Engendering Empathic Development and Pro-Social Responses
in Elementary School Students Through a Humane Education Program


By Holly Hargreaves-Cormany

B.A. in Psychology, December 2003, University of Kansas
M.A. in Community Counseling, May 2007, Marymount University
M.A. in Forensic Psychology, May 2008, Marymount University


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Sam Steen
Associate Professor of Counseling

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Dissertation Research Committee:

    Sam Steen, Associate Professor of Counseling, Dissertation Director

    Richard Lanthier, Associate Professor of Human Development, Committee Member

    Brandi Weiss, Assistant Professor of Education, Committee Member

Dedication

I dedicate this dissertation to my husband James Cormany.

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**Abstract of Dissertation**

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This study examined the impact of the Washington Animal Rescue League's (WARL) Humane Education Program (HEP) on 4th grade students. The objective was to develop models for best practices in humane education and to serve as the impetus for future empirical research studies. Of the 59 participants, 47 participants were from the three 4th grade classes that participated in the WARL HEP and thus were in the treatment condition and the 12 participants in the comparison group were from the 4th grade class that did not participate in the WARL HEP. Empathic development was examined by conducting Mann Whitney and Kruskall Wallis tests on the participants' scores on the Index of Empathy for Children and Adolescents (IECA; Bryant, 1982) and a four item IECA subscale related to the mission of the WARL HEP. Results from the Kuder-Richardson 20 (KR- 20) analysis of reliability conducted on the IECA subscale indicated that the subscale had sufficient reliability (Cronbach's alpha= .503). A basic interpretive qualitative analysis (Merriam, 2002) utilizing the constant comparative method (Glaser & Strauss, 1967 as cited in Cresswell, 2007) was employed to analyze the participants' journals. The prosocial themes of empathy, reciprocity, justice and fairness that emerged within the qualitative analysis of the participants' journals coupled with the endorsement of empathic beliefs towards both humans (IECA Item 6: M= .79, SD= .412; IECA Item 14: Mean= .87, SD= .345) and animals (IECA Item 11: M= .98, SD= .139; IECA Item 16: Mean= .87, SD= .345) by almost all participants suggested that the WARL HEP resulted in positive outcomes for the participants and effected the desired outcomes aimed for within the mission of the WARL HEP. The increased knowledge regarding the

effectiveness of humane education programs will afford more children the help they need

through the provision of such programs as well as positively impact the schools and

communities in which the children reside.

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## Chapter 1: Introduction

**Overview**

In this chapter the overview of the study will be provided. Next, the statement of the problem will be presented followed by the theoretical framework and summary of the method. The chapter concludes with the definitions of key terms. The present study will be comprised of analysis of data from the program evaluation pilot study on the effectiveness of the Washington Animal Rescue League's (WARL) Humane Education Program. The WARL program focuses on engendering empathy and pro-social behaviors within the children participating in the program. The aim of this study is to contribute to the limited literature on humane education and to develop a more robust body of scientific inquiry into the effectiveness of humane education as a promising prevention program to address improvement in pro-social behaviors and empathy development within children especially at-risk youth.

**Statement of the Problem**

It is asserted that core values are not taught to some children in the current American society (Lewis, Robinson & Hayes, 2011 as cited in Jalongo, 2013). It is also contended that there is a general decline in moral values (Horsthemke, 2009) and that modern western industrialized society does not promote empathic development within children (Thompson & Gullone, 2003). With rising rates of bullying in schools (National Center for Education Statistics, 2009 as cited in Lewis, Robinson & Hayes, 2011) and juvenile crime (Britzman, 2005 as cited in Lewis et al., 2011), interventions focused on modeling pro-social behavior and developing empathy in children within the school

setting are of paramount importance for inclusion in the curriculum of all schools, and especially as an early intervention in elementary schools.

The role of empathy development as a way to intervene with at-risk youth has been well documented (Sanz de Acedo Lizarraga et al., 2003; Gibbs et al., 2008; McMahon et al., 2003).  It is also well documented that empathy development influences a number of positive developmental outcomes in all children/adolescents, including developing cognitive and interpersonal skills, and learning perspective taking (Bryant, 1987; Hoffman, 2000; Eisenberg, Huerta & Edwards, 2012).  With the preceding in mind, the primary intervention of humane education is suggested as a universal intervention that would be beneficial for the socio-emotional, cognitive and moral development of all children as it incorporates curriculum focused on the development of empathy and prosocial behavior as well as improving academic outcomes.

Humane education is defined by Jalongo (2013) as follows, "a process that encourages understanding of the need for compassion and respect for people, animals and the environment and recognizes the interdependence of all living things," (World Animal Net as cited in Jalongo, 2013, p. 5).  While humane education is often perceived as teaching solely about the ethical treatment of non-human animals, it is based in broader social justice and humanistic frameworks (Arbour, Signal & Taylor, 2009 as cited in Jalongo, 2013).  Humane education focuses on instilling values and promoting character education within its curriculum.  Thus, it is asserted that the impact of humane education extends beyond children learning about kindness to non-human animals.

The extant literature on humane education is sparse, however it suggests that humane education can be beneficial for children's cognitive, socio-emotional and moral

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development as well as in the development of empathy and pro-social behavior (Dadds, Turner & McAloon, 2002; Faver, 2010; Thomas & Beirne, 2002; Thompson & Gullone, 2003; Daly, 2010; Aguirre & Orinhuela, 2014; Duel, 1999).  The development of empathy is viewed as a foundation or "fundamental building block" in fostering positive mental health outcomes and healthy development in children (Bryant, 1987 as cited in Thompson & Gullone, 2003, p.176).  Further, it has been contended that children's ability to have pro-social responses and empathy towards others significantly contributes to competent social functioning (Eisenberg et al., 1997 as cited in Thompson & Gullone, 2003).

Faver (2010) discusses how humane education is able to catch children's attention due to children's natural curiosity with animals and the novel nature of humane education programs as well as how humane education fosters both intellectual and social development especially in young children.  Faver (2010) also discussed how humane education addresses cognitive as well as affective and behavioral components of learning. Various domains important to competent functioning in school are associated with empathic responding (Spinrad & Eisenberg, 2014).  Spinrad and Eisenberg (2014) further discuss the need for continued development of programs designed to improve prosocial behavior and empathy as well as the importance of incorporating such programs within schools and the need for more schools to attribute higher value to such programs as part of their curricula.

There are very few well conducted studies assessing the effectiveness of humane education programs.  The most frequently cited research is the 1996 controlled trial study conducted by Ascione and Weber, in which the attitudes that 4th grade students

(participating in a year-long humane education program) had towards animals were measured as well as the generalization of such attitudes towards human-directed empathy (Ascione & Weber, 1996 as cited in Dadds, Turner & McCaloon, 2002). The results of this study suggested that in comparison to the control group there was an increase in humane attitudes that generalized to human-directed empathy in the participants assessed two years after program completion (Ascione & Weber, 1996 as cited in Dadds, Thomas & Beirne, 2002).

A more recent study by Sprinkle (2008) utilized the Bryant Index of Empathy for Children and Adolescents (IECA)(Bryant, 1982) to measure empathy as part of her study examining the effectiveness of a humane education program that aimed to serve as a violence prevention program (Randour & Gupta, 2013). Sprinkle's (2008) study obtained valuable data from multiple sources including teacher reports, self-reports and school administrative data specifically disciplinary reports (Randour & Gupta, 2013). The results from the Sprinkle (2008) study suggested that the humane education program that she was assessing had a significant impact on the participant's empathy levels, normative beliefs about aggression and engagement in aggressive behaviors (Randour & Gupta, 2013).

The children and the dogs that visited the classrooms in Sprinkle's (2008) study were instrumental in the positive outcomes reported within the study. Such positive interactions between children and animals are often at least in part based on the contention that animals can act as a bridge between children and other people (Sentoo, 2003 as cited in Hargreaves, et al., 2007). This occurs during the process of transference, a theory that posits that children will transfer the positive emotional response elicited in

their experience with an animal towards humans in their lives (Sentoo, 2003 as cited in Hargreaves et al., 2007). Additionally, through the process of modeling compassionate and caring behavior towards animals by humane educators the expectation is that the children will demonstrate such behavior as well.

It is also contended that when a child is able to be empathic towards animals referred to as "animal-directed empathy", they will also be able to be empathic towards humans and exhibit, "human-directed empathy" (Thompson & Gullone, 2003, p.176). This assertion has been supported in research by Vidovic and his colleagues (1999) as they state that there is a, "positive relationship between animal attachment and the healthy development of empathy and pro-social behavior," (Thompson & Gullone, 2003, p.178).

Conversely, there is also an association between lack of empathy towards animals resulting in animal abuse and violence towards humans (Thompson & Gullone, 2003; Thompson & Gullone, 2006 as cited in Arbour, Signal & Taylor, 2009). Due to various factors such as abuse, some youth may have never experienced kindness in their lives and therefore have been unable to understand empathy and/or compassion (Thomas & Beirne, 2002). It is suggested that interaction with animals in humane education programs can help teach compassion as well as responsibility and instill important values for moral development in younger generations (Nebbe, 1991; Netting, Wilson & New, 1987; Triveda & Perl, 1995 as cited in Thomas & Beirne, 2002) in hopes of serving as a means of prevention of future violence and/or abuse towards both humans and animals (Arbour, Signal & Taylor, 2009).

Non-human animals, particularly companion animals such as pets are valued by many humans and are serving an ever-important role in American society. Throughout history humans and animals have been inherently connected with one another (Hargreaves et al., 2007), yet the importance of companion animals has gained increased awareness recently as pet ownership is now at a record high with 68% (82.5 million) of households in the United States of America having at least one pet (National Pet Ownership Survey, 2013-2014). Further, the rates of pet ownership increase to approximately 74% in homes with children over the age of six (Phillips, 2013).

In fact, more children are raised in a home with a pet than in a home with a father (Melson, 2001 as cited in Phillips, 2013). In addition to the increased prevalence of animals within homes with children, pets are often considered as "family members". The consideration of pets as part of a family is especially significant when one considers findings related to the association between interpersonal violence specifically family violence and animal cruelty.

The extant literature states that there is a significant overlap between various forms of interpersonal violence specifically family violence which also extends to animal cruelty (Ascione, Weber & Wood, 1997; Ascione, 1998; Ascione, 1999; Ascione, 2008; DeGue & DiLillo, 2009). DeGue and DiLillo (2009) suggested that, "…the identification of animal cruelty in the home (perpetrated by parents or children) may serve as a reliable red flag for the presence of child maltreatment or severe domestic violence," (p.1053). Thus the established association between animal cruelty and interpersonal violence brings forth the importance of recognition of discussion of neglect or abuse of animals by children (especially when discussing animal cruelty occurring within their home) as an

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important indication of concern that should be taken with great seriousness and given the severity may need to be brought to the attention of the appropriate authorities.

Teachers and counselors (as mandated reporters) as well as humane educators may be in a unique position to serve as "Agents of Social Change" (Stanek, 2013, p. 86) by recognizing such concerns and intervening as appropriate to ensure the safety of the children and the community in which they reside (Stanek, 2013). Collaboration amongst professionals such as educators, mental health professionals and law enforcement will best serve the needs of children as well as protect the children and their community. Promotion of awareness of the association between animal cruelty and interpersonal violence through continuing education and programs held within schools for staff are encouraged to bring forth recognition of the gravity of the issue as well as education as to the appropriate plan of action to take in the event that a child discusses animal cruelty in their home and/or community (Stanek, 2013).

An excellent example of a well conducted humane education program is the humane education program led by Debbie Duel, Director of Humane Education at the Washington Animal Rescue League (WARL), which is described as follows: "The Washington Animal Rescue League Humane Education Program promotes critical thinking skills while encouraging students to make kind, compassionate, and responsible decisions that result in the development of a greater sense of empathy, justice and respect for self and others," (D. Duel, personal communication, March 31st, 2014). The WARL Humane Education program, the program under examination in the present study is described further on their website as follows:

The Washington Animal Rescue League's Humane Education Program is an interactive, classroom-based program targeting elementary and middle-school aged children. Staff and volunteers teach children about companion animals and their welfare, encouraging them to make kind, compassionate and responsible decisions. While learning about animals, students also develop their reading and writing skills and gain a greater sense of self. The program's ultimate goal is to foster the development of a strong sense of empathy, justice and respect for self and for all living beings.

Children in the Humane Education Program are taught about the Washington Animal Rescue League, the needs it addresses, and the animals it helps. During field trips to the League, students witness this work firsthand and meet the animals and the people who care for them. Many participants in the program have witnessed an animal being mistreated or have come into contact with a violent dog. In order to teach them that animals can be gentle companions, they are given opportunities to interact with animals in the shelter and Medical Center. In addition, volunteers bring their dogs to the schools to meet the children. This provides opportunities for students to develop safe friendships with dogs in a familiar, comfortable setting. Students are also encouraged to build their own reading skills—and comfort with animals—by reading to dogs in the shelter and in the classroom. Throughout the program, students share thought provoking picture books, poetry and essays that feature companion animals. They are encouraged to explore their feelings about themselves and animals through journaling and creative writing, art projects and community service activities. As

a result of participating in the program, graduates of the Humane Education

Program will: 1- Develop a greater sense of self confidence; 2- Gain confidence

in taking action that results in getting help for those who cannot speak for

themselves; 3-Experience an environment that encourages kindness, compassion,

and cooperation; 4-Strengthen reading skills by reading to nonjudgmental

partners—dogs; 5- Become more proficient and creative writers. (Washington

Animal Rescue League, 2014)

Duel (1999) discussed the powerful impact that humane education has had on students as

she provides examples of some of the actions of students that participated in a program

she led as follows:

Kids wrote letters to the mayor asking for city funds to run a spay and neuter

program and letters to the editor validating such support…Kids developed

advertising plans, wrote stories, raps, poems, and songs about animal

suffering…they even went to the U.S. Capitol…Kids were deputized as junior

humane officers and pledged to prevent cruelty and treat all living creatures with

kindness.  Junior humane officers had an obligation to report animal abuse to the

Washington Humane Society (WHS).  And as card-carrying WHS representatives

they took their job very seriously… During that year nearly 60 kids were praised

as exemplary junior humane officers. (pp. 344-346)

The aforementioned pro-social behavior and actions of the students within Duel's

program suggest the possibility that her program is promising in effecting the desired

outcomes.  The animals were helped by the students and there was a broader positive

impact on the community in which the children resided.  Further, it is important to

recognize that with humane education's emphasis on moral, ethical and character development it is also contended that humane education programs are beneficial for all children (with the exception of children whom are in need of professional mental health services in which humane education alone would not be able to sufficiently meet the needs of the child).

**Purpose**

The purpose of the present research study was to conduct a quantitative and qualitative research analysis to explore the potential impact and/or effectiveness of the WARL's Humane Education Program. This study contributes to the compendium of research on humane education by conducting a scientifically sound analysis of the data from the WARL Humane Education Study. The following research questions were explored and/or examined in the present study:

**Research Questions**

1- What if any differences existed between the treatment and comparison groups on their total Bryant Index of Empathy for Children and Adolescents (IECA) scores?

   *Hypothesis for Research Question #1:* It was hypothesized that the treatment group would have higher scores on the IECA than the comparison group.

2- What was the reliability of a subscale comprised of Items 6, 11, 14 and 16 on the IECA that are related to children and/or animals being hurt or treating animals as though they have feelings like people?

   *Hypothesis for Research Question #2:* It was hypothesized that the subscale would demonstrate reliability.

3-       Did the fourth grade students that participated in the WARL Humane Education

         Program endorse positive empathic responses on questions from the subscale

         developed for this study comprised of IECA Items 6, 11, 14 and 16 (items related

         to children and/or animals being hurt or treating animals as though they have

         feelings like people) and what if any differences existed between the treatment

         and comparison group on their subscale scores?

         *Hypothesis for Research Question #3:* It was posited that most of the students that

         participated in the WARL Humane Education Program would indicate empathic

         responses on questions related to children and/or animals being hurt or treating

         animals as though they have feelings like people (Items 6, 11, 14 and 16 on the

         IECA) and thus have high subscale scores and that the treatment group would

         have higher scores on the subscale than the comparison group.

4-       Were there any significant differences between boys and girls on their IECA

         scores?

         *Hypothesis for Research Question 4:* In alignment with findings from previous

         research (Bryant, 1982) it was hypothesized that girls would have higher scores

         on the IECA in comparison to boys.

5-       What if any differences existed on IECA total scores across the three classrooms

         in the treatment group?

         *Hypothesis for Research Question 5:* It was hypothesized that there were no

         significant differences across the classes on the IECA total scores.

6-       What if any differences existed on the IECA subscale scores across the three

         classrooms in the treatment group?

*Hypothesis for Research Question 6:* It was hypothesized that there were no

significant differences across the classes on the IECA subscale scores.

7-    *Conjecture for the Qualitative Analysis:* With respect to the analysis of the

qualitative data, the children's journals were used to describe the students'

experience in a humane education program and to learn more about the impact

that such a program had on the children's socio-emotional, moral and empathic

development as well their pro-social responses.  With the preceding in mind, the

conjecture for the qualitative analysis of the journals was that themes of pro-social

behavior would emerge within the writing of the participants in their WARL

Humane Education Program Journals.

The expectation was that such research would elucidate new and advanced findings that

would enhance knowledge in the fields of counseling, psychology, and education.

Furthermore through the analysis of the qualitative data from the children's journals, the

primary endeavor was to describe these students' experience in a humane education

program and learn more about the impact that such a program had on the children.

It was proposed that the findings would suggest that humane education is a viable

prevention and early intervention program instilling morals and ethics as well as

facilitating character development and engendering empathy and pro-social behavior.

The aim being that with humane education these children were able to expand their

empathy towards groups of humans as well as non-human animals ultimately resulting in

pro-social and moral behavior within their schools and communities.  Such knowledge

informs the practice of those working within the field as well as public policy while also

contributing to theory so that a compendium of knowledge may be developed and in so doing positively impact society.

**Theoretical Framework for the Study**

The relevance of the findings within the proposed study will be discussed as they relate to the conceptual framework of an integrative bio-psychosocial theoretical model based on the construct of empathy as espoused by Hoffman and deWaal (de Waal 2008 as cited in McDonald & Messinger, 2011; Hoffman, 1978a; Hoffman, 1978b; Hoffman, 1979; Hoffman, 1991; Sagi & Hoffman, 1976; Beetz, 2009; deWaal, 2012; 2009; 2008) and Bandura's social learning theory/social cognitive theory (Bandura, 1973; Bandura, 1977; Bandura, 1978) as it applies to the modeling of pro-social behavior by humane educators.

**Hoffman's Theoretical Model of Empathy and the Developmental Stages of Empathy.** The lens of analysis for part of the conceptual framework of this research study is based on Martin Hoffman's research on socio-emotional development in children specifically in regards to pro-social, empathic and moral development (Sagi & Hoffman, 1976; Hoffman, 1978a; Hoffman, 1978b; Hoffman, 1979; Hoffman, 1991; Hakansson, 2004; Kristjansson, 2003). In order to provide a greater understanding as to why Hoffman's theory on empathy development was chosen as the conceptual frame for this study, a brief overview of Hoffman's theory shall be provided below and discussed further throughout this section.

Hoffman proposes three main components in his theoretical model of empathy that are as follows: 1- An affective component; 2- A cognitive component and 3- A motivational component (Hoffman, 1978a, p. 175). Hoffman places the emphasis or

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focus of his theoretical model of empathy on the affective component that he refers to "empathic distress" (Hoffman, 1978, p. 175). Hoffman defines empathic distress as, "a feeling that is more appropriate to the suffering person's condition than to the observer's own relatively comfortable circumstances," (Hoffman, 1991, p. 132).

