened	7 Go off by myself	4 Take it out on others because I feel sad or angry
	5 Talk to somebody about how it made me feel	6 Change something so things will work out	11 Forget the whole thing	8 Become so upset that I can't talk to anyone	21 Yell to let off steam
	9 Get help from a friend	10 Decide on one way to deal with the problem and I do it	15 Tell myself it doesn't matter	12 Worry too much about it	26 Curse out loud
	13 Ask a friend for advice	14 Do something to make up for it	20 Refuse to think about it	16 Cry about it	30 Get mad and throw or hit something
	17 Ask a family member for advice	18 Know there are things I can do to make it better	24 Do something to take my mind off of it	19 Just feel sorry for myself	
	22 Ask someone who has had this problem what he or she would do	23 Go over in my mind what to do or say	28 Say "I don't care"	25 Worry that others will think badly of me	
	31 Get help from a family member	27 Try to understand why this happened to me	29 Ignore it when people say something about it	32 Get mad at myself for doing something that I shouldn't have done	
	34 Talk to the teacher about it	33 Try extra hard to keep this from happening again			

Appendix W: Revised Table of SRCS' Coping Strategies Categorisations

Helpful/Unhelpful	Helpful		Unhelpful		Can be Helpful	
Roth & Cohen's (1986) conceptualisation	Approach Coping		Avoidance Coping		Avoidance Coping	
Category of Coping Style	Seeking Social Support	Problem Solving/ self-reliance	Internalizing	Externalising	Distancing	Effective Emotion Based
Coping Strategies	1 Tell a friend or family member what happened	2 Try to think of different ways to solve it	8 Become so upset that I can't talk to anyone	4 Take it out on others because I feel sad or angry	3 Make believe nothing happened	7 Go off by myself
	5 Talk to somebody about how it made me feel	6 Change something so things will work out	12 Worry too much about it	30 Get mad and throw or hit something	11 Forget the whole thing	16 Cry about it
	9 Get help from a friend	10 Decide on one way to deal with the problem and I do it	19 Just feel sorry for myself		15 Tell myself it doesn't matter	21 Yell to let off steam
	13 Ask a friend for advice	14 Do something to make up for it	25 Worry that others will think badly of me		20 Refuse to think about it	26 Curse out loud
	17 Ask a family member for advice	18 Know there are things I can do to make it better	32 Get mad at myself for doing something that I shouldn't have done		24 Do something to take my mind off of it	
	22 Ask someone who has had this problem what he or she would do	23 Go over in my mind what to do or say			28 Say "I don't care"	
	31 Get help from a family member	27 Try to understand why this happened to me			29 Ignore it when people say something about it	
	34 Talk to the teacher about it	33 Try extra hard to keep this from happening again				

The decision to add the additional category 'Effective emotion based' was based on literature that stated emotion coping strategies can be useful in some circumstances. The strategies added to this category were those considered to be helpful by the author. Folkman and Lazarus (1988) proposed a model to conceptualise emotions, which is discussed as follows. Information is taken from Frydenberg (2002).

-*Activity that influences deployment of attention and includes vigilant strategies that neutralize the distress*. 'Escape-avoidance' is characterised by strategies such as wishful thinking, and tension reduction activities, such as eating, drinking, or sleeping too much. These strategies can be adaptive and maladaptive depending on the circumstance.

Items 16: Cry about it; 21: Yell to let off steam; 26: Curse out loud; and 7: Go off by myself were considered potential tension reduction activities that could be adaptive in some circumstances. This was substantiated by Kochenderfer-Ladd & Skinner's (2002) study that showed that emotion focused coping (e.g. walking away) was adaptive for children who were frequently bullied.

In addition, item 3: Make believe nothing happened which belonged to the 'Distancing' category was considered wishful thinking and arguably effective in some cases.

-*Cognitive activities that alter the subjective meaning of an encounter, such as humour and denial*. These can be help the release of tension or in preventing catastrophizing of events, whilst in others they can deny the severity of the problem and avoid engagement in action. Strategies can be used to remain on task and enhance performance.

