

**The relationship between empathy and pet ownership, pet attitudes and pet attachment in late childhood**

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### **Abstract**

Many theorists have found companion animals to play an important role in the socio-emotional development of a child. The current study aims to extend this research by exploring links between empathy and pet ownership, pet attitudes and pet attachment in late childhood. Particular attention has been awarded to gender and socio-economic background in relation to these variables. Participants (n=100) consisted of children in third class (8-10 years old) from a DEIS and non-DEIS school. A variety of correlational analyses were run between the total scores on the Bryant Empathy Index, the Pet Attitude Scale and the Lexington Attachment to Pets Scale. Results obtained from this study indicate that there is a significant link between these variables with females displaying higher levels of empathy and pet attachment than males and children from the DEIS school (located in a socially disadvantaged area) exhibiting lower empathy levels and higher pet attachment and pet attitude scores than the non-DEIS school.

## **Chapter 1: Introduction**

### **1.1 Introduction**

A distinct area of investigation that is of increasing interest to researchers is the relationship between empathy and human-animal interactions in children. Many theoretical models currently influencing the study of child development highlight the importance of studying children within their naturally occurring environments. For example relationship psychology (Fogel, 1993), dynamic systems theory (Thelen, 2000), and attachment theory (Bowlby, 1969) all situate children's development within the context of important relationship bonds.

The original model of Bronfenbrenner (1979) and revised model of Bronfenbrenner and Morris (2006) extensively adopt an ecological systems framework that emphasizes how individual characteristics of children interact with multiple interrelated settings. The micro system (or innermost environmental layer) refers to the activities or interactions that occur in the child's immediate surroundings (such as family, peer groups, school, neighbourhoods, communities, society, etc.) and he urges detailed examination of these environmental characteristics. In pet owning households, the child's relationship with the family pet would be considered an important characteristic of this micro system that would influence a child's development.

Other developmentalists such as Kahn (1999) and Myers (1998) have been urging a "bio-centric" approach to child development. This approach assumes children will display interest in and involvement with nonhuman (e.g. wild animals, pets, nature, plants, trees etc.) as well as human aspects of their environments.

Kohlberg (1976) asserted that reasoning about the moral claims of others develops most rapidly during childhood and movement from lower to high stages could be aided when children had guided peer discussions about situations involving just and fair treatment of others (of which pets could be an example). He proposes that discussions which promote “disequilibrium” of moral stage thinking are most effective in helping a child to reach a higher level of moral reasoning. For example, discussion of a moral dilemma should question the child’s current level of moral reasoning and thereby prompt the child to consider new arguments and perspectives.

Children’s moral reasoning about animals is important for numerous reasons. Myers (1998) highlights that from an early age, children consider animals as other subjectivities, rather than objects and relate to them as living actors who have feelings, intentionality and autonomy. Interacting with real pet animals can present children with opportunities to progress away from egocentric thinking and view things from a perspective very different to their own. Through contact with animals, a child can also practice and learn important social and emotional skills such as role taking, language skills and how to perceive cues through interaction (Levinson, 1978, Myers, 1998).

For many children, companion animals are likely to be influential motivators for learning. According to Vgotsky (1978), children’s learning is enhanced when it occurs within meaningful relationships and considerable evidence documents that companion animals are important emotional ties which many children rank among their most intimate (Melson, 2001). Correspondingly, Bryant (1985) asked seven and ten year olds to name the ten most important individuals in their lives. The results showed that on average, the children’s answers included two pets. A mounting body of research

suggests that a child's relationship with a pet has positive results with respect to the development of empathy and compassion (Levinson 1978; Melson, 1990). The rationale for this is the belief that, by developing a bond with an animal, empathy toward other living beings will be encouraged.

Furthermore, children's attachment to their animals is well documented with links to emotional support (Bryant, 1985), empathy (Melson, Peet and Sparks, 1992) and nurturing others (Melson & Fogel, 1996). A study on Chinese school children conducted by Zhou, Zheng, & Fu (2007), found that pet attachment was positively associated with willingness to take care of others. Empathy and willingness to take care of others are related to (but not the same as) moral reasoning. Melson (2013) proposed that one possible reason as to why attachment to a companion animal would be associated with greater empathy (and more advanced moral reasoning), may be the role that animals play in family interactions, including discussions about moral issues. Tannen (2004) noted that family animals provide many instances of educable moments for parents, for example, instances of parents using family dogs as conversational resources when teaching children about values.

The benefits of animal presence on a child's socio-emotional development have also been reported within the education system which is another fundamental area within the child's immediate surroundings. Surveys administered on teachers in elementary school classrooms found that educators believe the presence of live animals in the classroom helps to promote empathy (Daly & Suggs, 2010). An evaluation of a humane education programme for first graders (Nicoll, Trifone, & Samuela, 2008) also found that when children were encouraged to role-play and do imaginative exercises with living animals, they scored higher on measures of animal-directed

empathy in comparison to peers who had a print-based curriculum with no animal visits.

## **1.2 Pet Ownership and Empathy in Children**

Feshbach and Roe (1968) contend that the phenomenon of empathy has received very little attention in relation to childhood development, despite its probable relevance to the acquisition of positive social values, moral development and social comprehension.

Hoffman (1984) defined empathy as the “cognitive awareness of another person’s internal states (thoughts, feelings, perceptions, intentions), and the vicarious affective response to another person” (p. 103). This definition explains empathy as a multidimensional construct referring to it as a cognitive phenomenon, while also recognising the affective implications of empathy. The cognitive component involves understanding or apprehending the other individual’s response and it is from this perspective that empathy is considered to be a highly important and influential dimension of moral reasoning (Hanson & Mullis, 1985). According to Hoffman’s model of empathy (1982), the child’s increasing ability to distinguish between the self and the other, and the child’s growing awareness that other individuals experience internal states and feelings independent from one’s own (commonly referred to as theory of mind), lay the foundation for higher levels of empathic responding.

In recent years, Zahn-Waxler and Radke-Yarrow (1990) proposed that the child’s family environment frames their first experience with their own and another’s distress while also providing guidance as to how these emotions are dealt with. Furthermore, parents who emphasize nurturing and care-giving by involving their older children in



the care of the younger ones are more likely to have children who display higher empathy and concern for others as well as more motivation and skill in care giving (Whiting & Edwards, 1988). In addition, Spivak and Howes (2011) found children who are socially competent with peers (e.g. preschoolers skilled at social pretend play) spontaneously engage in more acts of sharing, kindness, cooperation, and empathy toward peers than do less socially skilled classmates.

Notably, empathy is considered an important element in child development which is believed to influence children's prosocial development and altruistic behaviour. Davis (1994) found that lack of empathy often resulted in aggressive and antisocial behaviour. Therefore encouraging children's development of empathy has been an important issue in childhood education.

Piaget (1969) was a developmental psychologist who proposed that there are four different stages in the cognitive development of children which include the sensory motor stage, the preoperational stage, the concrete-operational stage and the formal operations stage. During the concrete-operational stage (age 6-12years), children are becoming less egocentric and are beginning to focus on the legitimate needs of others. It is also the stage where sympathetic responses should become a more important contributor to altruism (Schaffer, 2008). In the current study, late childhood has therefore been chosen as the appropriate developmental stage for measuring empathy using age appropriate measures of this variable.