Hoffman also posits five stages in the development of empathy that begin in infancy and continue to develop throughout the lifespan (Hoffman, 1978a; Hoffman, 1978b; Hoffman, 1991; Kristjansson, 2003). Each stage is built upon the foundation of the preceding stage and the five stages are summarized as follows: 1-Stage I- Newborn Reactive Cry: The infant child can not differentiate another's distress from their own, for example, a newborn child reacts to another newborn crying by mimicking the reaction of the other infant; 2- Stage II- Egocentric Empathic Stress: At the end of the first year of life, infants experience what Hoffman refers to as "egocentric empathic stress" in which the infant is beginning to differentiate their experience from that of others, an example is that the infant will still cry reactively in response to the cry of another infant yet it will also attempt to comfort itself; 3- Stage III- Quasi Egocentric Empathic Stress: In this stage toddlers are aware of the differentiation of themselves from others and begin to attempt to comfort others and have less reactive distress; 4- Stage IV- Veridical Empathic Distress: Beginning at age 2, children begin to understand that others have different feelings than themselves and Hoffman contends that there are other subsequent sub-stages of this stage that extend throughout the human lifespan; 5- Stage V- Empathic Stress Beyond the Situation: Typically occurs between 5-8 years of age, in this stage empathy can be experienced for groups of people as well as people in which there is no face to face contact (for example feeling empathic towards individuals with disabilities or

individuals facing poverty in other countries with whom the children have never met) (Hoffman, 1978a; Hoffman, 2000, pp. 6 and 69-84 as cited in Kristjansson, 2003). In summary, Hoffman's theory suggests that empathy serves as the motivation behind morality and that moral principles and empathy work together towards the goal of creating moral behavior (Hoffman, 2000 as cited in Hakansson, 2004).

This theory is applied with the WARL program and the present study as the students are within Stage V- Empathic Stress Beyond the Situation and thus typically have the ability to be empathic towards groups of humans. Thus the expectation is that with the WARL Humane Education Program that the students will be able to expand their empathy towards groups of humans similar to themselves as well as those whom are not similar to themselves. Given that non-human animals are not similar to humans in many respects it may be contended that if children are able to expand their empathy to non-human animals through programs such as humane education that there would be greater likelihood that such children would then have a greater probability of empathizing with groups of people who are not similar to themselves which is alignment with the broader goals and aims of humane education.

Examples of activities that foster empathic behavior beyond the situation and demonstrate perspective taking are seen in the activities completed as part of the curriculum on animal cruelty in the WARL Program. Mrs. Duel authored a book titled Nigel about the dog that she and her family rescued that was a survivor of animal cruelty (Duel, 2008). Nigel visits the classrooms and all students in the WARL Humane Education Program are provided a copy of Nigel (Duel, 2008).

In this book which Mrs. Duel uses in the WARL Humane Education Program curriculum students are told about Nigel's story and provided discussion questions to review with their parents as part of a Parent's Guide which children bring home (Duel, 2008). Parents are encouraged to read Nigel with their children and discuss the book with their children through family discussion questions in the Parent's Guide (Duel, 2008). Children are asked about the abuse/neglect of Nigel in some of the family discussion questions as well as questions students are asked in the Humane Education Program class.

Such questions engage the students in perspective taking by asking how the children believe that Nigel felt. In so doing the students attend to the nonverbal communication and behavior depicted of Nigel as illustrated within the book and discuss the feelings which the children perceive Nigel is showing in the book. Further, other books about activism and responsibility with humane education themes are read throughout the WARL program as well as discussion of campaigns to promote kindness towards animals such as Baltimore's "Show Your Soft Side Campaign" are discussed to promote discussion about what the children can do to help animals. Furthermore, throughout all lessons the humane educator models perspective taking and active listening and works to make sure that other students do their best to do so as well with their peers.

**Bandura's Social Learning Theory.** Bandura's (1977) Social Learning Theory, later referred to as Social Cognitive Theory, integrates behavioral and cognitive theories of learning. It serves as an important component of the conceptual framework of this study as it relates to the modeling of pro-social behavior in the Washington Animal

Rescue League Humane Education Program and conversely in the modeling of anti-social behavior in individuals engaging in animal cruelty in front of children. The basic premise behind Social Learning Theory is a continual as well as a reciprocated interaction between behavioral, cognitive and environmental factors which Bandura refers to as the process of reciprocal determinism (Bandura, 1977, p. vii). Bandura contends that people have free will and are able to influence their destiny while also recognizing that people are limited in their agency by environmental influences (Bandura, 1977). Thus both people and their environment engage in a constant interplay in which they both serve as reciprocal determinants of the other (Bandura, 1977).

Bandura expounds upon reciprocal determinism further as he discusses the bidirectional nature of other personal, behavior and environmental factors as "interlocking determinants" of one another (Bandura, 1977, p.10). Bandura (1977) posits that the aforementioned factors vary dependent upon differing contexts and behaviors. Bandura (1977) also emphasizes the role of vicarious and observational learning, self-regulatory and symbolic processes within Social Learning Theory. For example, children who are raised in environments with challenging conditions may be limited in their agency by such influences however various factors such as resiliency and positive role models such as educators and/or counselors modeling prosocial behavior who are invested in the children's success may serve as powerful mediators.

Through observational learning or modeling, children can learn many behaviors needed for survival (Bandura, 1977). Bandura (1977) contends that various complex forms of learning such as linguistics and social cues are only able to be learned through modeling (Bandura, 1977). Bandura describes observational learning or modeling as

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occurring through the following four processes: 1- Attention; 2- Retention; 3-Reproduction/Imitation and 4- Motivation (Bandura, 1977).

The aforementioned process is seen in action in the WARL Humane Education Program as follows: 1- Attention: The presence of animals along with the humane educator and helping professionals from the community in the classroom engages children and captures their attention to the lessons being taught in the humane education program.  For example the humane educator discusses as well as demonstrates pro-social behavior by teaching the students how to gain the attention of the dog visiting the classroom through positive reinforcement in the form of positive feedback and treats. Additionally, guests from the community such as a Sergeant in the D.C. Fire Department and an Officer in the Police Department and their canine partners discuss safety lessons for students and public safety.  Veterinary professionals and professional dog trainers also visit the classroom with rescued animals.  The guests and their partners/companion animals discuss the role that community helpers such as doctors, teachers, counselors, police and firefighters among many others serve to keep their communities safe.  Further, their careers and the importance of studying hard to prepare for such careers are discussed with the students; 2- Retention:  Students recounted details from the above mentioned visits weeks after the initial visit(s); 3 & 4- Reproduction, Imitation & Motivation: Many children, and often children whom are hard to reach through other interventions are especially motivated and engaged in learning when animals are present in the classroom.

Further, when value is attached to the humane educator and other professionals within the community who serve as guests with their canine partners/companion animals

which has been the case with the WARL Humane Education Program, students are highly attuned and responsive to the program and subsequently highly likely to imitate and engage in the prosocial behavior modeled within the program. This is best described in the words of Mrs. Allie Massingill, one of the classroom teachers of students in the WARL program as follows:

> They have been so interested in learning how to care for abused animals. One administrator that walked into the room while you (Mrs. Duel) was speaking said, "I have never seen the room this quiet." The students were listening intently to every word about abandoned and rescued animals. I believe that this program has benefitted students by asking them to think and care about something other than themselves. It has taught them to be empathetic. I believe that students will be more conscious of their decisions in the future and the power they possess to protect animals.

With the preceding in mind it becomes apparent how humane education serves as a way of modeling pro-social behavior and the vicarious reinforcement of attention for prosocial behavior as opposed to attention for antisocial behavior.

Social Learning Theory results in positive outcomes when role models are adults engaging in prosocial behavior. However when a significant influential model, such as a parental figure is engaging in antisocial behavior such as animal cruelty the influence may be so profound that it results in the perpetuation of the cycle of violence often found in family violence. In accordance with Social Learning Theory, violent homes in which animal cruelty is occurring may serve as "training grounds" for children (Ascione, 1999).

This assertion is elaborated upon further in the discussion of Bandura's Social Learning Theory of Aggression.

**Bandura's Social Learning Theory of Aggression.** Bandura describes aggression as follows, "…aggression is a multifaceted phenomenon that has many determinants and serves diverse purposes…A complete theory of aggression must be sufficiently broad in scope to encompass a large set of variables governing diverse facets of aggression, whether individual or collective, personal or institutionally sanctioned," (Bandura, 1978, p. 12). Thus, Bandura contends that a comprehensive theory of aggression must explicate the provocation of aggressive behavior in people as well as what sustains such aggressive behavior (Bandura, 1978; Gullone, 2012). Bandura (1978) further suggests that other than elementary forms of aggression, all aggression is learned.

Bandura's 1961 study in which Bandura and colleagues conducted an experimental analysis of aggressive modeling is perhaps Bandura's most well-known study and its findings contributed to the body of knowledge about aggression. In the aforementioned study often referred to as the "Bobo Doll" study, Bandura and colleagues utilized a plastic inflated doll (the Bobo doll) in a modeling paradigm in which children observed adults committing acts of violence upon the plastic doll as well as demonstrated acts of verbal aggression towards the doll (Bandura, 1973). Two major effects were found within the study (Bandura, 1973). The first effect indicated that children within the experimental conditions who observed aggressive behavior learned new methods or techniques for engaging in aggressive behavior as these children emulated the behavior (both the physical aggressiveness and verbal hostility) of the models whereas the children within the control conditions did not engage in such aggressive behavior with the

exception of a few children (Bandura, 1973).  The second effect, suggested that the modeling resulted in acquisition of knowledge as to how to engage in aggressive behavior with subsequent demonstration of aggressive behaviors and there was also a disinhibition effect in which the children engaged in aggressive behaviors not modeled. Examples of the additional aggressive acts included the following reported by Bandura (1973), "…spanking and shooting dolls, killing animals, smashing automobiles and other assaultive behaviors, sometimes accompanied by the children's own vituperative remarks," (p. 74).

Bandura (1973; 1978) suggests that there are three primary sources from which aggressive behavior is modeled in modern society which are as follows: 1- Family members; 2- Society (in which the child resides); and 3- Mass media.  Bandura (1973; 1978) states that family members serve as the most prominent origin of modeling and reinforcement of social development including aggression.  However, Bandura ensures to point out that the family system is intertwined with the community as well.  In regards to mass media, Bandura contends that television has a multitude of individuals modeling aggressive and violent behavior which may result in a skewed view of reality in which one may act out in their own life (Bandura, 1978).

When children are not supported by engaged parents or other positive adult role models, they may seek out other negative role models in their community and/or in mass media to serve as an example of how to act and live within society.  One of the objectives of humane education is to provide children with positive adult role models that model prosocial behaviors.  Unfortunately positive adult role models are sometimes missing in the child's family of origin and/or immediate community outside of the school setting

therefore humane educators along with other educators as well as staff working in unison together in the school setting may serve as the only source of positive support for such students (Stanek, 2013).

This is particularly relevant when one thinks about how the most salient observational learning that takes place for children in regards to interpersonal behavior is by parental figures and is completed through the modeling of disciplinary actions (Bandura, 1973). Children learn from their parents how to influence and control others by the way in which their parents impose discipline on them (Bandura, 1973). Additionally, as noted in longitudinal studies of victims of child abuse over three generations, children who are victims of abuse are much more likely to engage in abusive behavior themselves later on in their maturation (Bandura, 1973).

In summary, modeling can be used to encourage prosocial behaviors or aggressive forms of behavior or to modify aggressive behavior (Bandura, 1973). The expectation is that the WARL program offers an alternative to the modeling of antisocial behavior if present in a student's life. For those students who do not have antisocial behavior modeled to them by influential role models, the WARL program serves as a means of continued vicarious reinforcement for positive and prosocial behavior.

**Summary of the Methodology**

Data analyses were conducted on data from a pilot program evaluation study of the Washington Animal Rescue League (WARL) Humane Education Program. The purpose of this study was to explore the potential impact and/or effectiveness of the WARL's Humane Education program for 4th grade students. The data analysis was comprised of both quantitative and qualitative research. As part of the quantitative

analysis, Mann Whitney tests were conducted on the participants' total scores on the Index of Empathy for Children and Adolescents (IECA; Bryant, 1982) to examine what if any differences were present between the treatment and comparison groups as well as to explore what if any gender differences existed within the sample under investigation in the present study. Additionally, a subscale comprised of questions on the IECA related to children and/or animals being hurt or treating animals as though they have feelings like people (Items 6, 11, 14 and 16 on the IECA) was developed for this study and its reliability was assessed by conducting a Kuder-Richardson-20 (KR-20) reliability analysis. A Mann-Whitney test was conducted to examine what if any differences were present between the treatment and comparison groups' subscale scores. A secondary objective of this analysis was to explore the findings regarding endorsement of IECA Items 6, 11, 14 and 16 which as noted previously comprise a subscale of the IECA developed for this study in order to obtain a general indication as to the number of students endorsing empathic responses on items that directly pertain to harm to children or animals and/or the belief that animals have feelings similar to people all of which are issues addressed within the WARL Humane Education Program. Further, Kruskall-Wallis tests were conducted on the IECA total and subscale scores for the treatment group to determine what if any differences existed between the three classes that comprise the treatment group.

A basic interpretive qualitative analysis research design (Merriam, 2002) was used in the present study. The primary goals of basic interpretive qualitative analysis were: 1- To understand how people interpret their experiences; 2- What the meaning is that they attribute their experience to and 3- Their perception of how they construct the

world in which they live (Merriam, 2002, p.38). In basic interpretive study, the researcher is guided by the theoretical framework that the researcher follows based upon their training and professional experience and data is analyzed through the identification of recurrent patterns such as themes (Merriam, 2002, p. 38). Finally, as discussed by Merriam (2002), "The overall interpretation will be the researcher's understanding, mediated by his or her particular disciplinary perspective, of the participants' understanding of the phenomenon of interest," (p.38).

Utilizing the basic interpretive qualitative research design (Merriam, 2002), a qualitative analysis of the journals written by the students in the WARL Humane Education Program was conducted in order to gain a greater understanding as to how the students make meaning of their experience in the WARL Humane Education Program. The primary endeavor was to describe these students' experience in a humane education program and learn more about the impact that such a program has on the children through the children's own words in the journals that they completed in the program. To date there is no known qualitative research that has been conducted that directly analyzes journal entries of students within a humane education program. Thus, this research addresses a gap within the research literature as well as provides a voice for such children to share their experience in the humane education program.

While based in the basic interpretive qualitative research design (Merriam, 2002), qualitative analysis will be conducted utilizing the systematic constant comparative data analysis method in which the data being analyzed was obtained directly from the children participating in the study (Cresswell, 2007). The aforementioned research question was explored within this study by focusing on broad themes and/or salient categories that

emerged through the open coding procedure in the constant comparative data analysis method (Strauss & Corbin, 1990, 1998 as cited in Cresswell, 2007). Throughout the coding process analytic memos were constantly completed with the objective for such memos to assist in the facilitation of analytical insight as well as reflection and the continued identification of themes (Cresswell, 2007; Maxwell & Miller, 1996 as cited in Wright, 2011). Finally, the analytic memos were also used as an organizational tool to assist in improved analysis of the data (Cresswell, 2007; Maxwell & Miller, 1996 as cited in Wright, 2011).

The coding of the journals took place by identifying emergent and theoretical codes and then subsequently defining and categorizing such codes along with providing additional evidence in the form of quotes from the participants as well as the interpretation completed by the researcher on a spreadsheet (Wright, 2011). The spreadsheet was then developed into a matrix that provided a visual depiction of codes, their definitions and how they were categorized based upon their respective themes (Wright, 2011). The matrices assisted in the facilitation of the analysis of the various themes arising within the journals of the students as well as linked such emerging themes with the conceptual framework (Seidman, 1998; Wright, 2011). In light of the fact that the researcher is the instrument of analysis within qualitative research and thus one must be cognizant of identification of potential bias and transference that may occur on the part of the researcher as well as to attend to best practices within qualitative research, reflective memos were also written throughout the data analysis process (Miles & Huberman, 1994; Wright, 2011).

**Limitations**

The primary limitation was that the number of parents agreeing to allow their child to participate in the study was lower in the comparison group classroom therefore the sample size was very small for the control group (n=12). Another limitation in the proposed analysis of the humane education study data was the fact that due to issues outside of the control of the investigator of the initial pilot study it was not possible to randomly assign participants nor obtain pre-test evaluation/assessment information as the humane education program had already begun by the time that formal approval was attained for the initial pilot study. It is fully recognized that this is a limitation to the study therefore it was initially proposed that a matching procedure would be employed to hopefully eliminate decreased knowledge regarding selection biases due to the lack of a pretest.

More specifically, the School Counselor for the 4th Grade at the school in which the humane education program was held stated that classes were arranged by the school so that they are diverse in regards to race, ethnicity, gender, academic ability and performance and that social/emotional factors were also taken into consideration when forming the classes. Thus it was determined that that the fourth grade classes were all as similar as possible and thereby given the small sample size of the students within the study that the matching procedure that was initially planned was no longer necessary.

Another limitation is that the study was only conducted at one school located in a predominately affluent community and thereby the results are not necessarily generalizable and may have low external validity. The initial plan for the pilot study was to incorporate multiple schools from various locations with a diverse group of students. Follow-up studies plan to include multiple school sites with diverse locations as well

varied student backgrounds in order to increase the external validity and develop a more generalizable study.

Furthermore given that the data is from a pilot study, the aim is to increase the sample size and to improve upon this design significantly in future follow-up studies. As discussed frequencies were also be reported in addition to the non-parametric tests to assess what if any differences existed between the treatment and comparison groups on some items. While it is recognized that no conclusions can be drawn regarding the statistical significance of the frequencies on some items, the objective is to gain a greater understanding and explore the potential impact of the program.

**Definitions of Key Terms**

**Affective Empathy** is defined as concerning, "…the vicarious experience of emotions consistent with those of others, that is, feeling *with* others," (de Wied et al., 2007, p. 99).

**Cognitive Empathy** is defined as involving, "understanding another's feelings, whether by means of simple associations or more complex perspective-taking processes," (de Wied et al., 2007, p. 99).

**Empathy-** The construct of empathy is broadly defined as follows, "Empathy is the combined ability to interpret the emotional states of others and experience resultant, related emotions," (Light et al, 2009, p. 1210). For the purposes of the present study, Bryant's (1982) operational definition of empathy utilized in the development of the Bryant Index of Empathy for Children and Adolescents (IECA) will be utilized in the assessment of empathy on the IECA and is defined as follows, "a vicarious emotional response to the perceived emotional experiences of others, and the emphasis is on

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emotional responsiveness rather than on accuracy of cognitive social insight," (Bryant, 1982, p. 414).