'Distancing' items 11: Forget the whole thing; 15: Tell myself it doesn't matter; 20: Refuse to think about it; 24: Do something to take my mind off of it; and 29: Ignore it when people say something about it, were considered denial strategies that could be useful in some circumstances.

-*Those that alter the person-environment interaction*. Examples include: standing one's ground, getting someone to change mind or getting information.

'Distancing' item 28: Say "I don't care" could be argued to be standing one's ground in an attempt to alter the person-environment interaction.

Folkman, S. & Lazarus, R. (1988). The relationship between coping and emotion: Implications for theory and research. *Social Science Medicine*, 16, 25-43.

Frydenberg, E. E. (2002). *Beyond coping: Meeting goals, visions, and challenges*. Oxford University Press.

Kochenderfer-Ladd, B., & Skinner, K. (2002). Children's coping strategies: Moderators of the effects of peer victimization?. *Developmental Psychology*, 38(2), 267.

Appendix X: SPSS Outputs- Boxall Profile Data (Dimensions A-J; Q-Z)

Dimension A

NPar Tests

[DataSet1]

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	16.3750	2.82527	12.00	19.00	13.5000
Boxall_post	8	18.6250	1.30247	17.00	20.00	17.2500

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	17.0000	19.0000
Boxall_post	18.5000	20.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	1[a]	3.50	3.50
	Positive Ranks	6[b]	4.08	24.50
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-1.784[b]
Asymp. Sig. (2-tailed)	.074

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Dimension B

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	8.2500	2.43487	4.00	12.00	6.5000
Boxall_post	8	11.0000	.92582	10.00	12.00	10.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	8.5000	9.7500
Boxall_post	11.0000	12.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	1[a]	2.00	2.00
	Positive Ranks	7[b]	4.86	34.00
	Ties	0[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.263[b]
Asymp. Sig. (2-tailed)	.024

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

174

Dimension C

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	9.3750	2.50357	5.00	12.00	8.0000
Boxall_post	8	11.6250	.51755	11.00	12.00	11.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	9.5000	11.7500
Boxall_post	12.0000	12.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	0[a]	.00	.00
	Positive Ranks	6[b]	3.50	21.00
	Ties	2[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.214[b]
Asymp. Sig. (2-tailed)	.027

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Dimension D

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	14.2500	3.88219	7.00	19.00	12.0000
Boxall_post	8	18.2500	1.75255	15.00	20.00	17.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	15.0000	17.5000
Boxall_post	19.0000	19.7500

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	0[a]	.00	.00
	Positive Ranks	7[b]	4.00	28.00
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.375[b]
Asymp. Sig. (2-tailed)	.018

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

176

Dimension E

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	6.1250	.99103	5.00	7.00	5.0000
Boxall_post	8	7.5000	.53452	7.00	8.00	7.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	6.5000	7.0000
Boxall_post	7.5000	8.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	0[a]	.00	.00
	Positive Ranks	6[b]	3.50	21.00
	Ties	2[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.232[b]
Asymp. Sig. (2-tailed)	.026

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Dimension F

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	9.7500	1.66905	6.00	11.00	9.2500
Boxall_post	8	11.5000	.53452	11.00	12.00	11.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	10.0000	11.0000
Boxall_post	11.5000	12.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	0[a]	.00	.00
	Positive Ranks	7[b]	4.00	28.00
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.410[b]
Asymp. Sig. (2-tailed)	.016

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

178

Dimension G

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	13.0000	2.67261	9.00	15.00	9.7500
Boxall_post	8	15.0000	1.51186	12.00	16.00	14.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	14.5000	15.0000
Boxall_post	16.0000	16.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	0[a]	.00	.00
	Positive Ranks	7[b]	4.00	28.00
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.410[b]
Asymp. Sig. (2-tailed)	.016

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Dimension H

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	15.8750	3.48210	10.00	20.00	13.2500
Boxall_post	8	18.6250	1.50594	16.00	20.00	17.2500

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	16.0000	19.0000
Boxall_post	19.0000	20.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	0[a]	.00	.00
	Positive Ranks	7[b]	4.00	28.00
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.388[b]
Asymp. Sig. (2-tailed)	.017

a. Wilcoxon Signred Ranks Test

b. Based on negative ranks.