An interesting discovery emerging from research examining the trait of empathy reveals how the tendency to empathize is attributed more frequently to females than to males. Many studies support the hypothesis that females tend to be significantly more

empathic than males (Feshbach & Roe 1968, Mehrabian & Epstein 1972, Barnett et al 1980). The results of a meta-analysis carried out by Eisenberg and Lennon (1983) demonstrate a huge sex difference in self report of empathy with females obtaining higher empathy scores. It is speculated this stereotypic perception has most likely been derived from the broader belief that females are more nurturing and interpersonally oriented than are males – a stereotype that itself is a consequence of traditional feminine and masculine roles. There is evidence to suggest that empathy in females may be part of a prosocial affective orientation that includes the tendency to experience guilt over harming others. It is also suggested that females may have a greater tendency to imagine themselves in the other's place (Hoffman, 1977).

As discussed earlier, an increasing number of authors have proposed that an optimal method for promoting the development of empathy is to encourage direct contact with animals (Ascione, 1992). Fawcett & Gullone (2001) emphasize that in contrast to those with other humans, children's relationships with animals provide an opportunity for emotional investment and expression that is free of negative evaluation and not subject to being rejected (i.e. unconditional positive regard). Despite the scarcity of empirical research conducted in the area, Thompson (2003) claims the existing literature overwhelmingly supports the notion that by developing a strong bond with an animal, children are more likely to demonstrate increased levels of animal-directed empathy. Moreover, it has been proposed that animal-directed empathy will generalise to human-directed empathy.

There is considerable international research available on the prevalence of pet ownership in a nation's households. In a recent study conducted by Downes et. al (2011), there was an estimated 2,142,121 human households in Ireland, with 640,620

recorded as owning a pet dog and 215,542 as owning a pet cat. Further to this, pet ownership was associated with various household demographic factors including: the presence of school children in the house, house type, urban/rural location, household social class, level of education and age/family structure. Ownership of a pet dog was significantly associated with household composition, where lone adult houses with children ranked highest. Cat ownership was significantly associated with house type, demonstrating people who lived in a house more likely to own a cat than those in an apartment/flat. In the large urban areas of Dublin and Belfast, an increase in the proportion of pet dog owning households was reported in comparison to the inner-city districts. This finding was attributed to the fact that suburban households generally have greater access to gardens and open areas such as parks compared to inner city dwellings (Downes et al, 2006). The participants in the present study were chosen from two neighbouring suburban locations in Dublin.

Interestingly, Daly and Morton (2003) found that children who owned both cats and dogs were more empathic than those who owned only a dog. They conducted further research (Daly and Morton, 2006) and revealed findings which indirectly support the notion of a relationship between multiple pet ownership and empathy. Individuals who had both a cat and a dog were more empathic than those who had only a cat, those who had only a dog and also more empathic than those who had neither a cat nor a dog. Melson (2003) presented the idea that empathy is a precursor to nurturance and that multiple pets in a household provide increased opportunity for interaction, nurturance and affection.

In the present study, the construct of empathy will be explored in relation to pet ownership, pet attitudes and pet attachment. Gender differences in empathy will also be investigated within the chosen sample to expand on the existing research.

### **1.3 Pet Attitudes and Empathy**

In an early study, Paul and Serpell (1993) reported that individuals who had kept pets in childhood, compared with those who had not, had more humane attitudes toward animals as adults and more humane attitudes toward other people. The positive influence of animals on empathic development and humane attitudes was also supported by Paul (2000, p.174), who concluded that there are “significant correlations between level and intensity of childhood pet relationships, concerns for the welfare of animals and empathy with humans”.

Research on children’s attitudes towards animals formed a major theme in a meta-analysis conducted on children and animals by Muldoon et. al, (2009). Their study explored individual differences in attitudes towards pets, the relationship between attitudes and behaviour towards animals and also the factors that lead to positive attitudes. A number of studies reviewed in their research revealed predictable changes in attitude with age during childhood (Pagani, Robustelli & Ascione, 2007) and marked gender differences in attitudes towards animals with women tending to be more favourable in their attitudes than men (Kellert & Berry, 1987, Bjerke, Odegardstuen & Kaltenborn, 1998). A key finding in this study revealed that much of the previous literature they reviewed had focused on adults including retrospective accounts of their childhood experience of companion animals. Further to this, Muldoon, Williams & Lawrence (2009) highlighted the “important gap” (p. 14) in educational and psychological research that exists within the field of child

development based on the prominent presence of pets in UK households. They referred to pet ownership as “the rule rather than the exception” (p. 14)

To bridge the gap in research, Daly and Morton (2006) conducted a study which examined children’s attitudes towards pets. Using a sample of children ranging from 8-14 years old, they reported that children with positive attitudes towards animals exhibited higher empathy than those with negative attitudes towards animals. Ascione (1992) had previously discovered that a first and fourth grade classroom intervention designed to teach more appropriate humane forms of nurturing, developed greater empathy toward other children as well as more humane attitudes toward animals.

Taylor & Signal (2005) found a significant correlation between empathy levels, gender, companion animal ownership and attitudes to animals. They also reported a significant relationship between human-human empathy and attitudes toward animals, specifically, that individuals who demonstrated higher empathic concern exhibited more welfare-related attitudes toward animals. The results suggest that higher human-directed empathy does correlate with more positive attitudes towards animals. Taylor and Signal (2005) have recommended further research be carried out to examine the specific links between empathy and attitudes to animals given the potential importance of attitudes towards animals in designing strategies for remedying deficits in empathy and related anti-social behaviours.

Given the capability that establishing these links may have for early intervention and prevention of antisocial behaviour (perhaps via humane education interventions) (Ascione & Weber 1996) it stands to reason that links between empathy and attitudes to animals need to be more explicitly investigated.

For the above reason, and to complement existing research, this researcher has chosen children from different socioeconomic backgrounds, including a sample from a socially disadvantaged area (where antisocial behaviour may be more prevalent). If there is any notable difference in children's attitudes towards animals based on socioeconomic background, this may provide a platform for further research and the possible inclusion of humane education interventions within the Irish education system.

#### **1.4 Pet Attachment and Empathy**

Considering both the widespread presence of animals in homes with children, combined with frequent care giving opportunities open equally to boys and girls, companion animal care is a potentially important “training-ground” for developing nurturing skills and experiences in children of both sexes. The evidence therefore suggests a possible advantage to owning a pet, is it can be used as a sex-neutral medium that is effective in enhancing nurturance behaviours in both girls and boys (Melson & Fogel 1989, 1996). This claim is important in considering the development of empathy, especially among males. Melson (2013) provides some possible explanations for this based on her research in previous years. She explains from approximately age five, children view nurturing and care giving of young, dependent humans as feminine. At about the same time, girls show more motivation to nurture human young, and engage in more nurturing behaviours toward them (Melson, Fogel, & Toda, 1986). In contrast, Melson (2013) claims there are no gender differences in ideas about nurturing companion animals. Boys and girls view companion animal care as “gender-neutral”, not associated with either the feminine or masculine sex role (Melson & Fogel, 1989).

Poresky (1990) assessed the relationship between children's bonding with their pets and their empathy levels. Thirty-eight children ranging from 3-6yrs old were involved in the study, 68% of whom had at least one companion animal. The results of Poresky's study revealed that whilst children with companion animals did not have significantly higher levels of empathy than children who did not have such companions, children who had a strong bond with their pet (as measured by assessing children's empathy towards such) had higher child-directed empathy scores than children who did not have pets. These findings suggest that being more emotionally empathic toward animals is related to higher levels of child-directed empathy. Melson, Peet, & Sparks (1992) found 5-6 year olds who were more attached to their pets, expressed greater empathy toward peers whereas Bryant (1985) found seven-ten year olds who reported more "intimate talks" with pets also reported more empathy. Melson, Peet and Sparks (1991) also found attachment to pets to be strongest among nine to ten year olds.