**Humane Education** is defined by Jalongo (2013) as follows, "a process that encourages understanding of the need for compassion and respect for people, animals and the environment and recognizes the interdependence of all living things," (World Animal Net as cited in Jalongo, 2013, p. 5). The description of the specific humane education program examined in this study, the Washington Animal Rescue League Humane Education Program, is as follows:

> The Washington Animal Rescue League's Humane Education Program is an interactive, classroom-based program targeting elementary and middle school aged children. Staff and volunteers teach children about companion animals and their welfare, encouraging them to make kind, compassionate and responsible decisions. While learning about animals, students also develop their reading and writing skills and gain a greater sense of self. The program's ultimate goal is to foster the development of a strong sense of empathy, justice and respect for self and for all living beings. (Washington Animal Rescue League, 2014)

In summary, the aim of this study is to conduct a mixed- methods design to assess the effectiveness of the WARL Humane Education Program for fourth grade students. The expectation is that through analysis of the program evaluation pilot study data that findings will emerge that explain more about what type of impact the WARL program is effecting upon the students participating within the program and how that relates to the theoretical framework espoused within this study. The following chapter provides a detailed overview of the extant literature on humane education, the construct of empathy

and the association between animal cruelty and interpersonal violence as well as presents the integrative bio-psychosocial conceptual framework for the present study based on the work of Bandura (Bandura, 1973; Bandura, 1977; Bandura, 1978), Hoffman and de Waal (de Waal 2008 as cited in McDonald & Messinger, 2011; Hoffman, 1978a; Hoffman, 1978b; Hoffman, 1979; Hoffman, 1991; Sagi & Hoffman, 1976; Beetz, 2009; deWaal, 2012; 2009; 2008).

**Chapter 2: A Review of the Literature**

**Introduction**

The purpose of this literature review is to provide an introduction to humane education and discussion of the literature examining the effectiveness of humane education programs. The focus of the review is on the potential beneficial aspects of such programs to improve empathy in children and adolescents. Further, a brief overview on the association between animal cruelty and interpersonal violence, specifically family violence will be provided to address the larger issue of animal cruelty as a societal issue that impacts both humans as well as animals. The aforementioned literature will be meticulously described, analyzed and critiqued to provide an understanding of the construct of empathy as well as the potential for humane education programs to engender empathic and pro-social behavior in children.

Upon providing a thorough review of the literature, the conceptual framework for the present study will be presented as an integrative bio-psychosocial theoretical model based on the conceptualization of the construct of empathy as espoused by Hoffman and deWaal (de Waal 2008 as cited in McDonald & Messinger, 2011; Hoffman, 1978a; Hoffman, 1978b; Hoffman, 1979; Hoffman, 1991; Sagi & Hoffman, 1976; Beetz, 2009; deWaal, 2012; 2009; 2008); Bandura's social learning theory/social cognitive theory (Bandura, 1973; Bandura, 1977; Bandura, 1978) as it applies to the etiology of animal cruelty with aggressive antisocial modeling (Lea, 2007; Fitzgerald, Stevenson & Verbora, 2013) and conversely in the development of empathic behavior with appropriate pro-social modeling by an adult as is done in the Washington Animal Rescue League Humane Education Program. The chapter will conclude by analyzing and synthesizing the extant literature as it relates to the present study examining a proposed prevention/

early intervention program, humane education, by assessing the impact and effectiveness of the Washington Animal Rescue League's Humane Education Program.

**Humane Education**

The extant literature on humane education is sparse however it suggests that humane education can be beneficial for children's cognitive, socio-emotional and moral development as well as in the development of empathy and pro-social behavior (Dadds, Turner & McAloon, 2002; Faver, 2010; Thomas & Beirne, 2002; Thompson & Gullone, 2003; Daly, 2010; Aguirre & Orinhuela, 2014). The development of empathy is viewed as a foundation or "fundamental building block" in fostering positive mental health outcomes and healthy development in children (Bryant, 1987 as cited in Thompson & Gullone, 2003, p.176). Further, it has been contended that children's ability to have pro-social responses and empathy towards others significantly contributes to competent social functioning (Eisenberg et al., 1997 as cited in Thompson & Gullone, 2003).

Faver (2010) discusses how humane education is able to catch children's attention due to children's natural curiosity with animals and the novel nature of humane education programs. Humane education also fosters both intellectual and social development especially in young children. Faver (2010) also discussed how humane education addresses cognitive as well as affective and behavioral components of learning. Furthermore it is believed that the animals can act as a bridge between children and other people (Reichert, 1994; Sentoo, 2003 as cited in Hargreaves, et al., 2007). This occurs during the process of transference, a theory that posits that children will transfer the positive emotional response elicited in their experience with an animal towards other humans in their lives (Sentoo, 2003 as cited in Hargreaves et al., 2007). Additionally,

through the process of modeling compassionate and caring behavior toward animals by humane educators the expectation is that the children will demonstrate such behavior as well.

It is also contended that when a child is able to be empathic towards animals referred to as "animal-directed empathy" that they will also be able to be empathic towards humans and exhibit, "human-directed empathy" (Thompson & Gullone, 2003, p.176). This assertion has been supported in research by Vidovic and his colleagues (1999) as they state that there is a, "positive relationship between animal attachment and the healthy development of empathy and pro-social behavior," (Thompson & Gullone, 2003, p.178). In a 1996 controlled trial study conducted by Ascione and Weber, the attitudes that 4th grade students (participating in a year-long humane education program) had towards animals was measured as well as the generalization of such attitudes towards human –directed empathy (Ascione & Weber, 1996 as cited in Dadds, Turner & McCaloon, 2002). The results of this study suggested that in comparison to the control group the participants assessed two years after program completion exhibited an increase in humane attitudes that generalized to human-directed empathy (Ascione & Weber, 1996 as cited in Dadds; Turner & McCaloon, 2002; Thomas & Beirne, 2002).

Conversely, there is also an association between lack of empathy towards animals resulting in animal abuse and violence towards humans (Thompson & Gullone, 2003; Thompson & Gullone, 2006 as cited in Arbour, Signal & Taylor, 2009). Due to various factors such as abuse, some youth may have never experienced kindness in their lives and therefore have been unable to understand empathy and/or compassion (Thomas & Beirne, 2002). It is suggested that interaction with animals in humane education programs can

help teach compassion as well as responsibility and instill important values for moral development in younger generations (Nebbe, 1991; Netting, Wilson & New, 1987; Triveda & Perl, 1995 as cited in Thomas & Beirne, 2002) in hopes of serving as a means of prevention of future violence and/or abuse towards both humans and animals (Arbour, Signal & Taylor, 2009).

A humane education program led by Debbie Duel, Director of Humane Education at the Washington Animal Rescue League, claims the following, "The Washington Animal Rescue League Humane Education Program promotes critical thinking skills while encouraging students to make kind, compassionate, and responsible decisions that result in the development of a greater sense of empathy, justice and respect for self and others," (D. Duel, personal communication, March 31st, 2014). The Washington Animal Rescue League Humane Education program, the program under examination in the present study is described further on their website as follows:

The Washington Animal Rescue League's Humane Education Program is an interactive, classroom-based program targeting elementary and middle-school aged children. Staff and volunteers teach children about companion animals and their welfare, encouraging them to make kind, compassionate and responsible decisions. While learning about animals, students also develop their reading and writing skills and gain a greater sense of self. The program's ultimate goal is to foster the development of a strong sense of empathy, justice and respect for self and for all living beings.

Children in the Humane Education Program are taught about the Washington Animal Rescue League, the needs it addresses, and the animals it helps. During

field trips to the League, students witness this work firsthand and meet the

animals and the people who care for them.  Many participants in the program

have witnessed an animal being mistreated or have come into contact with a

violent dog. In order to teach them that animals can be gentle companions, they

are given opportunities to interact with animals in the shelter and Medical Center.

In addition, volunteers bring their dogs to the schools to meet the children. This

provides opportunities for students to develop safe friendships with dogs in a

familiar, comfortable setting.  Students are also encouraged build their own

reading skills—and comfort with animals—by reading to dogs in the shelter and

in the classroom.  Throughout the program, students share thought provoking

picture books, poetry and essays that feature companion animals. They are

encouraged to explore their feelings about themselves and animals through

journaling and creative writing, art projects and community service activities.  As

a result of participating in the program, graduates of the Humane Education

Program will: 1- Develop a greater sense of self confidence; 2- Gain confidence

in taking action that results in getting help for those who cannot speak for

themselves; 3- Experience an environment that encourages kindness, compassion,

and cooperation; 4- Strengthen reading skills by reading to nonjudgmental

partners—dogs; 5- Become more proficient and creative writers. (Washington

Animal Rescue League, 2014)

Furthermore, Duel (1999) discussed the powerful impact that humane education has had

on students as she provides examples of some of the actions of students that participated

in a program she led as follows:

Kids wrote letters to the mayor asking for city funds to run a spay and neuter

program and letters to the editor validating such support…Kids developed

advertising plans, wrote stories, raps, poems, and songs about animal

suffering…they even went to the U.S. Capitol…Kids were deputized as junior

humane officers and pledged to prevent cruelty and treat all living creatures with

kindness.  Junior humane officers had an obligation to report animal abuse to the

Washington Humane Society (WHS)…The positive response spawned a huge

increase in the number of student-generated cruelty reports… During that year

nearly 60 kids were praised as exemplary junior humane officers. (pp. 344-346)

The aforementioned pro-social behavior and actions of the students within Ms. Duel's

program attest to the significant impact that her program had on the children within the

program, the animals helped by the students as well as the broader positive impact on the

community in which the children resided.

**Animal Cruelty and its Association with Interpersonal Violence**

The study of the association or "link" between animal cruelty and interpersonal

violence addresses an important issue in counseling, clinical psychology and forensic

psychology as well as in legal, medical and veterinary areas of study (Hoffer, Hargreaves,

Muirhead & Shelton, 2011).  Research conducted on the "link" between animal cruelty

and interpersonal violence may provide great insight into how and why this association

exists (Hoffer et al., 2011).  It also begs the question as to why this prevalent form of

abuse is not better understood in society and underscores the importance of collaboration

between law enforcement, animal control, legal, medical, veterinary and mental health

professionals in order to increase the effective identification of animal cruelty and

interpersonal violence offenders as well as to improve rates of conviction and enhanced

sentencing (Hoffer et al., 2011). Most importantly it may elucidate how to best provide

enhanced therapy for witnesses and perpetrators of animal cruelty and solutions to the

social problems involved with animal abuse (Hoffer et al., 2011).

 **Animal Cruelty and Its Association with Family Violence.** The extant

literature states that there is a significant overlap between various forms of interpersonal

violence specifically family violence which also extends to animal cruelty (AC)

(Ascione, Weber & Wood, 1997; Ascione, 1998; Ascione, 1999; Ascione, 2008; DeGue

& DiLillo, 2009). DeGue and DiLillo (2009) suggested that, "…the identification of

animal cruelty in the home (perpetrated by parents or children) may serve as a reliable

red flag for the presence of child maltreatment or severe domestic violence," (p.1053).

Taylor & Signal (2013) discussed how AC occurring within a family may serve as an

indicator of risk/level of danger posed by the perpetrator as Simmons & Lehmann (2007)

study found the following results through their interviews of 1283 women survivors of

domestic violence, "…abusers who were violent to their partners and also abused the

family pet, utilized a greater range and severity of aggressive violence including

emotional and sexual violence and stalking," (p.218).

 Hutton (1983 as cited in Gullone, 2012) found that human social services

agencies identified children at risk for abuse or neglect in 82% of families (n=32

families) with a history of AC. DeViney, Dickert and Lockwood compared families (n=

53 families) who had companion animals present in the home and where there were

official records of child abuse and neglect to families in the general population (Deviney

et al., 1983 as cited in Gullone, 2012). AC was present in 88% of the cases of families

whom engaged in physical abuse towards children (Deviney et al., 1983 as cited in

Gullone, 2012).

The perpetrator of the AC was most often the father (in 66% of the cases).

Ascione (2000 as cited in Faver & Strand, 2003) reported that 62% of the mothers in

domestic violence shelters within his study reported that their children observed acts of

animal cruelty. Further, 76% of the women surveyed from domestic violence programs in

the study conducted Quinlisk (1999 as cited in Faver & Strand, 2003) reported that their

children witnessed animal cruelty.

**The Federal Bureau of Investigation (FBI) Behavioral Analysis Unit (BAU)**

**Animal Cruelty Project (ACP).** The AC Project is a study conducted at the National

Center for the Analysis of Violent Crime (NCAVC) by the BAU III- Crimes Against

Children of the Federal Bureau of Investigation.  Initial studies and analyses from the AC

Project have findings suggesting an association between active animal cruelty (AC) and

interpersonal violence.  In the study conducted by Hoffer, Hargreaves, Muirhead &

Shelton (2013) including 259 offenders, the variables related to children were further

examined through comparative analyses investigating associations between offenders

who had relationships with children and/or were in close proximity to children at the time

of the AC offense(s) for which they were arrested by law enforcement.

As the extant literature suggests there is a significant association or "link"

between AC offenders and domestic/ family violence offenders and it may be contended

that the motivations are very similar as well (Ascione, Weber & Wood, 1997; Ascione,

1998; Flynn, 2009 as cited in Brewster & Reyes, 2013).  The comparative analyses found

that many of the motivations of AC offenders whom had children or resided with children

(n=41) were similar to those found in domestic/family violence perpetrators. The following are the three most prevalent motivations for the active animal cruelty offenders who were associated with children within the present study: 1- Perceived misbehavior; 2- To control an animal and 3- Part of a domestic dispute. The comparative analyses also indicated that the highest rate of sex offense arrest history was in AC offenders whom have children. Overall the results suggest that offenders who either had children, resided with children, had children present at the location of the AC incident and/or children observe the AC incident had higher rates of minor victims in IPV offenses for which they were arrested in comparison with the total sample of offenders.

In a study conducted in 2014 by Hoffer, Hargreaves, Muirhead & Shelton with the focus on the impact of AC on children and the association between AC and family violence latent class analyses were conducted to provide further understanding regarding the relationship between variables related to children and their association with interpersonal violence and other related offenses specifically family violence. The model was run utilizing Latent Gold v4.5 software (Vermunt & Magidson, 2005). The model was comprised of five variables that indicated whether children observed and/or were present at the location of the AC incident and specified the official arrest record of AC offenders. Upon assessment of the goodness of model fit criteria, two classes emerged with Class 2, the class of offenders with the greatest probability of having had children observe the AC incident and/or having children present at the location of the AC incident, demonstrating a much higher probability of having an official arrest record of at least one arrest for engaging in interpersonal violence; crimes against children and/or other interpersonal offenses in comparison to the other class of AC offenders, Class 1.

**Theoretical/Conceptual Framework**

In accordance with the viewpoint that it is of paramount importance to examine the phenomenon of animal cruelty from an interdisciplinary perspective, the theoretical framework for this study is a bio-psychosocial model comprised of an integrative model based on the conceptualization of the construct of empathy as espoused by Hoffman and deWaal (de Waal 2008 as cited in McDonald & Messinger, 2011; Hoffman, 1978a; Hoffman, 1978b; Hoffman, 1979; Hoffman, 1991; Sagi & Hoffman, 1976; Beetz, 2009; deWaal, 2012; 2009; 2008) and Bandura's social learning theory/social cognitive theory (Bandura, 1973; Bandura, 1977; Bandura, 1978) as it applies to the modeling of pro-social behavior by humane educators and conversely the modeling of anti-social behaviors such as animal cruelty and aggression by perpetrators of animal cruelty. The discussion of the theoretical framework for this study will begin by describing Bandura's Social Learning Theory/Social Cognitive Theory as it relates to the development of aggression as well as pro-social modeling which will be followed by a discussion of the construct of empathy.

**Bandura's Social Learning Theory/Social Cognitive Theory**

Bandura (1977) revolutionized thinking regarding behavior specifically learning processes and the acquisition of knowledge as well as the regulation of behavior by expanding upon traditional behavioral learning theories such as Pavlov's Classical Conditioning and the Skinnerian Instrumental/Operant Conditioning with his Social Learning Theory which was later referred to as Social Cognitive Theory (Bandura, 1977 & Bandura, 1978). Social Learning Theory is described as the intersection between behavioral and cognitive theories of learning. The basic premise behind Social Learning

Theory emphasizes continual as well as reciprocated interaction between behavioral, cognitive and environmental determining factors which Bandura refers to as the process of reciprocal determinism (Bandura, 1977, p. vii). In so doing, Bandura contends that people have free will and are able to influence their destiny while also recognizing that people are limited in their agency by environmental influences (Bandura, 1977). Thus both people and their environment engage in a constant interplay in which they both serve as reciprocal determinants of the other (Bandura, 1977).

Bandura expounds upon reciprocal determinism further as he discusses the bidirectional nature of other personal factors, behavior and environmental factors as "interlocking determinants" of one another (Bandura, 1977, p.10). Bandura (1977) posits that the aforementioned factors vary dependent upon differing contexts and behaviors. Bandura (1977) also emphasizes the role of vicarious and observational learning, self-regulatory and symbolic processes within Social Learning Theory.

Observational learning or modeling is particularly emphasized by Bandura (1977) due to its impact on human survival. Children learn many behaviors needed for survival through modeling (Bandura, 1977). Bandura (1977) contends that various complex forms of learning such as linguistics and social cues are only able to be learned through modeling (Bandura, 1977). He describes observational learning or modeling as occurring through the following four processes: 1- Attention; 2- Retention; 3- Reproduction/Imitation and 4- Motivation (Bandura, 1977).

With respect to attention, Bandura (1977) contends that the people with whom one associates has a profound impact upon types of behaviors observed, learned and subsequently completed by those engaged in observational learning. Through the process

of retention it is posited that what is learned while attending to modeled behavior is subsequently retained in symbolic form in the memory of the observer (Bandura, 1977). Upon retention of the modeled behavior the next step is reproduction or imitation of the modeled behavior which is the action stage of the process and is dependent upon the cognitive abilities of the observer (Bandura, 1977). Motivation is guided by incentives for engaging in the modeled behavior, thus if one is rewarded for a behavior one is more likely to engage in the behavior, whereas if there are consequences for such a behavior that are negative one is less likely to engage in such behavior (Bandura, 1977).

Bandura discusses the importance of symbolic learning as he asserts the following, "The capability for intentional action is rooted in symbolic activity," (Bandura, 1977, p. 13). Bandura (1977) further contends that people are unable to have reflective thought with the absence of symbolic thinking. In Social Learning Theory an emphasis is also placed on self-regulatory behaviors and one's ability to be able to exercise at least to some extent behavioral control in Social Learning Theory (Bandura, 1977).

With the preceding in mind it is quite apparent how social learning theory especially the process of modeling of animal cruelty by a significant influential model, such as a parental figure, could have a significant impact upon a child. Such an influence may be so profound that it results in the perpetuation of the cycle of violence often found in family violence. In accordance with Social Learning Theory, violent homes in which animal cruelty is occurring may serve as "training grounds" for children (Ascione, 1999). This assertion is elaborated upon further in the discussion of Bandura's Social Learning Theory of Aggression in the following section.

**Bandura's Social Learning Theory of Aggression.** Bandura describes

aggression as follows, "…aggression is a multifaceted phenomenon that has many

determinants and serves diverse purposes…A complete theory of aggression must be

sufficiently broad in scope to encompass a large set of variables governing diverse facets

of aggression, whether individual or collective, personal or institutionally sanctioned,"

(Bandura, 1978, p. 12). Thus, Bandura contends that a comprehensive theory of

aggression must explicate the provocation of aggressive behavior in people as well as

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further suggests that other than elementary forms of aggression, all aggression is learned.