180

Dimension I

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	6.0000	.75593	5.00	7.00	5.2500
Boxall_post	8	7.5000	.53452	7.00	8.00	7.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	6.0000	6.7500
Boxall_post	7.5000	8.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	0[a]	.00	.00
	Positive Ranks	7[b]	4.00	28.00
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.401[b]
Asymp. Sig. (2-tailed)	.016

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Dimension J

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	5.1250	1.55265	3.00	7.00	4.0000
Boxall_post	8	7.2500	.70711	6.00	8.00	7.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	5.0000	6.7500
Boxall_post	7.0000	8.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	0[a]	.00	.00
	Positive Ranks	8[b]	4.50	36.00
	Ties	0[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.555[b]
Asymp. Sig. (2-tailed)	.011

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Dimension Q

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	5.8750	3.13676	1.00	11.00	4.0000
Boxall_post	8	1.1250	1.12599	.00	3.00	.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	5.5000	8.5000
Boxall_post	1.0000	2.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	8[a]	4.50	36.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.524[b]
Asymp. Sig. (2-tailed)	.012

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Dimension R

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	8.5000	3.85450	2.00	12.00	5.2500
Boxall_post	8	3.7500	1.48805	2.00	6.00	2.2500

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	9.5000	12.0000
Boxall_post	3.5000	5.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	7[a]	4.00	28.00
	Positive Ranks	0[b]	.00	.00
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.388[b]
Asymp. Sig. (2-tailed)	.017

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Dimension S

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	1.7500	2.43487	.00	7.00	.0000
Boxall_post	8	.6250	.74402	.00	2.00	.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	1.0000	2.7500
Boxall_post	.5000	1.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	4[a]	3.38	13.50
	Positive Ranks	1[b]	1.50	1.50
	Ties	3[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-1.633[b]
Asymp. Sig. (2-tailed)	.102

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Dimension T

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	2.5000	4.14039	.00	12.00	.0000
Boxall_post	8	.5000	1.41421	.00	4.00	.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	.5000	3.7500
Boxall_post	.0000	.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	4[a]	2.50	10.00
	Positive Ranks	0[b]	.00	.00
	Ties	4[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-1.826[b]
Asymp. Sig. (2-tailed)	.068

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Dimension U

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	3.3750	2.92465	.00	8.00	1.0000
Boxall_post	8	1.0000	1.19523	.00	3.00	.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	3.0000	6.2500
Boxall_post	.5000	2.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	7[a]	4.00	28.00
	Positive Ranks	0[b]	.00	.00
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.410[b]
Asymp. Sig. (2-tailed)	.016

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Dimension V

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	6.0000	4.17475	1.00	14.00	3.2500
Boxall_post	8	1.7500	1.58114	.00	5.00	1.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	5.0000	9.0000
Boxall_post	1.0000	2.7500

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	8[a]	4.50	36.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.536[b]
Asymp. Sig. (2-tailed)	.011

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Dimension W

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	6.6250	3.42000	1.00	11.00	4.0000
Boxall_post	8	1.2500	1.48805	.00	4.00	.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	7.5000	9.0000
Boxall_post	1.0000	2.0000

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	8[a]	4.50	36.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.546[b]
Asymp. Sig. (2-tailed)	.011

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Dimension X

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	5.8750	3.09089	2.00	11.00	2.5000
Boxall_post	8	1.0000	1.06904	.00	3.00	.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	6.5000	7.7500
Boxall_post	1.0000	1.7500

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	8[a]	4.50	36.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.536[b]
Asymp. Sig. (2-tailed)	.011