In a later but similar study, Vidovic et al. (1999) evaluated whether attachment to animal companions could assist children in achieving more satisfactory relationships with other people. Eight hundred and twenty six children ranging from ten-fifteen years old participated in the study. The results were consistent with those of Poresly (1990). Specifically, it was found that children who scored higher than average on the Pet Attachment Scale yielded significantly higher scores on both the Empathy and Prosocial Orientation scales than children who scored lower than average on the Pet Attachment scale. Vidovic et al. (1999) concluded that, to some extent, their findings provided support for the proposed positive relationship between animal attachment and the healthy development of empathy and pro-social behaviour. In more recent research, Daly & Morton (2006) reported children who scored higher on the pet

attachment scale were more emphatic than those who had lower scores on the attitude and attachment scales.

Similar to studies examining the variables of empathy and pet attitude studies, various researchers have also found sex differences in the relationship between pet attachment and children's development of empathy with females additionally demonstrating stronger attachment to their pets than males (Rost & Hartmann, 1994). The relationship between empathy and pet attachment deserves further investigation, particularly within the age category assigned to the present study. The importance of pets as a gender-neutral stimulus in a child's socio-emotional development must also be further explored.

### **1.5 Rationale for Present Study**

The above research has provided the investigator with the theoretical framework for the present study. It is evident that pet ownership is widespread but its effect on children's socio-emotional development is in need of further exploration. Research examining the effects of owning multiple pets and empathy levels in childhood is also extremely limited. It is hoped this study can provide new insights into this neglected aspect of psychological research. It must also be noted that many investigations have focused on empathy towards human objects and less towards non-human objects. The limited enquiries into empathy towards non-human objects are primarily based on adult retrospective accounts of childhood experiences.

The current study will measure empathy using the Bryant Empathy Index (1982) and will use a sample of one hundred, 8-10 year old, third class students from two schools in neighbouring suburbs in Dublin City North. One of the schools chosen is situated



in a socially disadvantaged area. Pet attitudes and pet attachment will be measured using the Pet Attitude Scale (Templer et al, 1981) and the Lexington Attachment to Pet Scale (Garrity & Stallones, 1992). Gender effects on each of the variables (Empathy, Pet Attitude and Pet Attachment) will be analysed with females expected to demonstrate higher scores than males. The effects of socio-economic background will also be examined for each of the above variables. The researcher failed to find relevant previous research on socio-economic background and the variables of Empathy, Pet attitudes and Pet Attachment so this aspect of the research is largely exploratory. An investigation examining these variables collectively has not been undertaken previously so it is unique on many levels. Research within this area is also extremely rare in Ireland.

This study hopes to contribute to the current research on the pervading childhood experience of pet ownership and provide some new platforms from which to explore this area within the Irish context.

## **1.6 Hypothesis**

The first research hypothesis (H1) states that pet owners will be more empathic than non pet owners and multiple pets in a household will be related to higher empathy scores.

The second hypothesis (H2) states that children who display more positive attitudes toward pets will also exhibit higher levels of empathy. It is predicted there will be a statistically significant correlation between pet attitudes and empathy scores.

The third hypothesis (H3) states that children who are highly attached to their pets will be more empathic than those who are less attached.

The fourth hypothesis (H4) states there will be a significant difference between males and females in relation to empathy. It is hypothesized that females will be significantly more empathic than males.

## Chapter 2 - Method

### 2.1 Participants

Participants were chosen using convenience sampling and consisted of 100 third class primary school children (8-10 years old), in mixed schools from two neighbouring suburbs in Dublin North City. Of those that participated 55% were male ( $n = 55$ ) and 45% were female ( $n = 45$ ).

In order to capture participants from a diverse range of socio-economic backgrounds, a DEIS Band 1 and a non-DEIS school were chosen. In Ireland, a DEIS school (Delivering Equality of Opportunity in Schools) is a proxy indicator for students who come from a socially disadvantaged area and Band 1 is ranked as where the level of disadvantage is greatest. In the primary school sector, the identification process for DEIS schools was based on a survey carried out by the ERC (Educational Research Centre) in May 2005. The analysis of the survey returns from primary schools by the ERC identified the socio-economic variables that collectively best predict achievement, and these variables were then used to identify schools for participation in the School Support Programme. The variables involved were: % unemployment, % local authority accommodation, % lone parenthood, % Travellers, % large families (5 or more children) and % pupils eligible for free books (<http://www.education.ie/en/Schools-Colleges/Services/DEIS-Delivering-Equality-of-Opportunity-in-Schools-/>). 48% ( $n = 48$ ) of participants attended the DEIS school and 52% ( $n = 52$ ) attended the non-Deis school. With regards to pet ownership, 77% of participants ( $n = 77$ ) reported owning a pet while 23% ( $n = 23$ ) did not have a pet. Children who did not have pets were not required to complete the Lexington Attachment to Pets Scale. Of the 100 participants, 92 correctly answered the Bryant

(1982) Empathy Index, 97 answered the Pet Attitude Scale (1981) and 71 answered the Lexington Attachment to Pets Scale (1992).

## **2.2 Materials:**

A choice of three questionnaires were compiled into a booklet and administered to the participants of the study, who were each requested to complete the booklet (Appendix 1). The cover page of the booklets included the name of the school, an animated character and a brief written introduction from the researcher. The questionnaires were chosen for the current study based on their previous use in research conducted with children within the same age group. The terms of anonymity and the option to withdraw from participation were included in the consent form issued to parents prior to the research (Appendix 2).

The questionnaires were presented in the booklet in the following sequence: Bryant Index of Empathy (1982), Pet Attitude Scale (1981), a page collecting demographic information from the participants (including gender, pet ownership status, number of pets owned, type of pets owned) and finally, the Lexington Attachment to Pets scale (1992). This presentation format was chosen in order to control for the confounding factor of non pet owners feeling “left out”. Until reaching the final questionnaire in the booklet, it is assumed that all children regarded themselves as equal. Children without pets were not required to complete the Lexington Attachment to Pet Scale.

Before the questionnaires were administered, a focus group was held with a number of class teachers in order to gauge the ability of their students to interpret and respond to each set of questions. A number of adjustments to the wording of the questions were made to ensure the subjects would understand each question asked (see below).

For each of the questionnaires, participants were asked to circle the answer they felt best reflected their opinion on the question/statement.

Another instrument used in this study was a statistical package for social science (SPSS Version 21 for Windows), which in turn necessitated the use of a computer to input the data and analyse it. With regard to the questionnaires themselves, pencils were used to complete each booklet.

The research was carried out in the relevant classrooms in each school.

### **Bryant's (1982) Index of Empathy for Children and Adolescents**

The Empathy Index for Children and Adolescents (IECA) is a 22-item self-report questionnaire developed and validated by Bryant (1982) to assess dispositional affective empathy (rather than accuracy of cognitive insight) in children 6 years and older. This questionnaire has been used in various other companion animal studies with children (Bryant, 1985; Ascione, 1992). The reported coefficient alphas range from .54 to .79 (Bryant, 1982). The range of possible scores in this study is from 22 to 110, with higher scores reflecting greater empathy.