Bandura's 1961 study in which Bandura and colleagues conducted an

experimental analysis of aggressive modeling is perhaps Bandura's most well-known

study and its findings contributed to the body of knowledge about aggression. In the

aforementioned study often referred to as the "Bobo Doll" study, Bandura and colleagues

utilized a plastic inflated doll (the Bobo doll) in a modeling paradigm in which children

observed adults committing acts of violence upon the plastic doll as well as demonstrated

acts of verbal aggression towards the doll (Bandura, 1973). Bandura (1973) describes the

procedure for his experiment as follows:

> In the general procedure after addressing the figure belligerently the model
>
> pummels it on the head with a mallet, hurls it down, sits on it and punches it in the
>
> nose repeatedly, kicks it across the room, flings it into the air, and bombards it
>
> with balls. These physically assaultive behaviors are accompanied by distinctive
>
> hostile remarks. Following exposure to the modeling influence, children are
>
> provided with opportunities to display what they have learned in a situation

containing a variety of materials that can be used either for aggressive or

nonaggressive purposes. Learning effects are measured either by recording the

children's spontaneous behavior or by asking them to reproduce all the modeled

aggressive actions and remarks they can recall (Bandura 1965a). The latter

measure provides the better index of observational learning because people

generally learn more than they spontaneously perform. (p. 72)

The strength of aggressive modeling by adults and the subsequent observational learning

by children viewing such aggressive modeling was examined by Bandura and colleagues

by analyzing the "relative potency of aggressive models presented in different forms" by

placing nursery children into one of five groups by matching such children based upon

their level of "interpersonal aggressiveness" (Bandura 1962; Bandura, Ross, and Ross,

1963a as cited in Bandura 1973, p. 73).

In group one (Condition 1), the children observed an adult modeling aggressive

behavior towards the "Bobo doll"/plastic figure (Bandura, 1973). Similarly, in group two

(Condition 2) the children viewed the same adult figures (observed by group one in

person) modeling aggressive behavior in a video (Bandura, 1973). With respect to the

gender of the adult models, same sex adult models were viewed by half of the

participants whereas opposite sex models were viewed by the remaining half of the

participants within each condition (Bandura, 1973). In the third condition, the model was

a costumed cat engaging in the same aggressive behaviors "on the screen of a television

console" in order to examine Bandura's hypothesis that, "…the more remote the models

are from reality, the weaker is the tendency for children to imitate their behavior,"

(Bandura, 1973, p. 73).

Two control groups were included within the experiment as well resulting in five conditions for the study (Bandura, 1973). Further in order to obtain a baseline measure of the amount and form of aggression employed by participants within the study, the first control group consisted of children without any exposure to the adult models employing aggressive behavior as part of the study (Bandura, 1973). Lastly, in the second control, the aim was to explore what if any influence the mere observation of the presence of aggressive instruments/ material may have on the children with respect to modeling aggressive behavior, therefore the adult models within the video were instructed to behave as Bandura describes in a "calm, nonaggressive manner and did not handle the aggressive materials that were visually displayed," (Bandura, 1973, p. 73).

All participants were then exposed to their respective condition within the study and were reportedly "mildly frustrated" post exposure (Bandura, 1973, p.74). After exposure to their condition, each child/participant's behavior was recorded in a room with various play materials (Bandura, 1973). The primary results of the study suggested that children who observed the models employing aggressive behavior were more likely to engage in aggressive behavior than children who observed models employing nonaggressive behavior or that were in the control group for the study (Bandura, 1973). Further, the results conducted by Bandura et al. (1963a as cited in Bandura, 1973) suggested that the mean total aggressive and imitative responses exhibited by the children were the lowest for those who observed a model employing non-aggressive behavior. The aforementioned finding is particularly relevant as it applies to Humane Education Programs, specifically the Washington Animal Rescue League's Humane Education Program as the humane educator within the program models non-aggressive behavior

with the canine that she brings into the classroom as part of the program and in so doing models pro-social behavior.

Two major effects were found within the study (Bandura, 1973). The first effect indicated that children within the experimental conditions who observed aggressive behavior learned new methods or techniques for engaging in aggressive behavior as these children emulated the behavior (both the physical aggressiveness and verbal hostility) of the models whereas the children within the control conditions did not engage in such aggressive behavior with the exception of a few children (Bandura, 1973). The second effect, suggested that the modeling resulted in acquisition of knowledge as to how to engage in aggressive behavior with subsequent demonstration of aggressive behaviors and there was also a disinhibition effect in which the children also engaged in aggressive behaviors not modeled. Examples of the additional aggressive acts included the following reported by Bandura (1973), "…spanking and shooting dolls, killing animals, smashing automobiles and other assaultive behaviors, sometimes accompanied by the children's own vituperative remarks," (p. 74).

Bandura (1973; 1978) suggests that there are three primary sources from which aggressive behavior is modeled in modern society which are as follows: 1- Family members; 2- Society (in which the child resides); and 3- Mass media. Bandura (1973; 1978) states that family members serve as the most prominent origin of modeling and reinforcement of social development including aggression however Bandura ensures to point out that the family system is intertwined with the community. In regards to mass media, Bandura contends that television has a multitude of individuals modeling

aggressive and violent behavior which may result in a skewed view of reality in which one may act out in their own life (Bandura, 1978).

Bandura (1973) discusses how the most salient observational learning that takes place for children in regards to interpersonal behavior is by parental figures and is completed through the modeling of disciplinary actions (Bandura, 1973). Children learn from their parents how to influence and control others by the way in which their parents impose discipline on them (Bandura, 1973). Additionally, as noted in longitudinal studies of victims of child abuse over three generations, children who are victims of abuse are much more likely to engage in abusive behavior themselves later on in their maturation (Bandura, 1973).

Bandura states that, "Modeling and reinforcement operate jointly in the social learning of aggression in everyday life. Styles of aggression are largely learned through observation and refined through reinforced practice," (Bandura, 1978, p. 16). Bandura continues by discussing how reinforcement occurs through direct and vicarious means and that observation of the reinforcement of someone other than oneself, or vicarious reinforcement, is equally as powerful as direct reinforcement (Bandura, 1983 & Patterson, Littman & Bricker, 1967 as cited in Gullone, 2012).

In addition to vicarious reinforcement, self-reinforcement or self-regulation derived from cognitive structures within oneself are also thought to play an integral role in the development of aggression as espoused within Bandura's Social Learning Theory (Gullone, 2012). Bandura suggests that self-evaluation of one's behavior occurs cognitively as one compares one's behavior to internal standards placed on oneself (Gullone, 2012). Thus, if one's internal belief system supports the acceptability of

aggressive behavior then one's self esteem can actually improve upon completion of aggression (Gullone, 2012).

Self-efficacy also plays a valuable role in the expression of aggression as Bandura (1997 as cited in Gullone, 2012) argues that people who believe that aggression is more likely to result in desirable outcomes are more likely to be aggressive. Similarly, Moral Disengagement Theory, as defined by Bandura is the utilization of cognitive mechanisms to manage distress regarding morally reprehensible actions such as animal cruelty. It results in vilifying the recipients of abuse (such as animals in the case of animal cruelty) and reconstructing conduct or minimizing one's personal agency when engaging in actions such as animal cruelty (Gullone, 2012).

It is contended by Gullone (2012) that children are highly malleable. Those who are exposed to modeling of aggressive behavior and children who are disengaged from moral behavior are at increased risk for violence and aggression. They also have immense difficulty in developing compassion and empathy. The construct of empathy and its' relationship to both aggression as well as pro-social behavior is expounded upon further in the following section on empathy.

**The Construct of Empathy: Origin, Developmental Stages and Relation to Human Animal Interaction**

        **History of the Construct of Empathy.** The study of the construct of empathy began in the early twentieth century by Theodore Lipps, a German Scholar, whom worked with other scholars at the time to study the way in which humans emotionally react to art work (Salkind, 2005). Following Lipps in 1909, E.B. Tichener coined the term *empathy* that was drawn as a translation of the German term, *Einfuhlung* (Salkind, 2005). *Einfuhlung* is described by Salkind (2005) as follows, "… a technical term in

German aesthetics that literally means, "to feel one's way into". For Lipps and other scholars interested in studying the emotional responses people have to works of art, *Einfulung,* was employed to explain how people were able to grasp the meaning of aesthetic objects and the consciousness of others," (p.460). Most of the modern research on empathy views empathy as a multidimensional construct comprised of both cognitive empathy defined as, "the recognition and understanding of what another feels," and affective or emotional empathy which is defined simply as, " a person feels what another feels," (Beetz, 2009, p. 63). Tichener's conceptualization of empathy comprised of both affective and cognitive aspects serves as the foundation for much of the present research conducted on empathy however it is important to note that there are various schools of thought regarding the construct of empathy (Salkind, 2005).

The basic concept of empathy has been studied within various disciplines, most notably human development/developmental psychology, social psychology and personality psychology (Salkind, 2005). The study of empathy and its relation to moral development especially in young children was researched by prominent figures such as Piaget and Kohlberg (1981 as cited in Salkind, 2005). The focus of the discussion of the literature on the construct of empathy as well as the basis for the conceptual framework will be based on the work of Hoffman (1978a; 1978b; 1979 & 1991) and deWaal (2008; 2009; 2012; de Waal 2008 as cited in McDonald & Messinger, 2011).

**Definition and Origin of the Construct of Empathy.** The construct of empathy is broadly defined as follows, "Empathy is the combined ability to interpret the emotional states of others and experience resultant, related emotions," (Light et al, 2009, p. 1210). deWaal (2008 as cited in McDonald & Messinger, 2011) asserts that empathy is an

engrained evolutionary mechanism that has developed throughout over 200 million years of mammalian heritage.  As Decety (2011) contends empathy has neurological, evolutionary and biochemical underpinnings that are based upon robust evidence. deWaal (2008 as cited in McDonald & Messinger, 2011) further contends that the evolutionary mechanism of empathy is, "…an important precursor to and motivator for pro-social, or helping behavior," (p.17)  and that, "…empathy motivates altruistic behavior and similar pro-social behavior," (Decety, 2011, p.17).

It is important to note however that while the construct of empathy and advanced empathy more specifically is complex, the basic premise behind the construct of empathy as it relates to human relations is very basic and is described well by de Waal (2009) as follows:

> Martin Hoffman, who has written extensively on this topic, rightly noted that our relations with others are more basic than we think: "Humans must be equipped biologically to function effectively in many social situations without undue reliance on cognitive processes."  Even though we are certainly capable of imaginative ways of getting into someone else's head this is not how we operate most of the time.  When we pull a crying child into our lap or exchange an understanding smile with a spouse, we're engaged in everyday empathy that is rooted as much in our bodies as in our minds. (p. 205)

de Waal (2008 & 2012) theorizes that empathy began as part of mammalian maternal care and those mothers that attended to the needs of their offspring ultimately reproduced more thus resulting in successful transmission of their genes into subsequent generations. de Waal further suggests that upon development of empathic capacity it extended past

parental bonds to bonds with others in society (2008).  A common example of this is seen

in the resonance phenomenon in which emotional contagion occurs such as yawning or

contagious laughter (de Waal, 2008; Beetz, 2009).  Empathic modeling has been linked to

motor mimicry such as contagious yawning in functional magnetic resonance imaging

(fMRI) studies (Platek et al., 2005 as cited in de Waal, 2008).

**Neurological Basis and Underlying Mechanisms of Empathic Development.**

Preston and de Waal (2002 as cited in de Waal, 2008; de Waal, 2012) proposed the

Perception Action Mechanism (PAM).  de Waal (2012) conceptualizes empathy as a

multilayered phenomenon visually depicted as a Russian matryoshka doll  in which PAM

(comprised of  more hardwired elementary forms of empathy such as emotional

contagion or state matching) is at the inner core of the doll or model.  de Waal (2012)

continues his description of the multilayered empathy model depicted as a Russian

matryoshka doll as follows: "Built around this hard-wired socio-affective basis, the doll's

outer layers include sympathetic concern and targeted helping.  The complexity of

empathy grows with increasing perspective-taking capacities which depend on prefrontal

neural functioning, yet remain fundamentally connected to PAM," (p.876).  de Waal

(2012) suggests that the full PAM model only occurs in larger brained mammals such as

humans.

Beetz (2008) suggests that the discovery of mirror neurons by Rizzolati and

colleagues explains the neuronal basis of empathy and the resonance phenomena.  Beetz

(2008) provides a brief overview of Rizzolati and colleagues discovery and studies on

mirror neurons in humans as follows:

Rizzolatti et al. investigated neurons specializing in controlling hand actions in

monkeys.  During each experiment, they recorded data from a single neuron in

the monkey's brain while the monkey was reaching for pieces of food.  They

found a kind of neuron that not only reacted when the monkey performed a

certain action himself, but also when someone else performed the same action

(e.g. reaching for a peanut on a tray)…evidence from experiments with the use of

functional magnetic resonance imaging (fMRI), transcranial magnetic stimulation

(TMS), and electroencephalography (EEG) strongly supports the existence of the

presence of a similar system of mirror neurons in humans. (p. 68)

Beetz (2008) continues by suggesting that mirror neurons serve as the basis of empathy

as they demonstrate the ability to know what another is experiencing and feeling.

It is further contended by Beetz (2008) that mirror neurons are developed in the

first year of life for humans and for optimal development of the mirror neuron system to

occur a healthy relationship with the caregiver of the infant must occur in which the

caregiver properly mirrors and engages in resonance with the infant in order for the infant

to experience empathy.  Through interaction with the sensitive caregiver an infant is able

to train their mirror neurons (Beetz, 2008).  Caregivers who are able to effectively

respond to emotions of the infant most often occur in children whom are securely

attached (Beetz, 2008).  Unfortunately, children raised in abusive environments often do

not have optimal development of mirror neurons and healthy or secure attachment (Beetz,

2008).  Beetz (2008) suggests that children are able to further train their mirror neurons

through experiencing healthy relationships with humans as well as animals.  Humane

education may serve as an effective program in which to continue to train such mirror neurons especially when done as an early intervention and/or prevention program.

**Hoffman's Theoretical Model of Empathy and the Developmental Stages of Empathy.** The lens of analysis for part of the conceptual framework of this research study is based on Martin Hoffman's research on socio-emotional development in children specifically in regards to pro-social, empathic and moral development (Hoffman, 1978a; Hoffman, 1978b; Hoffman, 1979; Hoffman, 1991; Hakansson, 2004; Kristjansson, 2003; Sagi & Hoffman, 1976). In order to provide a greater understanding as to why Hoffman's theory on empathy development was chosen as the conceptual frame for this study, a brief overview of Hoffman's theory which guides this study shall be provided below and discussed further throughout this section on the conceptual framework of the study.

Hoffman proposes three main components in his theoretical model of empathy which are as follows: 1- An affective component; 2- A cognitive component and 3- A motivational component (Hoffman, 1978a, p. 175). Hoffman places the emphasis or focus of his theoretical model of empathy on the affective component which he refers to "empathic distress" (Hoffman, 1978, p. 175). Hoffman defines empathic distress as, "a feeling that is more appropriate to the suffering person's condition than to the observer's own relatively comfortable circumstances," (Hoffman, 1991, p. 132).

Hoffman also posits five stages in the development of empathy that begin in infancy and continue to develop through the lifespan (Hoffman, 1978a; Hoffman, 1978b; Hoffman, 1991; Kristjansson, 2003). Each stage is built upon the foundation of the preceding stage and the five stages are summarized as follows: 1-Stage I- Newborn Reactive Cry: The infant child can not differentiate another's distress from their own, for

example, a newborn child reacts to another newborn crying by mimicking the reaction of the other infant; 2- Stage II- Egocentric Empathic Stress: At the end of the first year of life, infants experience what Hoffman refers to as "egocentric empathic stress" in which the infant is beginning to differentiate their experience from that of others, an example is that the infant will still cry reactively in response to the cry of another infant yet it will also attempt to comfort itself; 3- Stage III- Quasi Egocentric Empathic Stress: In this stage toddlers are aware of the differentiation of themselves from others and begin to attempt to comfort others and have less reactive distress; 4- Stage IV- Veridical Empathic Distress: Beginning at age 2, children begin to understand that others have different feelings than themselves and Hoffman contends that there are other subsequent sub-stages of this stage that extend throughout the human lifespan; 5- Stage V- Empathic Stress Beyond the Situation: Typically occurs between 5-8 years of age, in this stage empathy can be experienced for groups of people as well as people in which there is no face to face contact (for example feeling empathic towards individuals with disabilities or individuals facing poverty in other countries with whom the children have never met) (Hoffman, 1978a; Hoffman, 2000, pp. 6 and 69-84 as cited in Kristjansson, 2003). Hoffman (1978a) purports that the last stage, Empathic Stress Beyond the Situation, is the "most advanced form developmentally of empathic distress," (p. 184). It is contended that a humane education program with fourth grade students as proposed within the present study should be able to reach most normally developing children in this last, most advanced stage of empathic development in which they can effectively understand and exhibit empathy.

McDonald and Messinger (2011) discuss the initial stage in the development of empathy as follows: Newborns responded more strongly to another infant's cry than to a variety of control stimuli, including silence, white noise, synthetic cry sounds, non-human cry sounds, and their own cry (Martin & Clark 1982; Sagi & Hoffman 1976; Simner 1971). This suggests that infant distress reactions to the cry of another infant are not simply a response to the aversive noise of the cry; rather, they may be a very early precursor to empathic responding. The specificity of reflexive crying to the sounds of other infants' cries supports the idea that there is a biological predisposition for interest in and responsiveness to the negative emotions of others. (p. 3)

The preceding findings support the contention that empathy develops at a very early age in humans and then continues throughout the lifespan. Hoffman also asserts that empathy is related to principles of justice in that when individuals experience empathy towards individuals whom are victims of crimes or injustices for example that an individual's empathy as well as his/her moral principles are simultaneously activated within the individual (Kristjansson, 2003). The relevance and importance of the study of empathy is discussed by Hoffman (1979) as follows:

Despite the qualifications, a human attribute like empathy that can transform another's misfortune into distress in the self demands the attention of social scientists and educators for its relevance both to moral development and to bridging the gap between the individual and society. (p. 963)

In summary, Hoffman's theory suggests that empathy is an important construct to study as it serves as the motivation behind morality and that moral principles and empathy

work together towards the goal of creating moral behavior (Hoffman, 2000 as cited in Hakansson, 2004 and Hakansson, 2004).

      **Assessments Measuring the Construct of Empathy.** Bryant 's (1982) operational definition of empathy utilized in the development of the Bryant Index of Empathy for Children and Adolescents is as follows," a vicarious emotional response to the perceived emotional experiences of others, and the emphasis is on emotional responsiveness rather than on accuracy of cognitive social insight," (Bryant, 1982, p. 414). Bryant reviewed all of the empathy assessments and decided upon modeling her Index of Empathy for Children and Adolescents from the Mehrabian and Epstein scale (1972 as cited in Bryant, 1982), an adult measure of emotional empathy, which is administered in paper and pencil format (Bryant, 1982). Bryant states that the Mehrabian and Epstein scale was chosen as a model for the Index of Empathy for Children and Adolescents due to its ease in administration as well as its potential to reach the ultimate goal of developing an empathy assessment which is similar in form and able to be administered to adults, adolescents and children (Bryant, 1982).

      With the preceding objectives in mind, Bryant (1982) sought to develop an empathy assessment that had psychometric integrity as well as established construct validity. In order to address such aims, Bryant (1982) adhered to construct validation requirements such as the following: 1- Maximization of discriminative ability; 2- In order to determine discriminant and convergent validity, employment of validation procedures such as the Campbell & Fiske (1959) multi-trait, multi-method procedure were completed and 3- Assessment of the construct validity of the Index of Empathy for Children and Adolescents was conducted by testing the relationship between empathy and aggression

as well as acceptance of individual differences which were believed by Bryant (1982) to be similar theoretically related constructs to empathy. Bryant (1982) also assessed age and gender differences as well as the impact of cross-sex stimulus figures on the empathy assessment.