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

190

Dimension Y

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	3.8750	3.09089	.00	8.00	.5000
Boxall_post	8	1.0000	1.06904	.00	3.00	.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	4.0000	6.7500
Boxall_post	1.0000	1.7500

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	6[a]	4.50	27.00
	Positive Ranks	1[b]	1.00	1.00
	Ties	1[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.217[b]
Asymp. Sig. (2-tailed)	.027

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Dimension Z

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentile 25th
Boxall_pre	8	2.0000	2.00000	.00	5.00	.0000
Boxall_post	8	.2500	.46291	.00	1.00	.0000

Descriptive Statistics

	Percentiles	
	50th (Median)	75th
Boxall_pre	2.0000	3.7500
Boxall_post	.0000	.7500

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Boxall_post - Boxall_pre	Negative Ranks	5[a]	3.00	15.00
	Positive Ranks	0[b]	.00	.00
	Ties	3[c]		
	Total	8		

a. Boxall_post < Boxall_pre

b. Boxall_post > Boxall_pre

c. Boxall_post = Boxall_pre

Test Statistics[a]

	Boxall_post - Boxall_pre
Z	-2.032[b]
Asymp. Sig. (2-tailed)	.042

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Appendix Y: Boxall Profile results and Dimensions

Information taken from Bennathan & Boxall (1998) and https://nurturegroups.org/introducing-nurture/boxall-profile (accessed on: 28th June 2017).

The Boxall Profile is copyright: Association of Workers for Children with Emotional and Behavioural Difficulties and cannot be reprinted or reproduced or utilised in any form without permission of the publishers.

The Boxall Profile provides a framework for the purpose of observing and assessing children's social, emotional and behavioural difficulties, in order to determine appropriate interventions and understand presenting behaviour. The Boxall Profile supports: early identification and assessment, target setting and intervention; and tracking progress.

The profile has two sections, each consisting of a list of 34 descriptive items and a histogram to be scored by a member of staff who knows the child well in class.

Section I: Developmental strands

- Measures progress through different aspects of development in pre-school years.

- Includes two clusters: assessment of the child's organisation of their learning experiences, and their internalisation of controls. Each cluster has five columns.

- Organisation of experience includes: gives purposeful attention; participates constructively; connects up experiences; shows insightful involvement; and engages cognitively with peers.

- Internalisation of controls includes: is emotionally secure; is biddable, accepts constraints; accommodates to others; responds constructively to others; and maintains internalised standards.

Section II: The diagnostic profile

- Items describe behaviours that inhibit or interfere with the child's satisfactory involvement in school.

- Includes three clusters: self-limiting features, undeveloped behaviour and unsupported development.

- Self-limiting features includes: disengaged and self-negating.

- Undeveloped behaviour includes: undifferentiated attachments; inconsequent behaviour; and craves attachment, reassurance.

- Unsupported development includes: avoids/rejects attachment; insecure sense of self; negativism towards self; nnegativism towards others; and wants grabs disregarding others

Boxall results

Section	Boxall Dimension	Mean Score	
		Pre intervention	Post intervention
Developmental Strand	A Gives purposeful attention	16.38	18.63
	B Participates constructively	8.25	11
	C Connects up experiences	9.38	11.63
	D Shows insightful involvement	14.25	18.25
	E Engages cognitively with peers	6.13	7.5
	F Is emotionally secure	9.75	11.5
	G Is biddable, accepts constraints	13	15
	H Accommodates to others	15.88	18.63
	I Responds constructively to others	6	7.5
	J Maintains internalised standards	5.13	7.25
The Diagnostic Profile	Q Disengaged	5.88	1.13
	R Self-negating	8.5	3.75
	S Undifferentiated attachments	1.75	0.63
	T Inconsequent behaviour	2.5	0.5
	U Craves attachment, reassurance	3.38	1
	V Avoids/ rejects attachment	6	1.75
	W Insecure sense of self	6.63	1.25
	X Negativism towards self	5.88	1
	Y Negativism towards others	3.88	1
	Z Wants grabs disregarding others	2	0.25