In order to simplify the response format, Mehrabian and Epstein's (1972) nine-point response format was reduced to a five-point likert-type scale with answers ranging from "strongly disagree" to "strongly agree". Participants were required to respond to questions regarding specific situations (e.g., "I get upset when I see a boy/girl being hurt") and (It makes me sad to see a boy/girl who can't find anyone to play with").

The following amendments to the questions were made: In question 15, "grown-ups" was replaced with "adults" and in question 21, "cookies" was replaced with "sweets". Reverse scoring was applied where appropriate. Reliability with the current sample was considered weak (Cronbach's alpha = 0.557).

**The Pet Attitude Scale (Templer et al, 1981)**

The Pet Attitude Scale measures the favourableness of attitudes towards pets. The 18 items on the questionnaire are related to three factors; love and interaction (e.g., “I love pets”), pets in the home (e.g., “I feel that pets should always be kept outside”), and joy of pet ownership (e.g., “I really like seeing pets enjoying their food”). The options on the seven-point likert scale, modified to a five-point scale, ranged from “strongly disagree” to “strongly agree”.

Reliability was originally reported with a Cronbach’s alpha coefficient of 0.93 (Templer et al. 1981), and the current sample had satisfactory reliability (Cronbach’s alpha 0.74). The range of possible scores is from 18 to 90 with higher scores indicating more positive attitudes towards pets. Reverse scoring was applied where appropriate. In order to simplify question 8, the word “express” was replaced with the phrase “tell me”.

**The Lexington Attachment to Pets Scale (Johnson et al. 1992)**

The Lexington Attachment to Pets Scale measures pet attachment. This 23-item questionnaire includes questions regarding the quality of one’s relationship with a pet (e.g., “I think my pet is just a pet” and “I feel that my pet is part of the family”). The reliability with the current sample was excellent (Cronbach’s alpha = 0.90), which is comparable with the original author’s report of 0.93 (Johnson et al. 1992). The range of possible scores is from 23 to 92 with higher scores indicating stronger attachment to pets. Reverse scoring was applied where appropriate. The following amendments to the questions were made: In question 2, “confide” was replaced with “share secrets” and in question 3, the word “privileges” was omitted.

### **2.3 Design:**

A mixed design was adopted for this study which comprised of both quasi-experimental and correlational aspects.

The between subjects quasi-experimental aspect of the experiment involved comparing the empathy, pet attitude and pet attachment scores (dependent variables) of females versus males and DEIS versus non-DEIS schools (independent variables).

The within subjects correlational aspect involved investigation of the relationships between empathy (criterion variable) and pet attitude, pet attachment and number of pets owned (predictor variables).

### **2.4 Procedure:**

After obtaining clearance from the Dublin Business School Research Ethics Committee, principals and classroom teachers (third class) were approached in two neighbouring, suburban schools and invited to participate in the data collection process. Following written permission from the principals of both schools consent forms and information sheets outlining the nature and purpose of the study were administered to the parents/guardians of all third class students in both schools ( $n = 150$ ). In compliance with the ethical code of conduct of the Psychological Society of Ireland (PSI), parents were informed that participation was voluntary, that all data collected would be anonymous, and that children had the right to withdraw from the research. It was also highlighted to parents that written consent was compulsory in order to participate. Contact details for the researcher/supervisor were also provided.

Prior to research being undertaken five 8-10 year old participants, recruited using opportunity sampling, formed the pilot study and each child received one set of questionnaires to complete. This was done in order to validate the instruments and experimental procedures. No concerns were raised at this time. Parental consent forms

were also collected prior to research commencing and a list of all participating students was compiled for each class.

On the day the research took place, the research booklets were administered by the principal investigator in a classroom setting with the participating students. Before the research began in both schools, the investigator verbally explained the purpose of the study to the participants, reminded them of their right to withdraw, informed them that the data collected would be anonymous and encouraged them to answer each question as honestly as possible. The researcher also spent time explaining the meaning of each of the answers provided on the likert scale (e.g. “agree”, “disagree”) and provided some verbal samples (non-subject related) to enable students to familiarise themselves with the range of answers (e.g. “It is raining today”).

In order to accommodate the varied school timetables, a number of procedural differences occurred between schools. In the non-DEIS school, all participating students (n=52) were gathered and divided between two classrooms. Non-participating children were located in an alternative classroom. Following the introduction, the investigator administered the booklets. In this school, the investigator was assisted by two class teachers. Students completed the booklets in their own time and any questions raised were dealt with on an individual basis by the researcher. This process lasted approximately 60 minutes. In the DEIS school, the investigator attended each of the three classes separately. The class teacher assigned an exercise for non-participating children to complete while the investigator was present. The investigator read the questions aloud and waited until each child completed the relevant question before proceeding to the next. Each sitting lasted approximately 45 minutes.



Students who did not own pets did not complete the Lexington Attachment to Pets Scale. On completion, the investigator provided each class teacher with a box of chocolates to share among students.

## Chapter 3 - Results

### 3.1 Descriptive Statistics

The total number of participants was 100 ( $n = 100$ ); 48% ( $n = 48$ ) of whom attended the DEIS school and 52% ( $n = 52$ ) attended the non-DEIS school. Of those that answered 55% were male ( $n = 55$ ) and 45% were female ( $n = 45$ ). 77% of participants ( $n = 77$ ) reported owning a pet while 23% ( $n = 23$ ) did not have a pet.

Table 1: *Descriptive Statistics showing frequency of participants by School, Gender and Pet Ownership Status*

		Frequency
Type of School	DEIS	48
	Non-DEIS	52
Gender	Male	55
	Female	45
Pet Ownership Status	Pet Owner	77
	Non Pet Owner	23

The average score for Empathy ( $M = 69.32$ ,  $SD = 8.28$ ), Pet Attitudes ( $M = 71.18$ ,  $SD = 7.64$ ) and Pet Attachment ( $M = 72.92$ ,  $SD = 10.36$ ) are reported in Table 1.