Bryant conducted her study on two samples of students (Bryant, 1982). The first sample was comprised of 258 students (both children and adolescents) whom attended five parochial schools in a western state in non-metropolitan as well as urban settings (Bryant, 1982). Three grades were included within the first sample as follows: 1- 1st graders (n=56; Male (M) =27 and Female (F) =29); 2- 4th graders (n=115; M=56 and F=59) and 3- 7th graders (n=87; M=43 and F=44) (Bryant, 1982). The second sample was comprised of 94 seventh graders (M=42 and F=52) and 72 first graders (M=36 and F=36) (Bryant, 1982).

The measure utilized within the study was the Index of Empathy for Children and Adolescents that was adapted from the Mehrabian and Epstein (1972) scale (Bryant, 1982). The 22 items on the Index of Empathy for Children and Adolescents included 17 items adapted and reworded in a developmentally appropriate manner from Mehrabian and Epstein empathy scale (1972) (Bryant, 1982). The results of the study suggest that the maximization of discriminative ability was met as demonstrated in the low to moderate range of item means and item-total correlations and the varied values of particular items by sex and grade (Bryant, 1982). Further, internal consistency was assessed by computation of Cronbach alpha coefficients which were as follows for each of the grades: 1- 1st graders= .54; 2- 4th graders= .68 and 3- 7th graders= .79 (Bryant, 1982).

In summary, the results from the Index of Empathy for Children and Adolescents suggest that at least the minimum requirements for construct validity were met and that there were significant associations between empathy and age as well as gender suggesting that both age and gender serve as mediators of empathic response (Bryant, 1982). Bryant (1982) suggests that there was a negative relationship between the empathy and aggressiveness for the first and fourth grade boys, a finding consistent with previous research (Feshbach and Feschbach, 1969 as cited in Bryant, 1982). Females (girls) were found to be more empathic than males (boys), which is also in alignment with findings from previous studies (Adams et al., 1979; Hoffman, 1977; Hoffman & Levine, 1976; Mehrabian & Epstein, 1972 and Sagi & Hoffman, 1976 as cited in Bryant, 1982). In regards to age, the older participants in early adolescence (7th graders) were more empathic than the younger participants in childhood (1st and 4th graders) (Bryant, 1982).

Convergent validity was demonstrated by a strong correlation between the Index of Empathy for Children and Adolescents and the Mehrabian and Epstein scale (1972) with the participants in the seventh grade and a moderate correlation for the younger participants in first and fourth grade (Bryant, 1982). With respect to discriminant validity, the results indicated that the Index of Empathy for Children and Adolescents was not associated with reading achievement or social desirability (Bryant, 1982). Further, the Index of Empathy for Children and Adolescents was also unrelated to the scoring of the Feshbach and Roe measure of empathy which Bryant (1982) contends is demonstrative of the distinct nature between affective role taking (more closely related to cognitive empathy) and emotional responsiveness (affective empathy). In conclusion, with the preceding results in mind it is contended that Bryant's (1982) Index of Empathy for

Children and Adolescents serves as the most well developed assessment of empathy available at this time however there have been multiple studies critiquing the assessment, one of which will be expounded upon further below and have been carefully taken into consideration with respect to the development of the present study and the plan for the analysis of the results within the present study.

Sprinkle (2008) utilized the IECA to measure empathy as part of her study examining the effectiveness of a humane education program that aimed to serve as a violence prevention program (Randour & Gupta, 2013). Sprinkle's (2008) study obtained valuable data from multiple sources including teacher reports, self-reports and school administrative data specifically disciplinary reports (Randour & Gupta, 2013). The results from the Sprinkle (2008) study suggested that the humane education program that she was assessing had a significant impact on the participant's empathy levels, normative beliefs about aggression and engagement in aggressive behaviors (Randour & Gupta, 2013).

While the Sprinkle (2008) study provided valuable information regarding the benefits of humane education programs specifically in regards to improving empathy and pro-social behavior in the participants within the program. A critique of the study is that to the best of this author's knowledge the study did not conduct a factor analysis on the Bryant Index of Empathy for Children and Adolescents (IECA) (Bryant,1982), the assessment utilized to assess levels of empathy within the participants within the study. As Hounslow et al. (2010) note, the IECA (Bryant, 1982) is inaccurate unless a factor analysis is conducted upon analysis of the data. Hounslow et al. (2010) discuss the need for a factor analysis based upon the assertion that as they state, "The empathy tool

measures empathy in an individual and is not meant to be used to find interrelationships between empathy in two different population samples," (p. 21). A similar contention is echoed by de Wied et al. (2007) as they discuss the impetus for their study as follows:

Bryant (1982) examined the reliability and validity of the index, using first graders, fourth graders, and seventh graders. 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 IECA demonstrated acceptable test-retest reliability and preliminary construct validity, the item total correlations and the reliability formulas that were used indicated weak internal consistency, especially in the two younger age samples. These findings raise questions about the factor structure underlying the IECA," (p. 100).

Given their concerns with the factor structure of the IECA, de Wied et al. (2007) conducted a study in which they examined the internal structure of the IECA.

The participants in de Wied and colleagues' 2007 study included third-grade (8-9 years of age) and fourth to six grade students (10 to 12 years of age) as well as eighth grade students (13 to 14 years of age). All students were from a Dutch population (de Wied et al., 2007). The study assessed the participants utilizing the dichotomized (yes/no) child response scale format discussed above (de Wied et al., 2007). Further, de Wied et al. (2007) acknowledged previous work conducted by Del Barrio, Aluja, and Garcia, 2004 (as cited in de Wied et al., 2007) which included participants from a Spanish sample of students ranging in age from children to adolescents that also examined the factor structure of the IECA. The Del Barrio et al. 2004 study (as cited in

de Wied et al., 2007) results suggested that the IECA is comprised of the following three

factors: 1- Tearful reactions; 2- Feelings of Sadness and 3- Understanding feelings.

Similar to the Del Barrio et al. (2004) study, de Wied and colleagues' results suggested

that the construct of empathy as assessed on the IECA is multidimensional comprised of

various sub-scales.

The de Wied et al. study results found that similarly to Bryant's 1982 study, the

internal consistency was weak to moderate across the ages of the participants assessed:

eighth graders (.66), fourth to sixth graders (.62) and third graders (.52). Sex differences

were able to be assessed with the third and eighth grade participants however the fourth

to sixth grade participants did not have an adequate sample size to assess sex differences

(de Wied et al., 2007). Upon conducting an exploratory factor analysis it was determined

that there were two factors that emerged and in adhering to the criterion of consistency by

only retaining variables/items with loadings of .32 or higher, a total of 12 variables across

both sexes were included within the analysis (de Wied et al., 2007). The first factor was

comprised of seven variables and the second factor was comprised of five variables (de

Wied et al., 2007).

A second exploratory factor analysis was conducted on all three samples

including males and females from the third, sixth and eighth grades (de Wied et al.,

2007). de Wied and colleagues (2007) recommended that the analysis of the second

sample (n=82) comprised of participants in 4-6th grade should be interpreted cautiously

due to the small sample size. Again, two very similar factors emerged across all three

samples of participants (Sample 1: 3rd grade students; Sample 2: 4th- 6th grade students

and Sample 3: 8th grade students), the only deviation was that within the sample of 4th to

6<sup>th</sup> grade students, Item 13 loaded onto both factors (de Wied et al., 2007). Across samples 1, 2 & 3, the first factor referred to as the Empathic Sadness Factor exhibited moderate to high loadings on the following items/questions from the IECA: 1, 5, 6, 12, 13, 14 and 19. The Empathic Sadness Factor accounted for 27%- 33% of the variance. Overall, the first factor demonstrated reliability with samples 1- third grade students (.71) and 3- eighth grade students (.76) demonstrating good reliability and sample 2- fourth to sixth grade students (.68) barely missing the threshold for acceptability in reliability (de Wied et al., 2007).

Conversely, the second factor, referred to as the Attitude Factor, demonstrated weak reliability overall with samples 1- third grade students (.59), 2- fourth to sixth grade students (.55) and 3- eighth grade students (.54) all failing to meet acceptable standards for reliability (de Wied et al., 2007). The Attitude Factor (Factor 2) did however account for 16% to 20% of the variance (de Wied et al., 2007). Further, Factor 2's items/questions numbers: 2, 3, 9, 16 and 20 also demonstrated moderate to high loadings (de Wied et al., 2007).

It is also important to note that sex differences did emerge with females scoring higher than males as hypothesized by de Wied and colleagues (2007) across all samples when assessing the full 22 item IECA: $t_1$ (815)= -4.87, p<.0001; $t_2$(80)= -3.00, p<.004; $t_3$ (1077)= -16.77, p<.0001. When examining Factor 1- Empathic Sadness, in relation to sex differences t-test analyses revealed that girls scored higher than boys on Factor 1 comprised of items/questions: 1, 5, 6, 12, 13, 4 and 19 as follows: $t_1$ (815)= -6.25, p<.0001; $t_2$(80)= -2.58, p<.012; $t_3$ (1077)= -15.41, p<.0001. In regards to Factor 2 comprised of items/questions: 2, 3, 9, 16 and 20, significant results with respect to sex

differences were only found in the sample of eighth grade students (sample 3): $t_3$ (1077)= -6.02, p<.0001.

As de Wied et al and colleagues discussed and as demonstrated in their 2007 study along with Del Barrio et al.'s 2004 study it is apparent that empathy as assessed on the IECA is a multidimensional construct.  It also appears that the factors derived may be able to be differentiated into cognitive and affective components of empathy.  With the preceding in mind, a factor analysis was initially proposed to be conducted within the present study with the objective of ensuring to complete as accurate and comprehensive of an analysis as possible however given the small sample size it was not possible to do so.  The aim for future research is to obtain a greater sample size so that a factor analysis may be conducted with the data.

In summary, throughout the extant literature on empathy contentions arise regarding the predominance of the origin of empathy as either environmental or genetic in nature, the impact of gender differences and as to whether empathy should be operationally defined as primarily cognitive and/or affective or a combination of the aforementioned assertions (Salkind, 2005).  Regardless of the scholarly debates regarding the construct of empathy, what is widely held by most scholars is as Salkind states that, "…Empathic sensitivity in both males and females can be enhanced or weakened by having (or not having) certain key experiences, particularly during childhood and especially those involving positive socialization, parental examples of affection and generosity, and frequent opportunities to learn about, cooperate with, and assist others," (p. 462).  It is proposed that the intervention of humane education can assist in facilitating the aforementioned positive socialization behaviors including but not limited to the

impact of adult figures modeling affection and generosity; and the opportunity to learn about cooperation and caring for others (including both human and non-human beings); and how to positively impact others through pro-social behaviors and service activities.

**Inferences for the Forthcoming Study**

The present study aims to address a major gap within the extant research literature, the rigorous evaluation of the effectiveness of humane education programs with both quantitative and qualitative analysis based in sound research design. It is hypothesized that exploration of the potential impact and effectiveness of the Washington Animal Rescue League's Humane Education program through both quantitative and qualitative analysis will yield findings suggesting that the program is beneficial for the socio-emotional development of the children as demonstrated in pro-social themes that will emerge within the student's journals. It is also hypothesized that most of the students that participated in the WARL Humane Education Program will demonstrate higher total scores and subscale scores on the IECA when compared to the comparison group and that there will be no significant differences across the classes in the treatment group on the total IECA scores or the subscale scores. Further it is postulated that most students will endorse positive empathic responses on questions related to children and/or animals being hurt or treating animals as though they have feelings on the subscale developed for this study and that the subscale will demonstrate reliability. Additionally, consistent with previous literature, it is hypothesized that the female participants will have higher scores on the IECA in comparison to the male students.

In the following chapter, the methods will be described in detail. Discussion of the plan for analysis of the data with a mixed-methods design will be explicated along

with a description of the participants within the study.  Finally, the hypotheses as well as

conjectures for the results will be presented within Chapter 3.

**Chapter 3: Methods**

**Overview**

This chapter provides a detailed description of the WARL Program, dataset, sample, variables, and statistical analyses that were conducted to examine the research questions under investigation in the present study. Data from a pilot program evaluation study of the Washington Animal Rescue League (WARL) Humane Education Program was utilized for the proposed data analysis explicated below. The data analysis was comprised of both quantitative and qualitative strategies to explore the potential impact and/or effectiveness of the Washington Animal Rescue League Humane Education Program as a preventative intervention for 4th grade students.

**Washington Animal Rescue League (WARL) Humane Education Program (HEP)**

The WARL HEP examined within this study was comprised of six 45 minute sessions over the course of an academic school year for 4th grade students which culminated with a visit to the Washington Animal Rescue League Medical Center at the end of the program in May of 2014. As Ms. Duel, Director of the WARL Humane Education program states:

> An essential component of the Washington Animal Rescue League's
> mission is to educate the public on the needs of companion animals and
> to inspire people of all ages to treat all living beings with care,
> compassion, and respect...To reach children, WARL established
> a Humane Education program to teach youngsters in third through eighth
> grades about such issues as animal overpopulation, the value of spaying
> and neutering, proper care for companion animals, the role of animal

shelters, and the importance of co-existing with wildlife.  The Washington

Animal Rescue League's interactive, classroom-based program targets

elementary and middle-school students. Participants learn about

WARL, the needs we address, and the animals we help. They also meet

our staff and volunteers, who teach the children about companion animals

and their welfare and encourage them to make kind, compassionate, and

responsible decisions.  While learning about animals, students also

develop their reading and writing skills and gain a greater sense of

self.  They share thought-provoking picture books,

poetry, and essays that feature companion animals and are encouraged to

explore their feelings about themselves and animals through journaling

and creative writing, art projects, and community service activities

(Washington Animal Rescue League, 2016).

As discussed previously, Mrs. Duel authored a book titled Nigel about the dog that she

and her family rescued that was a survivor of animal cruelty (Duel, 2008).  Nigel visits

the classrooms and all students in the WARL Humane Education Program are provided a

copy of Nigel (Duel, 2008).  In addition to reading Nigel, a book about animal cruelty

and how people can help to prevent animal cruelty, students in the WARL program also

read the book Shiloh which discussed similar themes such as activism and responsibility

and Because of Winn Dixie, which brought forward important issues about the

responsibility of caring for companion animals.  Students answered questions in their

journals about their thoughts about what they read in the books.

The WARL HEP educates children about what the WARL is and what it does to help animals. The WARL HEP discusses local campaigns against animal cruelty such as Baltimore's "Show Your Soft Side" campaign and talked to the children about what they can do to help animals. The WARL HEP also brought guest visitors to the program such as a professional dog trainer from the WARL who taught and demonstrated dog training using positive reinforcement with the HEP classes.

The role of the author of this dissertation was primarily to coordinate and design the study, conduct the statistical analyses and qualitative analyses and analyze the data. The author of this dissertation attended the last session of the WARL HEP and distributed the Bryant Index of Empathy for Children and Adolescents (IECA; Bryant, 1982) to the students as well as collected their journal entries and observed the students in their humane education lesson which included a visit from a WARL staff member and her canine partner. This WARL staff member was a professional dog trainer who taught the children dog training using positive reinforcement. The children were highly receptive to the experiential learning and very excited to take part in the "real life" learning experience.

**Research Questions, Hypotheses, Conjectures, Design and Analyses**

The following research questions and conjecture were examined in the study:

1- Do differences exist between the treatment and comparison groups on their total Bryant Index of Empathy for Children and Adolescents (IECA; Bryant, 1982) scores?

*Hypothesis for Research Question #1:* It was hypothesized that the treatment group would have higher scores on the IECA than the comparison group.

*Statistical Analysis for Research Question #1:* A Mann-Whitney test was conducted to examine what if any differences were present between the treatment and comparison groups' total scores on the IECA.

2- What was the reliability of the subscale comprised of Items 6, 11, 14 and 16 on the IECA that are related to children and/or animals being hurt or treating animals as though they have feelings like people?

*Hypothesis for Research Question #2:* It was hypothesized that the subscale would demonstrate reliability as indicated by results demonstrating sufficient reliability on the Kuder- Richardson 20 (KR-20) analysis.

*Statistical Analysis for Research Question #2:* A Kuder-Richardson-20 (KR-20) reliability analysis was conducted to assess the reliability of the subscale.

3- Did the fourth grade students that participated in the WARL Humane Education Program endorse positive empathic responses on questions from the subscale developed for this study comprised of IECA Items 6, 11, 14 and 16 (items related to children and/or animals being hurt or treating animals as though they have feelings like people) and what if any differences existed between the treatment and comparison group on their subscale scores?

*Hypothesis for Research Question #3:* It was posited that most of the students that participated in the WARL Humane Education Program would indicate empathic responses on questions related to children and/or animals being hurt or treating animals as though they have feelings like people (Items 6, 11, 14 and 16 on the IECA) and thus have high subscale scores and that the treatment group would have higher scores on the subscale than the comparison group.

*Statistical Analysis for Research Question #3:* A Mann-Whitney test was conducted to examine what if any differences were present between the treatment and comparison groups' subscale scores. A secondary objective of this analysis was to explore the findings regarding endorsement of IECA Items 6, 11, 14 and 16 which as noted previously comprise a subscale of the IECA developed for this study in order to obtain a general indication as to the number of students endorsing empathic responses on items that directly pertain to harm to children or animals and/or the belief that animals have feelings similar to people all of which are issues addressed within the WARL Humane Education Program. The IECA items under examination in research question #3 are as follows:

1- Item 6: I get upset when I see a girl being hurt

2- Item 11: I get upset when I see an animal being hurt

3- Item 14: I get upset when I see a boy being hurt

4- Item 16: It's silly to treat dogs and cats as though they have feelings like people

In summary, the primary objective within the analysis of research question #3 is to explore the potential impact of the program and gain a greater understanding about the empathic responses that the participants may or may not be endorsing on the subscale.

4- Were there any significant differences between boys and girls on their IECA scores?

*Hypothesis for Research Question 4:* In alignment with findings from previous research (Bryant, 1982) it was hypothesized that girls would have higher scores on the IECA in comparison to boys.

*Statistical Analysis for Research Question #4:* A Mann-Whitney test was conducted to explore what if any gender differences existed within the sample under investigation in the present study.

5- Did differences exist on IECA total scores across the three classrooms in the treatment group?

*Hypothesis for Research Question 5:* It was hypothesized that there would be no significant differences across the classes on the IECA total scores.

*Statistical Analysis for Research Question #5:* A Kruskall- Wallis test was conducted to assess what if any differences in total IECA scores existed across the three classrooms in the treatment group.

6- Did differences exist on the IECA subscale scores across the three classrooms in the treatment group?

*Hypothesis for Research Question 6:* It was hypothesized that there would be no significant differences across the classes on the IECA subscale scores.

*Statistical Analysis for Research Question #6*: A Kruskall- Wallis test was conducted to assess what if any differences in IECA subscale scores existed across the three classrooms in the treatment group.

7- *Conjecture for the Qualitative Analysis:* With respect to the analysis of the qualitative data, the children's journals were used to describe these students' experience in a humane education program and to learn more about the impact that such a program had on the children's socio-emotional, moral and empathic development as well their pro-social responses. With the preceding in mind, the conjecture for the qualitative analysis of the journals was that themes of pro-social behavior would emerge within the writing of the participants in their WARL Humane Education Program Journals.

*Purpose of the Qualitative Analysis:* The purpose of the qualitative research analysis was to gain a greater understanding as to how the students made meaning of their experience in the WARL Humane Education Program. The primary endeavor was to describe these students' experience in a humane education program and learn more about the impact that such a program had on the children through the children's own words in their journals that they completed in the program.

*Journal Prompt:* As discussed above, the research question for the

qualitative analysis was: How did the participants understand or make

meaning of what they learned from the WARL Humane Education

Program?  To address this question, students were provided the following

journal prompt/question at their last class by the Humane Educator:

"During the Washington Animal Rescue League visits we talked about the

life-long commitment it takes to care for animal companions.  Plus we

talked about the importance of speaking up for animals.  If you could do

one thing to make the world a better place for animals, what would you do

and why?"

**Statistical Analyses and Design**

**Qualitative Analysis Design.**  While based in the basic interpretive qualitative

research design (Merriam, 2002), qualitative analysis was conducted utilizing the

systematic constant comparative data analysis method in which the data being analyzed

was obtained directly from the children participating in the study (Glaser & Strauss, 1967

as cited in Cresswell, 2007).  The aforementioned research question was explored within

this study by focusing on broad themes and/or salient categories that emerged through the

open coding procedure in the constant comparative data analysis method (Strauss &

Corbin, 1990, 1998 as cited in Cresswell, 2007).  Throughout the coding process analytic

memos were constantly completed with the objective for such memos to assist in the

facilitation of analytical insight as well as reflection and the continued identification of

themes (Cresswell, 2007; Maxwell & Miller, 1996 as cited in Wright, 2011).   Finally, the

analytic memos were also used as an organizational tool to assist in improved analysis of the data (Cresswell, 2007; Maxwell & Miller, 1996 as cited in Wright, 2011).

The coding of the journals took place by identifying emergent and theoretical codes and then subsequently defining and categorizing such codes along with providing additional evidence in the form of quotes from the participants as well as through the interpretation completed by the researcher on a spreadsheet (Wright, 2011). The spreadsheet was then developed into a matrix that provided a visual depiction of codes, their definitions and how they were categorized based upon their respective themes (Wright, 2011). The matrices assisted in the facilitation of the analysis of the various themes arising within the journals of the students and as well as in linking the themes that emerged which developed the conceptual framework (Seidman, 1998; Wright, 2011). In light of the fact that the researcher is the instrument of analysis within qualitative research and thus one must be cognizant of identification of potential bias and transference that may occur on the part of the researcher as well as to attend to best practices within qualitative research, reflective memos were written throughout the data analysis process (Miles & Huberman, 1994; Wright, 2011).

**Quantitative Analysis Design**. Non-parametric tests were chosen given the small and/or unequal sample sizes of the groups within this study resulting in the inability to rely on the central limit theorem (Field, 2013).

**Software Utilized for Quantitative Statistical Analyses.** SPSS Predictive Analytics Software v.22 (2013) was utilized to conduct the descriptive statistics, Mann Whitney and Kruskall Wallis tests and other related analyses.

**Participants**

**Missing Data and Outliers.**  Participants that did not endorse all 22 Index of Empathy for Children and Adolescents (IECA; Bryant, 1982) items (n=9) were excluded from the analyses of total IECA scores using listwise deletion. Two outliers were also excluded given their z scores= -3 in order to accurately conduct the analyses.

As discussed above, data analysis was conducted on data from a pilot study exploring the impact and/or effectiveness of the WARL Humane Education Program on 4th grade students as a preventative intervention.  A total of 59 participants were included in the data from the Washington Animal Rescue League (WARL) Humane Education Program Pilot Study.  Of the 59 participants, 47 participants in total were from the three fourth grade classes that participated in the WARL Humane Education Program and thus were in the treatment condition and 12 participants were from the one fourth grade class that did not participate in the WARL Humane Education Program and thereby comprised the comparison group.   The participants were predominately white, similar in gender and ranged in age from 9-10 years old (See Table 1).

Table 1

*Participant Demographics by Condition*

| | Independent t test (n=48)* | | | Comparison (n=12) | | Treatment (n=47) | |
|---|---|---|---|---|---|---|---|
| | $t$ | $p$ | Cohen's d | N | % | N | % |
| **Variable** | | | | | | | |
| Age | .334 | .740 | -.025** | | | | |
| 9 Years of Age | | | | 8 | 66.7 | 30 | 63.8 |
| 10 Years of Age | | | | 4 | 33.3 | 17 | 36.2 |
| | Chi-square tests (n=59) | | | | | | |
| | $X^2$ | $p$ | | | | | |
| Gender | .338 | .561 | | | | | |
| Male | | | | 5 | 41.7 | 24 | 51.1 |
| Female | | | | 7 | 58.3 | 23 | 48.9 |
| Race/Ethnicity | 6.33 | .176 | | | | | |
| Asian | | | | 1 | 8.3 | 0 | 0 |
| Black | | | | 2 | 16.6 | 3 | 6.4 |
| Hispanic | | | | 0 | 0 | 2 | 4.3 |
| White | | | | 8 | 66.7 | 40 | 85.1 |
| Mixed Race | | | | 1 | 8.3 | 2 | 4.3 |

*Sample with outliers and missing data excluded within the study
** *Cohen's d* benchmarks: Small= .2; Medium=.5 and Large= .8

The School Counselor for the 4th Grade at the school in which the humane education program was held stated that classes were arranged by the school so that they were diverse in regards to race, ethnicity, gender, academic ability and performance and that social/emotional factors were also taken into consideration when forming the classes.

Thus it was determined that that the fourth grade classes were all as similar as possible and thereby given the small sample size of the students within the study that the matching procedure that was initially planned was no longer necessary. It is important to note that the sample within this study is a unique sample that varies from the usual classrooms and students participating in the WARL Humane Education Program.

**Power Analysis.** A power analysis was conducted in order to determine if an appropriate sample size was present to conduct an independent *t-* test for the WARL Humane Education Program data. Given the limited resources resulting in acceptance of a lower power than the typical cut off of .80 as suggested by Cohen (1988 & 1992 as cited in Field, 2013), the results of the power analysis were as follows: Alpha= .05; Power= .666 and Effect Size=1.0 allowing for a minimum of 12 participants within each group. Due to the fact that the Washington Animal Rescue League Humane Education study was a pilot study, the aim is to increase the sample size in future.

It is important to note that the independent *t*-test is a parametric test in which a normal distribution of data is an assumption (Field, 2013). In accordance with central limit theorem it is important to account for normality within each group (level) of the predictor variable (Field, 2013). In the case of the present study, the groups are the treatment and comparison groups in Research Questions #1 and #3, males and females in Research Question #4 and the three treatment classes in Research Questions #5 and #6.

The central limit theorem also states that a minimum sample size of 30 subjects per group is required in order to meet the required assumption of normality of the data (Zar, 1999 as cited in Martinez-Abrain, 2014). While some researchers such as Hesterberg (n.d.) state that the requirement of 30 subjects for a minimum sample size is

not necessary others assert that in some cases a minimum sample size of over 30 subjects may be warranted (Martinez-Abrain, 2014). Furthermore, other researchers suggest that an alternative to the t-test can be found by utilizing non-parametric analyses (Northwestern University, 1997). As discussed previously, non-parametric tests were conducted in this study given the small and/or unequal sample sizes resulting in an inability to rely on the central limit theorem (Field, 2013).

**Materials**

**Journals for the WARL Humane Education Pilot Study.** Journals were part of the already occurring humane education program. The students were provided prompts by the Humane Educator to which the students responded in their journals.

**Measures**

**Index of Empathy for Children and Adolescents (IECA).** The measure utilized within the study was the Index of Empathy for Children and Adolescents (IECA) that was adapted from the Mehrabian and Epstein (1972) scale (Bryant, 1982) (See Appendix). The 22 items on the IECA included 17 items adapted and reworded in a developmentally appropriate manner from the Mehrabian and Epstein empathy scale (1972) (Bryant, 1982). The remaining five items were described by Bryant (1982) as follows:

> Five of the original items generated two items on this adapted version, four
> original items yielded one new item with a male stimulus and a parallel new item
> with a female stimulus. For example, the adult form says, "It makes me sad to see
> a lonely stranger in a group," whereas the form for younger persons says, "It

makes me sad to see a girl (boy) who can't find anyone to play with." Based on Feshbach and Roe's (1968) previous finding that boys are more empathic to boys and girls empathic to girls, these items provided a basis for discriminating among children who were empathic to cross-sex, as well as same-sex, stimulus figures. A fifth original item yielded two new items, one with an affirmative answer indicating an empathic response, the other a negative response indicating an empathic response. (pp. 415-416)

It is important to note that responses are scored in a manner in which a higher score on the IECA reflects an increased level of empathy (Bryant, 1982).

Bryant (1982) sought out to examine the construct validity and psychometric integrity of the IECA through assessing various criteria. Bryant (1982) contends that the IECA met the minimum requirements for construct validity. Bryant (1982) also stated the following, "Internally, most item means are in the prescribed middle range with low-moderate item total correlations, indicating reasonable discrimination power of the index," (p. 422). Assessment of convergent validity was determined through correlation of the IECA with Feshbach & Roe's (1968) empathy measure through use of the general scoring procedure for 1st grade participants in Bryant's (1982) study and through the correlation of the Mehrabian and Epstein (1972) empathy assessment for adults with the 7th grade participants in Bryant's (1982) study. Bryant's (1982) findings indicated support for convergent validity on the aforementioned measures with the total sample of each grade.

Discriminant validity was also assessed through the correlation of reading scores within the school record with the empathy scores of the 1st, 4th and 7th grade participants

in Bryant's (1982) sample. Support was found for discriminant validity as well as evidenced in the results that found non-significant correlations for all grade levels (1st, 4th and 7th graders). Of particular interest was the non-significant correlation between social desirability and empathy in the 4th and 7th grades samples which suggested that contrary to the belief of other theorists that social desirability impacts self-report empathy measures that this was not the case for the Bryant (1982) sample. Further, internal consistency was assessed by computation of Cronbach alpha coefficients which were as follows for each of the grades: 1- 1st graders= .54; 2- 4th graders= .68 and 3- 7th graders= .79 (Bryant, 1982).

**Procedure**

**WARL Humane Education Pilot Study Procedures.** The WARL Humane Education Program was comprised of six 45 minutes sessions/classes that were held in three 4th grade classrooms. The other fourth grade classroom at this school that declined to participate in the humane education program served as the comparison group within this study. Upon approval from the Institutional Review Board and the school system, the following procedures were employed for the WARL Humane Education Pilot Study: 1- The parents of the 4th grade students at the elementary school participating in the study were invited to allow their child(ren) to participate in the aforementioned humane education research study through an informational letter and informed consent sent by the school on behalf of the researchers; 2- Screening Criteria: All students in the fourth grade at this Elementary School were invited to participate in the program; 3- Parent(s) interested in having their children participate in the study signed an informed consent indicating their interest in having their children participate in the study, the children assented to their

participation in the study as well.  Participants were provided the opportunity to discuss and/or address any questions with the Principal Investigator of the study upon request to do so; 4- Students completed the Index of Empathy for Children and Adolescents upon completion of the program; 5- Throughout the study, the students completed journals on their experience in the humane education program, the last entry of the journal was examined in the qualitative analysis component of this research study; 7- Types of data collected included: i. Basic demographic information; ii. Assessment scores from the aforementioned Index of Empathy for Children and Adolescents and iii.  Qualitative data from the children's journals; 8- All of the IECA data was entered into a SPSS Predictive Analytics Software v.22 (2013) database on an approved secure computer supplied by the university; 9- Only the researcher conducting the study saw the assessments and data collected from participants within the study; 10- The participants' data was not associated with their name; rather the participant's names were converted to a code number; 11- All physical data or consent forms were kept in locked cabinets/file boxes; 12- The identity key was locked in a file box in a separate location from the data; 13- The data stored in anonymously coded data files will only be released to participants or professionals authorized by them therefore, chances for breaches of confidentiality are extremely remote; 14- All data will be destroyed upon termination of the MOA and/or within two years after publication of the results per the policy outlined in the MOA.

*Electronic Data.*  In regards to electronic data, the database in which the data was entered was password protected and identifying information was kept/stored separately. Protection of confidential data was ensured by following the policies and procedures established by the university.

In summary, the aim of the methodology employed within the present study was to contribute to the extant literature by conducting a mixed-methods study design evaluating the effectiveness of humane education. The goal is to expand upon this design significantly in future research. Follow-up studies plan to include multiple school sites with diverse locations as well as participants with varied backgrounds. The expectation is that in doing so increased methodological rigor will begin to come to fruition within the field.

## Chapter IV: Results

This chapter presents the results and provides initial interpretation of the analyses.

### Research Question #1

The presence of statistically significant differences between the Total IECA scores for the treatment and comparison groups were examined through conducting a Mann Whitney test in Research Question #1. The post-test outcomes for the treatment and comparison groups indicated that the Total IECA scores in the treatment group (*Mean Rank= 21.83*) differed significantly from the comparison group and had a large effect (*Mean Rank= 34.65), U= 88.5, z= -2.596, p= .008, d= -1.006* (See Figure 1).
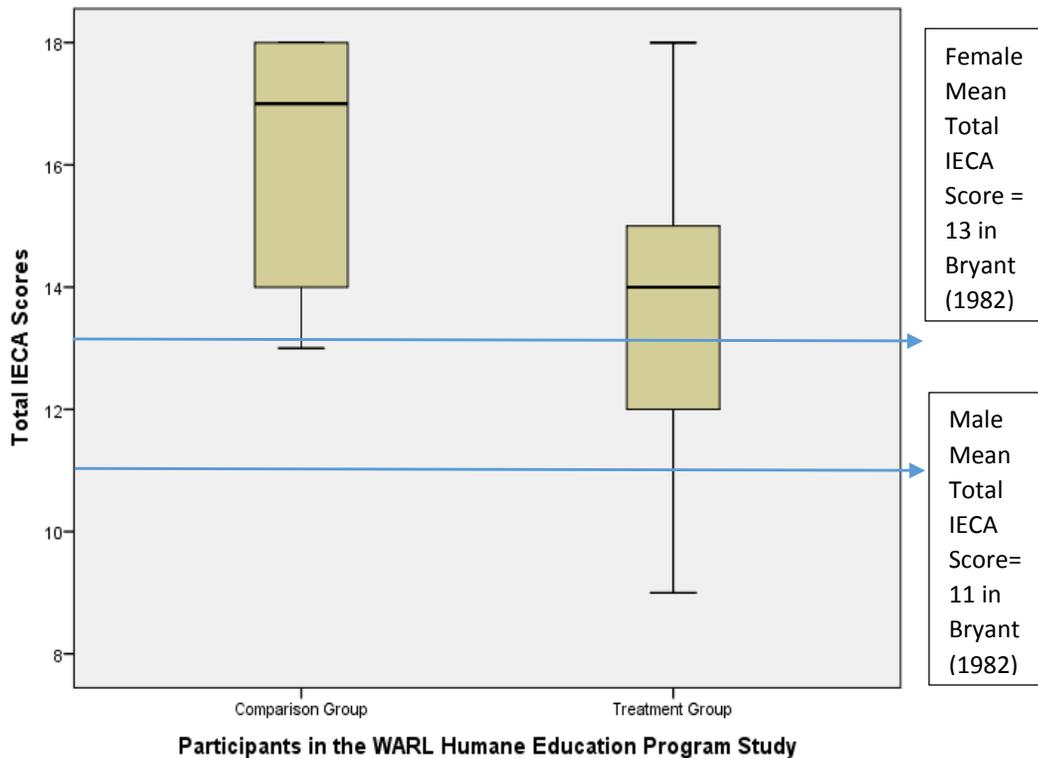


Figure 1. Mean Total IECA scores for participants in the WARL Humane Education Program Study by Condition and Mean Total IECA Scores for 4th grade participants in the Bryant (1982) study by Gender.

## Research Question #2

The reliability of the IECA Subscale (comprised of IECA Items: 6, 11, 14 & 16) was tested through conducting a Kuder-Richardson 20 analysis of reliability. The Cronbach's alpha was .504. The factors impacting the results of this analysis along with additional information gleaned from this analysis will be expounded upon in the discussion section.

## Research Question #3

A Mann Whitney test was conducted in Research Question #3 to examine what if any statistically significant differences existed between the treatment and comparison groups' IECA Subscale (comprised of IECA Items: 6, 11, 14 &16) scores. IECA Subscale scores in the treatment group (Mean Rank= 26.52) did not differ statistically significantly from the comparison group and had a non-existent effect (Mean Rank= 26.42), $U= 241, z= -.027, p= .978, d= .045$.

## Research Question #4

Mann Whitney tests were conducted in Research Question #4 to examine whether there were any gender differences between the participants. Total IECA scores in males (*Mean Rank= 24.12)* did not differ in terms of statistical significance from females and there was no effect (*Mean Rank= 24.88), U= 279, z= -.187, p= .852, d= -.066.* Similar results were found upon examination of any gender differences on the participants' IECA Subscale Scores. No significant differences were found between males (*Mean Rank= 25.56)* and females on their IECA Subscale Scores and there was no effect (*Mean Rank= 27.52), U= 312, z= -.586, p= .588, d= -.091* (See Figure 2).
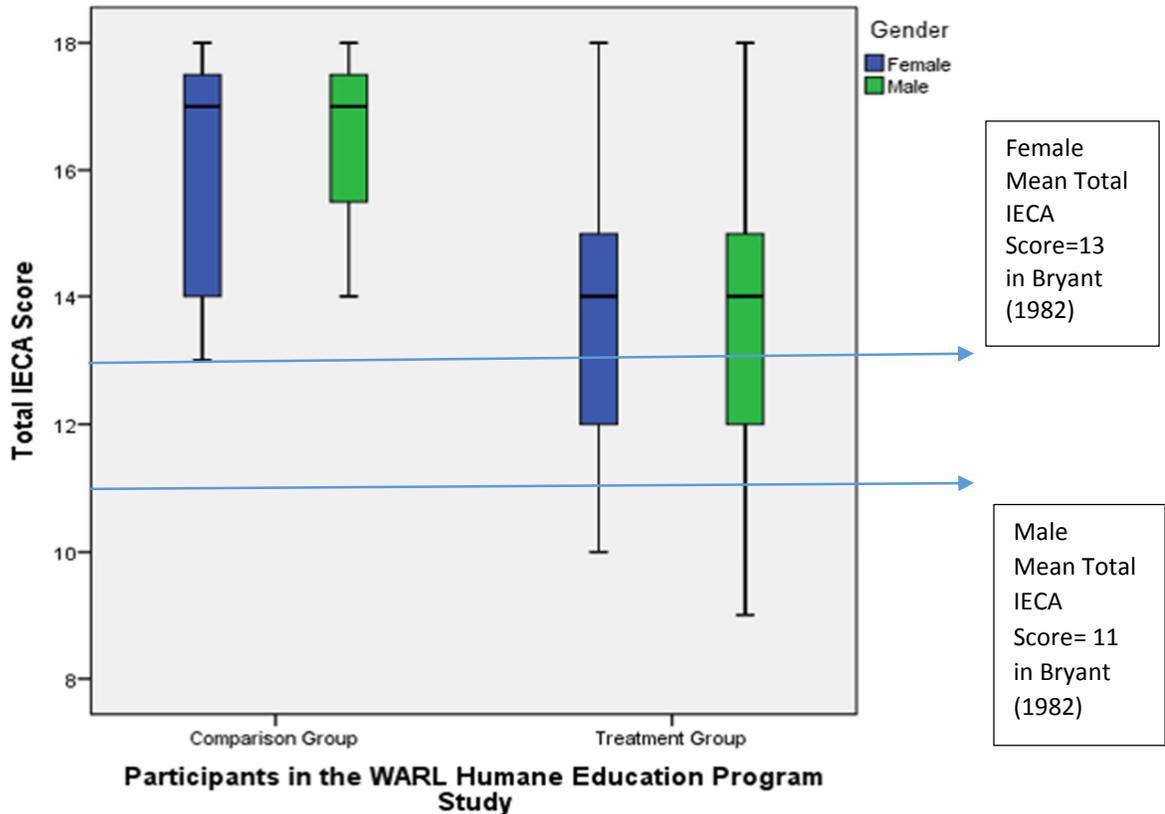
Figure 2. Mean Total IECA scores for participants in the WARL Humane Education Program by Condition and Gender and Mean Total IECA Scores for 4th grade participants in the Bryant (1982) study by Gender.