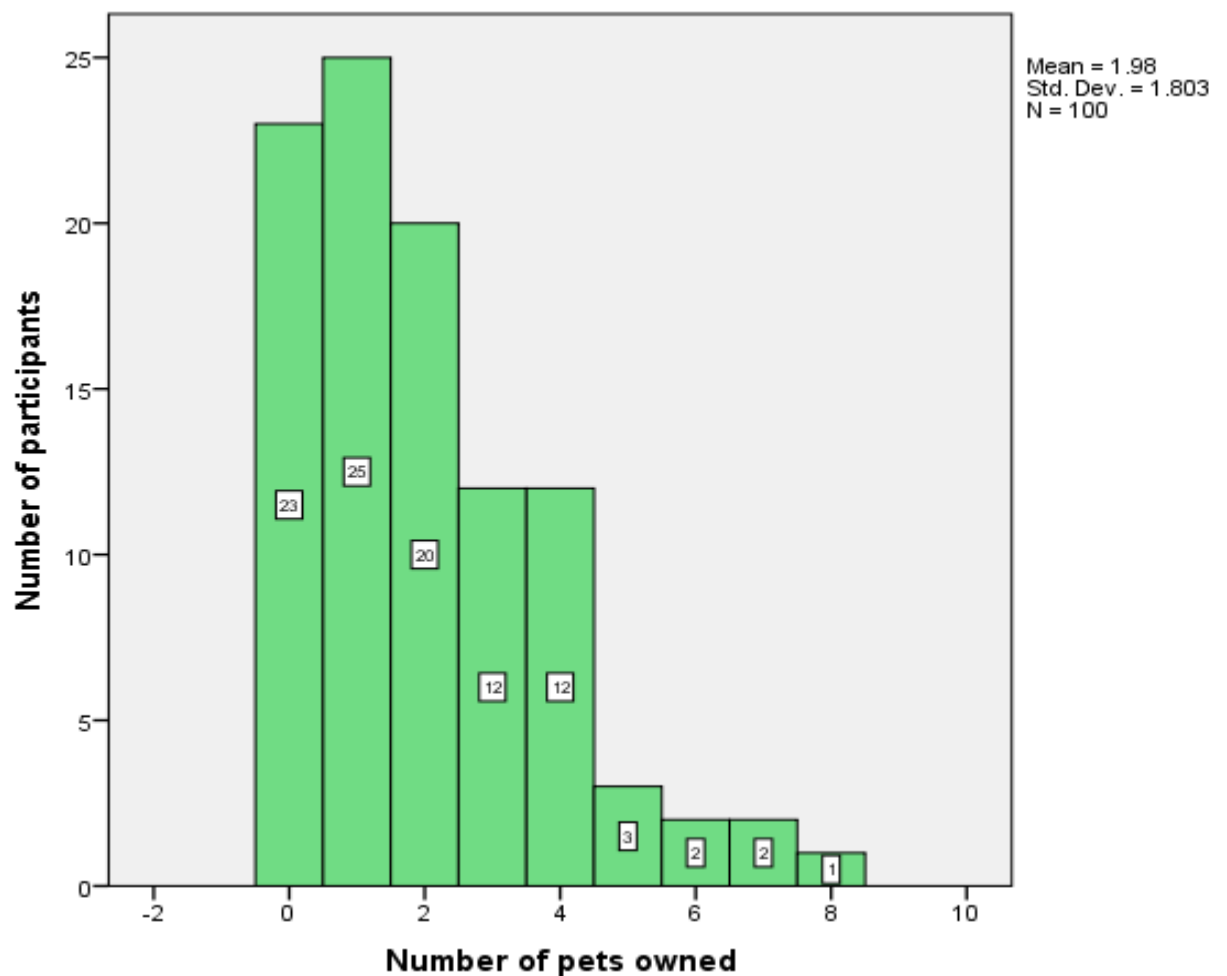
Table 1: *Descriptive Statistics of Psychological Measures*

Variable	N	Mean	Standard Deviation
Empathy	92	68.32	8.28
Pet Attitude	97	71.18	7.64
Pet Attachment	71	72.92	10.36

### Pet Ownership

The mean number of animals reported per child was 1.98 (SD = 1.8), with a range of 0 to 8. Looking after a single animal was reported by 25% of all children. 20% reported keeping two animal species, 12% reported keeping three animal species, 12% reported keeping four animal species and 8% cared for five or more animal species (see Figure 1).

Figure 1



*Histogram displaying Pet Ownership status*

### 3.2 Inferential Statistics

#### T-Tests

A number of independent-samples t-test were conducted to compare a) empathy scores for males and females and b) empathy scores between the DEIS and non-DEIS school.

There was a significant difference in empathy scores for males ( $M = 66.22$ ,  $SD = 8.54$ ) and females ( $M = 70.83$ ,  $SD = 7.30$ ;  $t(90) = -2.75$ ,  $p = .007$ , two – tailed). The magnitude of differences in the means (mean difference =  $-4.61$ , 95% CI:  $-7.94$  to  $-1.28$ ) was moderate (eta squared =  $.077$ ) (See Table 2). There was also a significant difference in empathy scores for DEIS ( $M = 65.88$ ,  $SD = 8.14$ ) and non-DEIS (Non-D =  $70.46$ ,  $SD = 7.88$ ;  $t(90) = -2.74$ ,  $p = .007$ , two – tailed). The magnitude of differences in the means (mean difference =  $-4.58$ , 95% CI:  $-8.14$  to  $1.24$ ) was moderate (eta squared =  $.076$ ) (See Table 2).

An independent-samples t-test conducted to compare pet attitude scores between the DEIS and non-DEIS school also revealed a significant difference in scores for DEIS ( $M = 73.58$ ,  $SD = 6.72$ ) and non-DEIS (Non-D =  $68.81$ ,  $SD = 7.82$ ;  $t(95) = 3.21$ ,  $p = .002$ , two – tailed). The magnitude of differences in the means (mean difference =  $4.76$ , 95% CI:  $1.82$  to  $7.71$ ) was large (eta squared =  $.098$ ) (See Table 2)

In relation to pet attachment scores, equal variances were not assumed, however a significant difference was found between DEIS/non-Deis schools ( $M = 75.52$ ,  $SD = 7.64$ ) and non-DEIS (Non-D =  $69.54$ ,  $SD = 12.40$ ,  $t(47) = 2.35$ ,  $p = .023$ , two-tailed).

There were no significant differences found in Pet Attitude scores between males ( $M = 71.48$ ,  $SD = 7.40$ ) and females ( $M = 70.79$ ,  $SD = 8.01$ ) and in Pet Attachment Scores for males ( $M = 73.55$ ,  $SD = 8.32$ ) and females ( $M = 72.18$ ,  $SD = 12.40$ ).

Table 2: *An Independent Samples T-test table displaying the significant differences between Gender/School status for the various variables (Equal variances assumed)*

Variables	Groups	Mean	SD	t	df	p
<b>Empathy</b>	Male	66.22	8.54	-2.75	90	.007
	Female	70.83	7.30			
<b>Empathy</b>	DEIS	65.88	8.14	-2.74	90	.007
	Non-DEIS	70.46	7.88			
<b>Pet Attitude</b>	DEIS	73.58	6.72	3.21	95	.002
	Non-DEIS	68.81	7.82			

An independent-samples t-test was conducted to compare empathy scores between pet/non pet owners. There was no significant difference in scores for pet owners (Owners = 68.07, SD = 8.50) and non-pet owners (Non-Owners = 69.19, SD = 7.62;  $t(92) = -.542$ ,  $p = .589$ , two – tailed). The magnitude of differences in the means (mean difference = -1.12, 95% CI: -5.22 to 2.98) was very small (eta squared = .003).

Table 3: *An Independent Samples T-test table displaying the non- significant difference between Pet Ownership status and Empathy scores (Equal variances assumed)*

Variables	Groups	Mean	SD	t	df	p
<b>Empathy</b>	Pet Owners	68.07	8.50	.542	90	.589
	Non –Pet Owners	69.19	7.62			

## Correlations

Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. A series of scatter plots revealed non-linear distribution between variables.

The relationship between empathy scores (as measured by the Bryant Empathy Index) and pet attitude scores (as measured by the Pet Attitude Scale) was investigated using a Spearman Rank Order Correlation ( $\rho$ ).

There was a strong positive correlation between pet attitudes and pet attachment ( $\rho = .623$ ,  $n = 70$ ,  $p = .000$ ), with higher pet attitude scores associated with higher pet attachment scores (Table 4). However, the correlation between total empathy scores and total pet attitude scores was not significant ( $\rho = .072$ ,  $n = 89$ ,  $p = .502$ ) (Table 4). The relationship between total empathy scores and total pet attachment scores (as measured by the Lexington Attachment to Pets Scale) was also not significant ( $\rho = .200$ ,  $n = 65$ ,  $p = .110$ ) (Table 4).