## Research Question #5

Kruskall-Wallis Tests were conducted to examine Total IECA scores for the three classrooms in the treatment group in Research Question #5. Total IECA scores did not differ significantly across the three classrooms, $H(2)= 5.592$, $p= .061$ (See Figure 3).
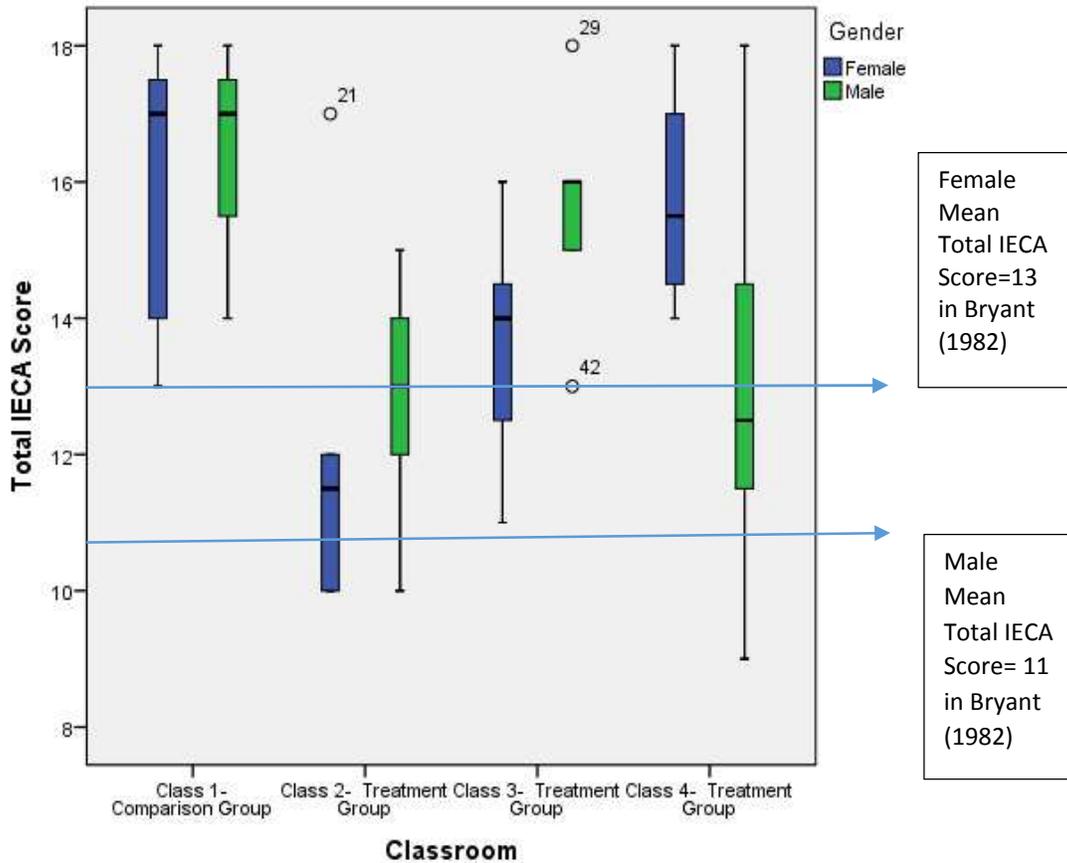
Figure 3.  Mean Total IECA scores for participants in the WARL Humane Education Program by Classroom and Mean Total IECA Scores for 4th grade participants in the Bryant (1982) study by Gender.

## Research Question #6

Kruskall Wallis tests were also used in Research Question #6 to examine whether there were any statistically significant differences between three treatment group classrooms' IECA Subscale scores.  Similar to the findings in Research Question #5, there were no statistically significant differences between the three classrooms on their IECA Subscale scores, $H(2)= 3.132$, $p= .209$.

## Research Question #7

**Qualitative Analysis Themes.**  Multiple themes emerged through the open coding process. These themes were then further reviewed and collapsed within the axial

coding process. The primary themes that emerged were: 1- Empathy and Prosocial

Behavior; 2- Reciprocity, Justice and Fairness and 3- Morality and Community Concern.

Upon further review, the third major theme- Morality and Community Concern was

collapsed into the first primary theme- Empathy and Prosocial Behavior which will be

detailed further in the following section.

Overall the majority of participants endorsed empathic beliefs and discussed

prosocial behavior within their journals. Many students had statements discussing

justice, fairness, morality and/or expressions of community concern. Ultimately a

diagram was developed to visually depict the responses of the WARL Humane Education

Program participants and their relation to extant theories of empathy and/or morality (See

Figure 4).

*Empathy and Prosocial Behavior.* The primary theme Empathy and Prosocial

Behavior includes the following subthemes: 1- Affective Empathy; 2- Cognitive

Empathy/Perspective Taking and 3- Advanced Empathy including prosocial behavior

such as targeted helping. Further, within the third subtheme- Advanced Empathy themes

of morality and community concern expressed by participants within their journals were

included as well. The responses of the participants were in alignment with de Waal's

Pillars of Morality (de Waal, 1996; 2006; 2015) and Preston & de Waal's discussion of

the perception action mechanism (PAM) of empathy within the Russian Doll Model

(Preston & de Waal, 2008; de Waal, 2006) discussed by de Waal (2006) as follows:

> According to the Russian Doll Model, empathy covers all processes leading to
>
> related emotional states in subject and object. At its core is a simple automatic
>
> Perception Action Mechanism (PAM) which results in immediate, often

unconscious state matching between individuals.  Higher levels of empathy that
build on this hardwired basis include cognitive empathy (i.e. understanding the
reasons for the other's emotions) and mental state attribution (i.e. fully adopting
the other's perspective).  The Russian Doll Model proposes that outer layers
require inner ones," (de Waal, 2006, p. 39).

The first subtheme- Affective Empathy, included more simplistic feelings of empathy
referred to by Preston & de Waal (2008) and de Waal (2006) as emotional contagion or
state matching.  The second subtheme- Cognitive Empathy, or perspective taking was
defined by de Waal (2006) as the ability to "assess the situation and reasons for other's
emotions," (p.39).  The last subtheme- Advanced Empathy comprised of both cognitive
and affective empathy as well as prosocial behavior was reflected in actions which
Preston & de Waal (2008) and de Waal (2006) refer to as targeted helping which often
incorporate both sympathetic concern and the act of consolation as well as notions of
community concern and morality.

Community concern is defined by de Waal as concern that, "…reflects the stake
each group member has in a cooperative atmosphere.  Most individuals have much to
lose if a community were to fall apart, hence interest in its integrity and harmony," (de
Waal, 2006, p. 54). The definition of morality is also provided by de Waal as, "a group
oriented phenomenon born from the fact that we rely on a support system for survival,"
(McIntyre, 1999 as cited in deWaal, 2006).  de Waal summarizes the essence of prosocial
behavior and morality as follows:

…the moral domain of action is Helping or (not) Hurting others (deWaal, 2005 as
cited in deWaal, 2006).  The two H's are interconnected. If you are drowning and

I withhold assistance, I am in effect hurting you. The decision to help, or not, is by all accounts a moral one. Anything unrelated the 2 H's falls outside of morality," (de Waal, 2006, p. 54).

Prosocial Behavior, expressed as helping and not hurting others was an overarching theme discussed by participants within their journals.

*Affective Empathy.* The first subtheme- Affective Empathy, was often seen as personal distress within the writing of the participants' journals. For example, in response to the journal prompt provided by the WARL humane educator to the humane education program participants stated as, "During the Washington Animal Rescue League visits we talked about the life-long commitment it takes to care for animal companions. Plus we talked about the importance of speaking up for animals. If you could do one thing to make the world a better place for animals, what would you do and why?" one student shared that, "I would try to make everybody not able to hurt an animal. This is an important rule because it makes people sad to see hurt animals." Similarly, another participant wrote, "I would let every animal who is suffering be able to have a nice forever home or at least just be able to not be starved and have the right medication and a shelter when it is cold or raining. I would do this because it is very upsetting to me to see an animal suffering or without a home." Both of the aforementioned statements by the participants reflect themes of affective empathy with a focus on the personal distress experienced by the participants. While affective empathy/personal distress is referred to as the more simplistic form of empathy it is important to emphasize that just because it is less advanced does not mean it is less important. In fact, de Waal contends that affective empathy which serves as the core of

PAM and Russian Doll Model of empathy is critical and often serves as the impetus towards more advanced empathy and subsequent prosocial behavior.

*Cognitive Empathy.* Perspective taking (cognitive empathy) was expressed by many of the participants in their journals. The ability of one participant to take the perspective of other sentient beings was seen in their journal entry in which they wrote, "I would want to make sure there are no more puppy mills. I want to do that because the animals are treated cruelly and that makes animals, sad, cramped and angry." Another participant wrote, "If a dog was in need I'd help because if you needed help and somebody looked at you and walked past [you would want help] if you were a dog so that's why we should help animals." The empathic capacity to take on the perspective of another and imagine what another sentient being such as an animal is feeling is imperative in order for children to move towards the development of more advanced forms of empathy such as targeted helping and the expression of empathy in prosocial behavior.

*Advanced Empathy: Prosocial Behavior and Targeted Helping.* The third subtheme of advanced empathy emerged within the journals of most of the participants (n=24). More specifically, the overarching theme of prosocial responses focused on advanced forms of empathy such as targeted helping was endorsed by numerous participants. This was seen as one participant wrote about her experience meeting Nigel (the dog which the WARL Humane Educator Ms. Duel rescued who now lives with her family and is the main character in the book which all students read as part of their experience in the WARL Program) as follows:

I felt really happy when Nigel came in.  I was glad to know she was okay after being treated so badly.  If I could do something to make the world a better place for animals I would make it illegal everywhere to tie up animals for more than 30 minutes. That way a lot less animals would be mistreated.

In addition to discussion of a direct experience, many participants shared about specific targeted helping activities many of which appear to have grown out of community concern.  Examples of some of the targeted helping activities expressed in the participant journals included but are not limited to the following: 1- Provision of good homes and shelter; 2- Building animal hospitals and veterinary clinics for many different species of animals that would help any animal in need; 3- Development of education programs/schools to teach people how to appropriately care for and train animals; 4- Commitment to volunteering at animal shelters to help needy and lonely animals; 5- Creation of a holiday called "National Dog Day"; 6- Provision of food and supplies to needy animals; 7- Cleaning the environment and habitats in which animals live; 8- Stopping deforestation and 9- Creation of habitats for animals.  Further other targeted helping actions discussed by participants included themes of justice and fairness that are explicated further in the next section.

   ***Reciprocity: Justice and Fairness.***  The second primary theme that emerged- Reciprocity comprised of themes about Justice and/or Fairness is defined by de Waal as a construct, "…to involve psychological altruism, as I have understood it, for it depends on not being content with a situation one would have seen as satisfactory precisely because one recognizes that the needs of others have not been met," (de Waal, 2006, p. 131). Many participants voiced their opinions about the need for justice for animals.  With

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respect to justice and fairness, themes of legal justice and moral fairness through the development of laws to protect animals as well as justice through law enforcement intervention were the predominant themes noted in the journals.  One participant stated, "I would want it to be illegal to force animals out of their homes.  I would want that law because first of all animals were there first and imagine that your home was being raided and you were forced out of your home."

Other participants echoed similar feelings and many of the themes discussed within the journals were related to laws that they would create to ensure fairness for animals and the enforcement of such laws by special law enforcement units designed specifically to combat animal cruelty.  Some of the themes in the student journals included but are not limited to the following: 1- Laws ensuring equality for animals; 2- Laws ensuring appropriate treatment of animals; and 3- Development of special animal cruelty police forces.  Another participant stated, "I would try to get special police just for animals.  They would drive around and look for animal cruelty.  They would have special cars that were for carrying cats, dogs and even miniature ponies."  As exemplified in the statements by the participants within their journals, the participants felt a yearning for justice, equality and fairness that needed to be met for animals.

Reciprocity comprised of both justice and fairness is a pillar along with the pillar of empathy that serve as the "chief prerequisites" (de Waal, 1996; de Waal 1996 as cited in de Waal, 2006, p.20) and foundation or "building blocks" (Flack and de Waal, 2000 and Flack and de Waal 2000 as cited in de Waal, 2006, p. 20) of morality (See Figure 4). Washington Animal Rescue League (WARL) Humane Education Program participant journal responses were in alignment with de Waal's Pillars of Morality (de Waal, 1996,

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2006, 2015) and Russian Doll Model of Empathy (Preston & de Waal, 2008; de Waal, 2006).  Analysis of WARL Program participant journal responses suggest that the participants expressed advanced empathic capacity as evidenced in their empathic and prosocial responses towards other sentient beings such as non-human animals.  In summary, initial interpretation of the results were reported in this chapter and further analysis and discussion of the results will be provided in Chapter V.
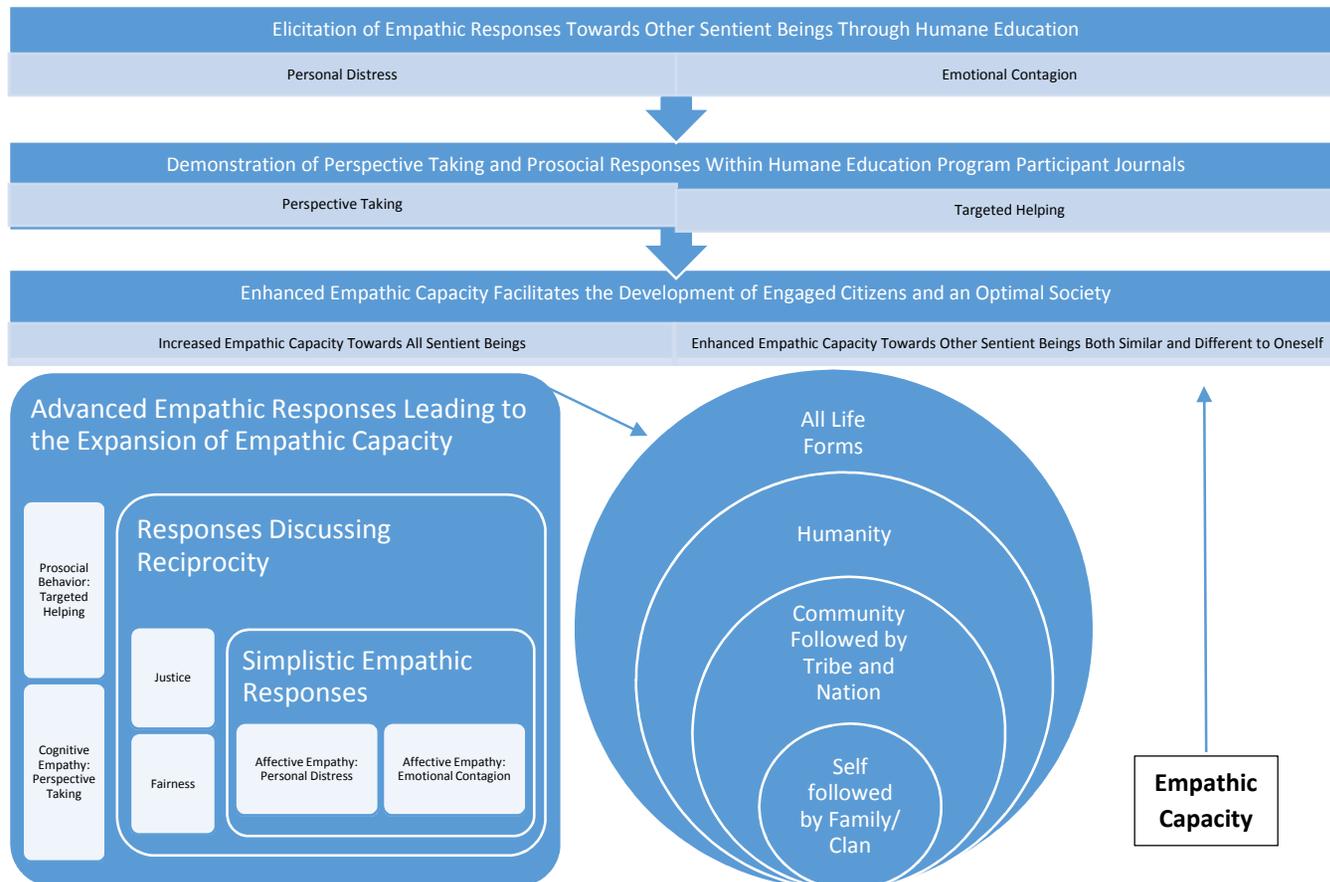
**Perception Action Mechanism Model of Empathy Expanding Circle of Human Morality/Empathy**
**(Preston & de Waal, 2008; de Waal, 2006)          (de Waal, 2006; Singer, 2011; Pinker, 2011)**

Figure 4.  Model explaining the impact of the WARL Humane Education Program as evidenced in the participants' empathic and prosocial responses and their relation to extant theories of empathy and morality (de Waal, 1996, 2006, 2015; Preston & de Waal, 2008; Singer, 2011; Pinker, 2011)

**Chapter V: Discussion**

This chapter begins with discussion of the findings organized by each research question. The discussion of the results is followed by description of the limitations. The chapter concludes with discussion of future research directions and initiatives.

The vast majority of participants in the Washington Animal Rescue League (WARL) Humane Education Program endorsed items indicating empathy towards both humans and animals on the Index of Empathy for Children and Adolescents (IECA; Bryant, 1982). Participants also wrote prosocial responses in journals which they completed as part of the WARL Humane Education Program. The primary themes that emerged within the qualitative analysis of all the participants' journals included empathy, prosocial behavior, reciprocity, justice and fairness. The prosocial themes that emerged within the qualitative analysis of all the participants' journals coupled with the endorsement of empathic beliefs towards both humans and animals on the IECA suggest that WARL Humane Education Program effected the desired outcomes aimed for within the mission of the WARL Humane Education Program. Additional factors impacting the results within the present study as well as additional information gleaned from the analyses will be expounded upon in the following sections discussing the findings.

**Research Questions #1 and #3**

The mean total IECA scores for both the Treatment and Comparison Groups (Treatment Group Mean Total IECA Score=13.63, n=38; Comparison Group Mean Total IECA Score=16, n=12) were higher than the initial sample mean of the participants in Bryant's (1982) study (4th grade Male Mean Total IECA score=11 and 4th Grade Female

Mean Total IECA score=13).  The aforementioned finding may speak to the unique

nature of this sample, especially in comparison to other classrooms in the WARL

Humane Education Program who have been more receptive to and enthusiastic about the

program as indicated on teacher and administrator statements from other schools noted on

the WARL yearly reports.   Thus, it is hypothesized that one reason that the empathy

level (as assessed on the IECA) may be higher in this sample is due to the increased

likelihood of lack of early adversity leading to effective development of mirror neurons

and other areas critical to the optimal development of empathy including but not limited

to a greater probability of an environment full of resources which may be contended as

ideal for fostering empathy in most cases of developing youth (Hertzmann, 2012 as cited

in Nelson, Kendall & Shields, 2014; McEwen, 2012, Shonkoff, 2012 as cited in Nelson et

al., 2014; Moles, Kleifer & D'Amato, 2004; Walsh & Yun, 2014; Beetz, 2009).