Table 4: *Nonparametric (Spearman's  $\rho$ ) Correlation Table displaying statistically significant/non significant relationships between variables*

Variable	Empathy	Pet Attitude	Pet Attachment
Empathy			
Pet Attitude	.072		
Pet Attachment	.200	.623**	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Following this, further Spearman Rank Order Correlations ( $\rho$ ) were conducted to test for statistically significant relationships between a) empathy and pet attitudes and b) empathy and pet attachment using a split file analyses comparing males/females and DEIS/non-DEIS schools.

In the non-DEIS school, there was a moderate, positive correlation between empathy and pet attitudes ( $\rho = .340$ ,  $n = 46$ ,  $p = .021$ ), with higher levels of empathy associated with higher scores on the Pet Attitude Scale. There was also a moderate, positive correlation between empathy and pet attachment ( $\rho = .426$ ,  $n = 30$ ,  $p = .019$ ), with higher levels of empathy associated with higher scores on the Pet Attachment Scale. (Table 5)

Table 5: *Nonparametric (Spearman's  $\rho$ ) Correlation Table displaying statistically significant relationships between variables in DEIS/Non-DEIS School*

School	Variable	Empathy	Pet Attitude	Pet Attachment
DEIS School	Empathy			
	Pet Attitude	N/S		
	Pet Attachment	N/S	.526**	
Non-DEIS School	Empathy			
	Pet Attitude	.340*		
	Pet Attachment	.426*	.721**	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

A moderate, positive correlation was also found between empathy scores and pet attachment in females ( $\rho = .367$ ,  $n = 30$ ,  $p = .046$ ), with higher levels of empathy associated with higher pet attachment scores. (Table 6)

Table 6: *Nonparametric (Spearman's rho) Correlation Table displaying statistically significant relationships between variables in Males/Females*

Gender	Variable	Empathy	Pet Attitude	Pet Attachment
Male	Empathy			
	Pet Attitude	N/S		
	Pet Attachment	N/S	.510**	
Female	Empathy			
	Pet Attitude	N/S		
	Pet Attachment	.367*	.737**	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

## ANOVA

A one-way between-groups analysis of variance was conducted to explore the impact of number of pets owned on empathy scores as measured by the Bryant Empathy Index. Participants were divided into three groups (by using Visual Binning) according to the number of pets owned (Group 1:  $\leq 1$  pet, Group 2: 2 pets, Group 3: 3+ pets). There was no significant difference at the  $p < .05$  level in Empathy Scores for the three groups:  $F(2, 89) = 1.35$ ,  $p = .263$ . Although failing to reach statistical significance, the mean difference between group 1 ( $\leq 1$  pet) and group 2 (2 pets) was 3.71. The effect size, calculated using eta squared, was .02.



Table 7: *ANOVA table displaying one way between-groups analysis of variance on empathy scores and number of pets owned*

Empathy scores and number of pets owned							
Variable	Groups	N	Mean	SD	F	df	p
Empathy	<= 1 pet	45	67.06	8.42	1.35	2	.263
	2 pets	18	70.77	7.89			
	3+ pets	29	68.75	8.20			
Total		92	68.32	8.28			

## **Chapter 4 – Discussion**

The present study set out to examine the relationship between empathy, pet ownership, pet attitudes and pet attachment in late childhood. Particular attention was also given to gender and socio-economic background in relation to each variable.

To examine the relationship between variables, a variety of correlational analysis were run between the total scores on The Bryant Empathy Index, The Pet Attitude Survey (PAS) and The Lexington Attachment to Pets Scale (LAPS). There were a number of significant correlations found between variables among the sub groups within the sample which are discussed below.

### **Pet Ownership and Empathy**

The first hypothesis in the current study proposed there would be a significant difference between pet owners and non pet owners in empathy scores and that multiple pets in a household would be associated with higher empathy scores. This study yielded no support for this hypothesis. Previous research suggested that a child's relationship with a pet has positive results with respect to the development of empathy (Levinson, 1978, Melson, 1990). Taylor & Signal (2005) reported significant correlations between empathy levels and companion animal ownership. In this study, an independent-samples t-test conducted to compare mean empathy scores between pet and non/pet owners revealed no significant difference in scores. While not supportive of the hypothesis, this outcome is similar to the findings of Poresky (1990), who also concluded that children with companion animals did not have significantly higher levels of empathy than children who did not have such companions. Daly and Morton (2006) also found no differences in empathy between these two groups (pet owners/non-pet owners).

To date, relatively few studies have assessed the relationship between the ownership of multiple pets and empathy. Paul and Serpell (1993) reported that the actual number of pets individuals had during childhood was affiliated with their attitudes as adults, and that empathy scores were related to the number of important pets adults had during childhood. More recently, Daly & Morton (2003, 2006) found children who owned both cats and dogs to be more empathic than those who owned: a) only a dog, b) only a cat and c) those who owned neither a cat nor a dog. They concluded that as children become more inclusive of the animal kingdom, their empathy, pet attitude and pet attachment scores increase. In the current study, a one-way between-groups ANOVA test revealed no significant difference between number of pets owned and empathy scores, however it was noted that participants who reported owning two pets displayed a higher mean empathy score than those with one or no pets.

### **Pet Attitudes and Empathy**

The second hypothesis predicted there would be a significant correlation between pet attitude scores and empathy scores. Daly and Morton (2006) reported children with positive attitudes towards animals to exhibit higher empathy than those with negative attitudes towards animals. Using the scores from the total sample ( $n = 100$ ), a correlation between pet attitudes and empathy scores revealed no significant results. There is partial support for this hypothesis however, as correlations conducted on the sub-group (DEIS/Non-DEIS school), revealed a significant relationship between pet attitudes and empathy levels in the non-DEIS school. It is likely that this result was a consequence of the notably higher mean empathy score among participants in the non-DEIS school. Kellert and Berry (1987) had previously reported gender differences in attitudes towards animals with women tending to be more favourable in their attitudes than men. An independent samples t-test administered found no

distinguishable differences in mean pet attitude scores between males and females but interestingly, there was a significant difference in pet attitude scores between the DEIS and non-DEIS school with the DEIS school scoring higher. This result may be associated with the fact that children in the DEIS school reported owning a higher mean number of pets per person. Melson (2003) had previously suggested that owning multiple pets provides increased opportunity for nurturance.

### **Pet Attachment and Empathy**

The next hypothesis stated that children who were highly attached to their pets would be more empathic than those who were less attached. Again, this study yielded only partial support for this hypothesis. Poresky (1990) reported children who had a strong bond with their pet(s) (as measured by assessing children's empathy towards such) had higher child-directed empathy scores than children who did not have pets. Melson, Peet and Sparks (1991) found children who were more attached to their pets to be more empathic towards peers. They also reported attachment to pets to be strongest among 9-10 year olds which suggests the age group of the current sample may be the most appropriate for measuring this variable. Vidovic et al (1999) concluded that children with higher attachment to their pets scored not only higher on empathy and prosocial scales, but also rated their family climate in a more favourable light than children who had lower attachment to pets. Daly and Morton (2006) have also reported similar results between pet attachment and empathy. No significant relationship between empathy scores and pet attachment scores was initially reported within this sample ( $n = 100$ ). Similar to the previous hypothesis, when the groups were analyzed by gender and socio-economic background, some significant correlations were found. A moderate positive correlation was found between pet attachment and empathy in females and also between pet attachment and empathy in

the non-DEIS school. Holcomb, Williams & Richards (1985) found females to express significantly more attachment to pets than males. Rost and Hartmann (1994) reported similar results with females demonstrating stronger attachment to their pets than males. This study found no significant differences between males and females on pet attachment scores, however there was a significant difference reported between DEIS and non-DEIS schools with the DEIS school scoring higher. This is an interesting result. While speculative, it is possible that lone parent households may be more prevalent in this area based on the socio-economic criteria used by the Educational Research Centre to identify schools for participation in the DEIS programme. Bodsworth and Coleman (2001) stated that differences in the degree to which children were attached to their pets were connected to single or two-parent family environments.

### **Gender Differences in Empathy**

The fourth hypothesis anticipated a significant difference in empathy scores between males and females with females expected to display higher empathy levels than males. This study supports this hypothesis. An independent samples t-test revealed a significant difference in empathy scores between males and females, with females scoring higher. These results are consistent with many other studies which also support this hypothesis (Feshbach & Roe 1968, Mehrabian & Epstein 1972, Barnett et al 1980, Eisenberg and Lennon 1983, Daly and Morton 2006).

### **Strengths, Limitations and Implications of the Current Study**

The analysis of the quantitative data from the measurement instruments resulted in many findings. A notable strength of this study is how unique it is in both the variables it uses and the sample it employs. No previous study was found comparing

children in DEIS/non-DEIS schools within the Irish Education system. Despite the absence of empirical research in the area, this study firmly suggests that socio-economic background is an important factor when measuring empathy, pet attitudes and pet attachment. This element of the research was predominantly exploratory, however it generated many captivating results, demonstrating the participants from the socially disadvantaged area (DEIS school) to have lower empathy scores, stronger attachment to their pets and better attitudes towards their companion animals than their counterparts (non-DEIS school). The only hypothesis fully supported was the difference predicted in empathy scores between males and females. Although this finding was to be expected, it adds more support to previous research. Some possible ways in which the research design could be improved are discussed below.

The first limitation to this study pertains to the instrument used to measure empathy (Bryant Empathy Index). Bryant (1982) examined the reliability and validity of the index, using first graders (6 years old), fourth graders (9 years old), and seventh graders (12 years old). Two different response formats were employed: a child two point (yes/no) response format in the first and fourth grade samples, and an adult nine-point response format in the seventh-grade sample. Although the measure demonstrated acceptable test-retest reliability and preliminary construct validity, Bryant found the item-total correlations and the reliability formulas that were used indicated weak internal consistency, especially in the younger age samples. De Wied et al (2007) examined the internal structure of Bryant's (1982) Index of Empathy. Similar to the results obtained by Bryant (1982), they found the Cronbach's alpha coefficients that were calculated, using the dichotomous answer format, indicated weak to moderate internal consistency for third graders (.52) and for fourth to sixth graders (.62). Consequent to this, they proposed the Empathy Index is multi-

dimensional and made up of two subscales: a seven-item Empathic Sadness scale and a five-item Attitude scale. In an effort to improve reliability within the present study and to provide an answer format consistent with the other questionnaires administered to participants (Pet Attitude Scale, Pet Attachment Scale), the researcher employed a five-point response format for the Bryant Empathy Index. The Cronbach's alpha for the current sample was calculated based on the subscales proposed by De Wied et al (2007): Empathic Sadness (.739) and Attitude Scale (.477). Prior to statistical analysis, the researcher felt the above subscales appeared a little narrow in scope and may not have formed a representative sample of the entire domain of affective empathy. The investigator decided to proceed with the one-dimensional format for this experiment using the total scores for all 22 items on the questionnaire as opposed to the subscales above. Due to the amendments made to the answer format by the researcher, the empathy scores calculated may need to be interpreted with caution. An alternative age appropriate measure of empathy with higher reliability is recommended for future research. There are also many factors listed in previous research which may influence the results when measuring the construct of empathy. An important consideration raised by Hergovich et al. (2002) with respect to existing empirical research, is that while an increase in empathy may be a result of pet presence, lasting effects have not been consistently examined. Future researchers within this area may endeavour to perform a repeated measures design using the same participants at regular intervals throughout the course of a child's school attendance. It is also recommended that the number of participants be extended to further validate the results.

Another limitation worth considering within the present study relates to the procedural differences in the data collection process between schools. In the DEIS school, the

questions were read aloud to participants and each question was answered by the entire group before proceeding to the next question. In the non-DEIS school, the students completed the questionnaires at their own pace and any questions were addressed by the investigator on an individual basis. While compiling the data, the researcher observed that the children in the non-DEIS school responded using the “unsure” option more frequently than the participants in the DEIS school. It could be inferred from this observation that due to the procedural differences in the administration of the questionnaires, children in the non-DEIS school may not have understood the questions as clearly as the children in the DEIS school. The researcher recommends using the format undertaken in the DEIS school for future research to improve the robustness of future studies and to obtain more accurate responses from participants within this age category.

Future research investigating the effects of pet ownership on empathy may attempt to achieve an even distribution of pet/non-pet owners within the sample. There was an imbalance of pet owners ( $n = 77$ ) and non-pet owners ( $n = 23$ ) within the current sample which may have affected the outcome of the analysis undertaken regarding this hypothesis.

In relation to socio-economic background, several researchers have suggested that extraneous factors could have a mediating effect on empathy such as age, parental marital status and changes in family environment (Bodsworth & Coleman (2001). Strand (2004) suggested that child attachment to pets may play a buffering role during parental strife. The question of whether environment affects both empathy and pet attachment should be examined more thoroughly. As the DEIS/non-DEIS schools were used as proxy indicators for socio-economic background, perhaps future



researchers could collect more specific personal data from participants including details such as parental marital status, parental occupation, number of siblings, birth order etc.

The implications of this study extend the need for continued empirical research investigating the relationship between human-animal interactions and empathy. The questions which lead to a clearer explanation of the relationship between socio-economic background and these variables must also be refined. If future research examining socio-economic background in relation to empathy, pet attitudes and pet attachment produced results consistent with this study, the possibility of introducing a pilot humane education programme to selected DEIS/non-DEIS schools could be considered.

### **Conclusions from this Study**

To conclude, the results from this study indicate that there is a significant link between empathy, pet attitudes and pet attachment in relation to gender and socio-economic background. The findings of this study are promising and have some interesting implications for future research. There were no significant differences found in empathy scores between pet owners and non pet owners. Within the sample as a whole ( $n = 100$ ), attachment did correlate with attitude, however, there were no significant relationships between a) empathy and pet attitude and b) empathy and pet attachment. Results obtained from the study support a number of earlier findings indicating that females display higher levels of empathy than males. Females also scored higher on pet attachment scores while there was no significant gender difference reported on pet attitude scores. In relation to socio-economic background, children from the DEIS school (located in a socially disadvantaged area) were found

to have lower empathy levels, higher pet attachment scores and higher pet attitude scores than the non-DEIS school.

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## **Appendix 1**

### PARENT'S INFORMATION

**Title of Study:** The relationship between empathy and pet ownership, pet attitudes and pet attachment in late childhood.

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**Supervisor:** Dr Patricia Orr, Psychology Dept, Dublin Business School, Dublin 2  
Email:

**Background and Purpose:** In my research I am interested in investigating the relationship between empathy and children's attitudes and attachment towards pets. I am conducting this research as part of my studies at DBS, and I am working with Dr Patricia Orr, whose contact details are included above.