 With respect to the difference between the mean Total IECA scores of the

Comparison and Treatment Groups there were more females in the Comparison Group

than males as well as more females that were older (Age 10 vs. Age 9) in the Comparison

Group perhaps suggesting that gender and age differences may have influenced the

results.  The extant research suggests that females typically have higher empathy levels

than males and that the older the chronological age of the person, the greater likelihood

that they will have higher empathy levels in comparison to others younger in

chronological age than themselves.  It may also be posited that females are more likely to

be animal enthusiasts and would therefore be more likely to endorse IECA Items 11

and/or 16 indicating cognitive and/or affective empathy towards animals.  Lastly, the

teacher of comparison group classroom is highly enthusiastic about teaching her students

lessons about science and the environment (lessons similar to humane education) which may also account for the high scores in the comparison group and another factor contributing as to why the sample in the present study was a unique sample.

It is interesting to note that 100% (n=12) of the Comparison Group endorsed IECA Item 11 indicating affective empathy towards animals and 11 out of the 12 participants in the Comparison Group (91.7%) endorsed empathic responses on IECA Item 16 indicating cognitive empathy whereas only 85% (n=34) of the Treatment Group endorsed empathic responses on IECA Item 16.  It is also important to note that Bryant (1982) suggests that males and females are equally adept at affective perspective taking (cognitive empathy) whereas females are more adept at affective responses (affective empathy).

Almost all participants endorsed IECA Item 11 indicating affective empathy for animals and the vast majority endorsed IECA Item 16 indicating cognitive empathy for animals.  Overall, most participants endorsed IECA Item 6 indicating affective empathy for females and IECA Item 14 indicating affective empathy for males.  It is important to note however that the mean for IECA Item 14 (M=.87; SD=.345) is slightly higher than the mean for IECA Item 6 (M=.79; SD=.412).  One explanation for this slight variation may be that 4th grade males are less likely to have empathy for 4th grade females whereas 4th grade females are more likely to have empathy for 4th grade males (Bryant, 1982). Discussion of issues related to gender differences will be clarified further in the section on Research Question #4.

## Research Question #2

The Kuder Richardson 20 (KR- 20) Analysis of Reliability indicated a Cronbach's alpha of .504 suggesting good reliability especially given the small number

of items on the subscale developed for this study.  As noted earlier, the subscale was comprised of items with questions related to children and/or animals being hurt or treating animals as though they have feelings like people- Items 6, 11, 14 and 16 on the IECA.  The objective for developing the subscale was to assess the core of what is taught to participants in the WARL Humane Education Program.

The reliability for the IECA Subscale is in alignment with previous research conducted on the full IECA Scale.  Bryant (1982) reported a Cronbach's Alpha of .68 for fourth grade participants and studies critiquing Bryant (1982) such as de Weid et al. (2007) reported a Cronbach's Alpha of .62 for participants that were in the 4th- 6th grades. de Weid and colleagues (2007)  contended that their study results were similar to the Bryant (1982) results and indicated weak to moderate internal consistency.

de Weid et al. (2007) also suggested that IECA Items 6, 11 and 14 indicate "personal distress" which de Weid and colleagues discussed as follows, "Both sympathy and feelings of personal distress may stem from empathy, but differ in that sympathy is an other-oriented emotion (feeling for another person) and that personal distress is a self-focused aversive reaction," (Eisenburg 2000 as cited in de Weid, 2007, p. 99).  de Weid and colleagues' 2007 study suggested that there were two factors, one affective and one cognitive that emerged in their examination of the internal structure of the IECA.  de Weid and colleagues (2007) critique the IECA because they believe it, "implies a single dimension of behavior," (p. 103), when in fact they view the IECA as a multidimensional index. de Weid and colleagues also discuss how items assessing affective empathy such as Items 6, 11 and 14 are worded in a manner in which agreement indicates high empathy whereas items assessing cognitive empathy such as Item 16 is reverse coded and as is

discussed by de Weid and colleagues as follows, "Since children may respond differently to positive and reversed items, it is possible that the present factor structure is partly a function of the format in which  the items were presented instead of the content," (p.103).

It is also of interest to note that Aristu et al. (2008) conducted a study on 2714 children in Spain (Mean age=11.12; SD=1.59) which suggested that the IECA can be broken into three factors (two affective empathy factors and one cognitive empathy factor).  In Aristu et al.'s study, IECA Items 6,11 and 14 were all on Affective Factor 2-Feelings of Sadness (Cronbach's Alpha=.72) whereas Item 16 was on Cognitive Factor 1-Understanding Feelings (Cronbach's Alpha=.56).  Aristu et al. (2008) suggested that their study, "illustrates the multidimensionality of empathy as evaluated by Bryant's Empathy Index," (p.675).  Aristu et al. (2008) continued by stating that the three factor model structure which they propose, "supports an integrative concept of empathy," (p. 675) empirically based on the work of Hoffman and Preston and de Waal.

It is important to note that Bryant did state that her goal in creating the IECA was focused more so on assessment of affective empathy than cognitive empathy and perhaps inclusion of both types of empathy on one scale may result in some of the issues brought forth in the preceding studies discussed critiquing the IECA especially as it relates to issues of internal consistency.  The fact that that Items 6, 11, and 14 assess affective empathy and Item 16 assesses cognitive empathy suggests that there is some variation in what was being measured within the subscale created for the present study thus perhaps in future research a subscale should be developed that differentiates between the cognitive and affective aspects of the construct of empathy.  Lastly, Items 11 and 14 (-.055) and Items 16 and 14 (-.01) had very low correlations on the Inter-item Correlation

Matrix when the KR-20 was conducted. Perhaps the aforementioned results may be due to gender differences given that Item 14 is "I get upset when I see a boy being hurt" and Items 11 and 16 assess empathy towards animals. The impact of gender on the results within the present study will be explicated further in the discussion of Research Question #4.

<p style="text-align:center"><strong>Research Question #4:</strong></p>

Bryant (1982) reported that both sex and age mediated empathic response within her sample as the 7th grade sample had higher empathy than the 4th and 1st graders and females had higher empathy scores than males. de Waal concurs with Bryant's assertion that females are more likely to have enhanced empathic capacity in comparison to males and suggests that this is due to the fact that the origin of empathy lies in maternal care (de Waal, 2009). While the Mann Whitney test conducted on the WARL sample in the present study for Research Question #4 did not have results suggesting any significant gender differences on total IECA scores, in future research I believe that a more in depth analysis of gender differences would be beneficial in order to have a comprehensive understanding as to what role gender may play in empathic development.

Bryant (1982) had results suggesting that the males in her 4th grade sample had the lowest empathic responses on the IECA Items related to females when compared to both the other samples of 1st and 7th graders. This finding was somewhat similar in Bryant's sample for 4th grade females as they also had lower empathy levels on cross-sex empathy items of the IECA in comparison to the other 1st and 7th grade females in the Bryant (1982) sample however their overall level of empathy when compared to the males in their same grade was higher (Bryant, 1982). Overall, Bryant's (1982) sample suggested that same sex empathy increased with age for females and was much higher in

comparison to same sex empathy in males.  Conversely, same sex empathy declined with age for males in Bryant's (1982) study.   Bryant (1982) refers to the aforementioned findings as "the cootie effect" which she describes as follows:

> Of particular interest to the author was the fourth-grade "cootie" effect whereby fourth graders, relative to those in the first and seventh grades, showed significantly less empathic response to cross-sex stimulus figures.  Fourth graders appear to be at "all time" low with respect to empathy with their opposite-sex peers.  This finding is congruent with Damico and Watson's observation that the only instance of cross-sex helping in the upper elementary classroom studied occurred when such behavior was specifically requested by the teacher. (p. 423)

In light of these findings, the impact of gender was reviewed in the data extensively yet ultimately no significant findings arose with respect to statistically significant differences between males and females on the research questions addressed within this study as well as a few additional related analyses.  Bryant (1982) also states that higher total IECA scores indicate both higher same sex as well as cross sex empathy. Therefore it is posited that no significant findings emerged with respect to gender within the present study given the unique nature of sample as they already had much higher levels of empathy in comparison to other samples of students of the same age (Bryant, 1982).

### Research Questions #5 and #6:

Through further analysis of the data, key points arose which are important to discuss with respect to the analysis of the findings for Research Question #5 in particular and while unlikely to impact the findings of Research Question #6 (given that the vast majority of all participants endorsed empathic beliefs toward humans and animals on the subscale created for this study) it is important to keep these points in mind when

reviewing the analysis of Research Question #6 as well. While the Kruskall Wallis Tests indicated no significant differences across the classrooms in the Treatment Group, in reviewing Figure 3 and the data in a more in depth manner it became apparent that the range of scores appears to have had marked variation across the three classrooms in the treatment group and that Classrooms 2 and 3, most notably in Classroom 3, appeared to be atypical in that the males had higher Total IECA scores than the females which as elaborated upon within the foregoing discussion of Research Question #4 is not often the case when one reviews the extant literature on empathy. It is unclear as to whether perhaps extraneous variables may be attributed to the findings. It is contended that these findings again speak to the unique nature of the sample.

**Research Questions #7:**

The broad themes of empathy, prosocial behavior, reciprocity, justice and fairness that emerged within the qualitative analysis were in alignment with de Waal's pillars of morality (de Waal, 1996; de Waal 1996 as cited in de Waal, 2006, p.20) which serve as the foundation or "building blocks" (Flack and de Waal, 2000 and Flack and de Waal 2000 as cited in de Waal, 2006, p. 20) of morality (See Figure 4). These findings suggest that the WARL programs builds and/or expands upon foundations of morality. The expectation is that the prosocial responses reflecting the aforementioned themes discussed by participants in their journals will be themes that the participants carry with them throughout their lives and ideally the next step would be for participants to engage in the prosocial behavior which they expressed in their journals. The WARL has opportunities for volunteering to help animals in need and other programs implemented by the WARL also incorporate service learning activities.

**Limitations**

As discussed in Chapter 1, the main limitation was the small sample size especially within the comparison group as the number of parents that agreed to allow their child to participate in the study was lower in the comparison group. The small sample size likely impacted the power and thus ability to assess effectively assess what if any statistically significant differences may have been present within the study. The lack of a pretest also made it challenging to determine what if any statistically significant differences may exist between the treatment and comparison groups. Another limitation was that due to issues outside of the control of the investigator it was not possible to randomly assign participants nor obtain pre-test evaluation/assessment information as the humane education program had already begun by the time that formal approval was attained for the initial pilot study.

Another primary limitation was the generalizability and external validity of the study as the study was only conducted at one school located in a predominately affluent community. The initial plan for the pilot study was to incorporate multiple schools from various locations with a diverse group of students. Follow-up studies should include multiple school sites with diverse locations as well varied student backgrounds in order to increase the external validity and develop a more generalizable study. Furthermore given that the data is from a pilot study, the aim is to increase the sample size and to improve upon this design significantly in future follow-up studies.

Due to constraints outside the control of the investigator which were imposed regarding which assessments were approved to administer to participants there was limited assessment especially regarding objectives directly related to the mission of the WARL program. Perhaps, the lack of optimal assessment may have impacted some of

the quantitative findings.  Lack of a wide variety of data from a battery of assessments resulted in the inability to assess if confounding variables may be present within the data.

As with all self-report measures social desirability must be considered as potentially inflating results.  It is also suggested that the lack of statistically significant differences between the treatment and comparison group may be attributed to the relatively short frequency and duration of the program in comparison to other humane education programs evaluated within the extant literature.  While it fully recognized that it is difficult to obtain permission from school districts to allow humane education within classrooms for the appropriate amount of time necessary to yield optimal outcomes, if possible future studies should attempt to garner support from the appropriate parties which have the authority to approve humane education programs that are longer in both duration and frequency and should also include longitudinal assessment.

## Future Research Directions/Initiatives and Conclusions

It is highly important for future research to include an assessment directly addressing what was learned in the humane education program such as a humane attitudes scale similar to the Intermediate Attitudes Scale used by Ascione and colleagues in their 1992 and 1996 studies.  Another promising assessment measuring the effectiveness of humane education is the Transformational Humane Education Project Pre and Post Test (Waddell, 2015).  Further, it may be beneficial to include assessments addressing the relationship which children participating in humane education programs have with companion animals in their home in future research on humane education. Assessments which may provide greater insight on the children's relationships with companion animals include: 1- The Childhood Trust Survey on Animal-Related Experiences (www.cincinattichildrens.org/WorkArea/DownloadAsset.aspx); and 2- The

Children's Treatment of Animals Questionnaire (CTAQ; Thompson & Gullone, 2003 as cited in McDonald et al., 2015).

The importance of humane education has been recognized by politicians in California. For example, California Bill HR 28 introduced in July of 2015 recommended that humane education should be a requirement in the state education code. The support for this bill is based on academic research suggesting that there is an association between childhood animal cruelty and interpersonal violence. In light of the foregoing contention, the politicians suggested that humane education can serve as a preventative measure to assist in reduction of violence (Arkow, 2015).

Humane education was endorsed by the National Congress of Parent Teacher Organizations in the 1930's as an education intervention aimed at crime reduction (Arkow, 2015). Unfortunately, enforcement of the mandate was weak if present at all as evidenced by record of only three states being sanctioned for non-compliance at the time (Arkow, 2015). In the future the hope is that other states will follow the lead of California in moving towards mandated humane education in schools throughout the United States of America. The findings from the present study augment prior research suggesting inclusion of humane education programs in schools throughout the world.

Initiatives promoting humane education programs also recognize that to be successful in modern society one must not only have academic knowledge and/or trade skills yet one must also possess advanced social skills (Berliner & Masterson, 2015). Further, in modern society it is imperative that one has the ability to relate to diverse groups of people (Berliner & Masterson, 2015). Humane education programs such as the WARL Humane Education Program can assist in fostering critical social skills in youth

in addition to engendering empathy and providing a platform upon which prosocial behavior can be implemented in programs such as experiential service learning.

Through effective humane education empathy is developed and/or reinforced. This may lead to greater exposure to diverse student populations while learning valuable lessons. The expectation is that empathy can be expanded to those similar as well as different from oneself including groups of humans as well as non-human animals and in so doing bringing the vision of an expanding circle of morality (Lecky, 1869 as cited in Singer, 2011) as discussed in Singer (2011) and Pinker (2011) as well as in the work of de Waal (2006) to fruition. Singer (2011) describes the expanding circle of altruism as follows:

> The circle of altruism has broadened from the family and tribe to the nation and race, and we are beginning to recognize that our obligations extend to all human beings. The process should not stop there…The justifiable stopping place for the expansion of altruism is the point at which all whose welfare can be affected by our actions are included within the circle of altruism. This means that all beings with capacity to feel pleasure or pain should be included…The expansion of the moral circle should therefore be pushed out until it includes most animals. (p.120)

Singer's assertion of expanding the circle of altruism to include sentient animals is the essence of humane education and serves as a means of advancing our current civilization.

Pinker (2011) posits that the expansion of the circle of empathy throughout history as discussed by Singer (2011) occurred as a result of increased literacy rates. Pinker explains his theory as follows:

Reading is a technology for perspective taking. When someone else's thoughts

are in your head, you are observing the world from that person's vantage point…

"empathy" in the sense of adopting someone's viewpoint is not the same as

"empathy" in the sense of feeling compassion toward the person, but the first can

lead to the second by a natural route…It's not a big leap to suppose that the habit

of reading other people's words could put one in the habit of entering other

people's minds, including their pleasures and their pains. (p. 175)

Pinker continues his discussion of the expanding circle of empathy by stating that he

believes that the expanding circle of empathy has been historically important in bringing

forth awareness and epiphanies about injustices towards both humans and animals. But

as Pinker (2011) states, "For empathy to matter, it must goad changes in policies and

norms…," (p. 591). Pinker in his discussion of the expanding circle of empathy suggests

that increased literacy may account for increased empathy given one's ability to learn

about other sentient beings different from oneself and their plights and feelings through

reading. The WARL Humane Education program's emphasis on literacy and provision

of a book written by the humane educator teaching the program to all students as well as

the provision of humane education and character education libraries to classrooms in

need demonstrates how the WARL Humane Education Program is fostering empathy

through literacy.

Robust findings suggest that across all species the more familiar with and similar

to another sentient being one is the more likely one is to be empathic towards the other

sentient being (Preston & de Waal, 2002; Ingham, Neumann & Waters, 2015). The

moderating role of similarity in empathy and the presence of similarity bias especially

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within humans (Ingham et al., 2015) is important to be cognizant of when evaluating humane education programs as well. With the preceding in mind, the findings suggesting that almost all participants endorsed empathic responses towards both humans and animals on the subscale developed for this study to assess the core of what is taught to participants in the WARL Humane Education Program are even more meaningful given that it may be contended that the responses indicating empathy towards animals endorsed on the IECA subscale as well as written by the participants within their journals suggest that such participants have reached the outermost layer of the concentric expanding circle of empathy and are therefore more likely to be able to be empathic to others different than themselves.

In summary, the primary objectives of the WARL Humane Education Program including access to books, reinforcement of reading character education books and thus fostering empathy and the modeling of empathy by humane educators among other positive experiential learning activities supports the enhancement of empathic capacity and prosocial behavior within students. There is a call in the field for development of more rounded students as social and interpersonal skills create more successful individuals in the workforce as well as in the communities in which they reside resulting in a better society as a whole. While it is necessary for more in depth and longitudinal research to be conducted to comprehensively ascertain the full impact of humane education programs it is asserted that the present study serves as a good foundation for future research on the promising field of humane education.

Humane education may be contended as the missing piece of the puzzle in the current American educational system. The prosocial themes that emerged within the

qualitative analysis of the student's journals coupled with the endorsement of empathic beliefs towards both humans and animals suggest that WARL program resulted in positive outcomes for the students and their schools and effected the desired outcomes aimed for within the mission of the program. The results from the present study and other studies in the extant literature are encouraging and give support for the inclusion of humane education as part of the core curriculum in schools, especially beginning in elementary schools to serve as an early intervention/prevention program. The expectation is that students will become engaged and responsible citizens with social skills that enable them to be successful adults in the workforce as well as in their communities and in so doing contributing to an enhanced society for both humans and animals.

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Appendix

Index of Empathy for Children and Adolescents

Bryant, B. (1982). An Index of Empathy for Children and Adolescents,

*Child Development*, 53, 413-425.

1. It makes me sad to see a girl who can't find anyone to play with.
*2. People who kiss and hug in public are silly.*
*3. Boys who cry because they are happy are silly.*
4. I really like to watch people open presents, even when I don't get a present myself.
5. Seeing a boy who is crying makes me feel like crying.
*6. I get upset when I see a girl being hurt.
7. Even when I don't know why someone is laughing, I laugh too.
8. Sometimes I cry when I watch TV.
*9. Girls who cry because they are happy are silly.*
*10. It's hard for me to see why someone else gets upset.*
*11. I get upset when I see an animal being hurt.
12. It makes me sad to see a boy who can't find anyone to play with.
13. Some songs make me so sad I feel like crying.
*14. I get upset when I see a boy being hurt.
*15. Grown-ups sometimes cry even when they have nothing to be sad about.*
*16. It's silly to treat dogs and cats as though they have feelings like people.*
*17. I get mad when I see a classmate pretending to need help from the teacher all the time.*
*18. Kids who have no friends probably don't want any.*
19. Seeing a girl who is crying makes me feel like crying.
*20. I think it is funny that some people cry during a sad movie or while reading a sad book.*
*21. I am able to eat all my cookies even when I see someone looking at me wanting one.*
*22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules.*

Scoring: Items in *italics* score negatively.
*Items on the IECA Subscale