**What happens if my child takes part?** I will be visiting your child's school during class time, at a time arranged with the principal. I will distribute a booklet to all participating children to complete which will contain three standard questionnaires that have been designed for children. They will measure empathy, attitudes towards pets and pet attachment. I will also require some minimal personal data from each child as follows: School, age, gender, details of pet owned. ***Your child will not be required to provide their name or any excess identifiable data other than that listed above.***

**What will happen to the results of the study?** The study's results may be published in academic journals and presented at academic conferences; however at no point will any children be identifiable.

**Voluntary Participation:** It is up to you and your child to decide whether your child is going to take part or not. Participation is completely voluntary. Your child is free to withdraw at any time. I will remind the children of this when I meet them.

**Important:** *There is a consent form attached to this information sheet. Every child participating on the day must have a consent form which you have signed. Please note that research practice guidelines do not allow me to make any exceptions, and verbal permission cannot replace the signed consent form.* It is important to remember to return the signed form to school as without it your child will not be allowed to take part.

**Thank you very much for supporting this research study. Please keep this information for your records.**

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### PARENT'S CONSENT FORM

I confirm that I have read and understood the information above for Parents in relation to this research study. I understand what my child's involvement will be.

I have explained this study to my child and I am happy that he/she understands what is involved.

I understand that my child's participation is voluntary (that my child and I have a choice as to whether she/he participates) and that my child is free to withdraw at any time if she/he chooses to do so.

I understand that the information collected may be presented and/or published in academic journals and at conferences, but that no child will be identifiable from the information.

I agree for my child to take part in the above study.

Child's Name \_\_\_\_\_

\_\_\_\_\_  
Name of Parent (in block letters)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

## **Appendix 2**

**Name Of School**  
**3<sup>rd</sup> Class Students**



**Hi Everyone,**

**My name is Barbara and I am a college student. I am  
interested in finding out how children feel about  
animals and pets.**

**I would like to thank you all for helping me today.**



### Index of Empathy for Children and Adolescents

For each statement below, please **circle** whether you strongly agree, agree, are unsure, disagree or strongly disagree.

<b>1. It makes me sad to see a girl who can't find anyone to play with</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>2. People who hug and kiss in public are silly</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>3. Boys who cry because they are happy are silly</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>4. I really like to watch people open presents, even when I don't get a present myself</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>5. Seeing a boy who is crying makes me feel like crying</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>6. I get upset when I see a girl being hurt</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>7. Even when I don't know why someone is laughing, I laugh too</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>8. Sometimes I cry when I watch TV</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>9. Girls who cry because they are happy are silly</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree

<b>10. It's hard for me to see why someone else gets upset</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>11. I get upset when I see an animal being hurt</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>12. It makes me sad to see a boy who can't find anyone to play with</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>13. Some songs make me feel so sad that I feel like crying</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>14. I get upset when I see a boy being hurt</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>15. Adults sometimes cry even when they have nothing to be sad about</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>16. It's silly to treat dogs and cats as though they have feelings like people</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>17. I get mad when I see a classmate pretending to need help from the teacher all the time</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>18. Kids who have no friends probably don't want any</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>19. Seeing a girl who is crying makes me feel like crying</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree



<b>20. I think it's funny that some people cry during a sad movie or while reading a sad book</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>21. I am able to eat all my sweets even when I see someone looking at me wanting one</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree

Thank You ☺



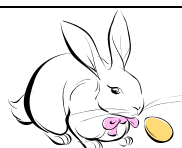
### The Pet Attitude Scale

Please answer each of the following questions as honestly as you can in relation to how you feel right now.

For each statement, please **circle** the answer which reflects whether you strongly agree, agree, are unsure, disagree or strongly disagree.

<b>1. I really like seeing pets enjoy their food</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>2. My pet means more to me than any of my friends</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>3. I would like a pet at home\ I like having a pet at home</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>4. Having pets is a waste of money</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>5. House pets add happiness to my life (or would if I had one)</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>6. I feel that pets should always be kept outside</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>7. I spend time every day playing with my pet (or would if I had one)</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>8. I have occasionally communicated/talked with a pet and understood what it was trying to tell me</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>9. The world would be a better place if people would stop spending so much time caring for their pets and started caring more for other human beings instead</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree

<b>10. I like to feed animals out of my hand</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>11. I love pets</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>12. Animals belong in the wild or in zoos, but not in the home</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>13. If you keep pets in the house you can expect a lot of damage to furniture</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>14. I like house pets</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>15. Pets are fun but it's not worth the trouble of owning one</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>16. I frequently talk to my pet</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>17. I hate animals</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<b>18. You should treat your house pets with as much respect as you would treat a human member of your family</b>				
Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree

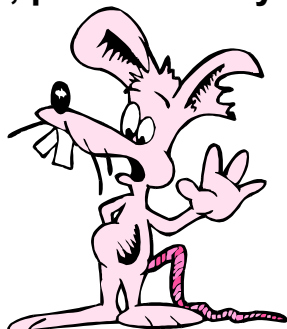


**Please answer the following questions**

**Are you a      BOY ☐      or      GIRL ☐**

**Do you have a pet?   YES ☐      NO ☐**

**If you do not have a pet, please raise your hand 😊**



**If you have a pet, please continue below.**



**2. Write a list of any pets that you have:**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

### Lexington Attachment to Pets Scale

Please tell me whether you agree or disagree with some very brief statements about your favourite pet.

For each statement, please **circle** the answer which reflects whether you strongly agree, agree, disagree or strongly disagree.

**1. My pet means more to me than any of my friends**

Strongly Agree	Agree	Disagree	Strongly Disagree
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**2. Quite often I share secrets with my pet**

Strongly Agree	Agree	Disagree	Strongly Disagree
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**3. I believe that pets should have the same rights as family members**

Strongly Agree	Agree	Disagree	Strongly Disagree
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**4. I believe my pet is my best friend**

Strongly Agree	Agree	Disagree	Strongly Disagree
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**5. Quite often my feelings towards people are affected by the way they react to my pet**

Strongly Agree	Agree	Disagree	Strongly Disagree
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**6. I love my pet because he/she is more loyal to me than most of the people in my life**

Strongly Agree	Agree	Disagree	Strongly Disagree
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**7. I enjoy showing other people pictures of my pet**

Strongly Agree	Agree	Disagree	Strongly Disagree
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**8. I think my pet is just a pet**

Strongly Agree	Agree	Disagree	Strongly Disagree
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**9. I love my pet because it never judges me**

Strongly Agree	Agree	Disagree	Strongly Disagree
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<b>10. My pet knows when I am feeling bad</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>11. I often talk to other people about my pet</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>12. My pet understands me</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>13. I believe that loving my pet helps me stay healthy</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>14. Pets deserve as much respect as humans do</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>15. My pet and I have a very close relationship</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>16. I would do almost anything to take care of my pet</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>17. I play with my pet quite often</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>18. I consider my pet to be a great companion</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree
<b>19. My pet makes me feel happy</b>			
Strongly Agree	Agree	Disagree	Strongly Disagree

**20. I feel that my pet is part of my family**

Strongly  
Agree

Agree

Disagree

Strongly  
Disagree

**21. I am not very attached to my pet**

Strongly  
Agree

Agree

Disagree

Strongly  
Disagree

**22. Owning a pet adds to my happiness**

Strongly  
Agree

Agree

Disagree

Strongly  
Disagree

**23. I consider my pet to be a friend**

Strongly  
Agree

Agree

Disagree

Strongly  
Disagree

**Thank You!**



**THE END**