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Humane Education: Perspectives of Practitioners on Program Evaluation Efforts and Analysis of Changes in Knowledge, Attitudes, and Empathy in Two Violence Prevention and Intervention Programs

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HUMANE EDUCATION: PERSPECTIVES OF PRACTITIONERS ON PROGRAM EVALUATION EFFORTS AND ANALYSIS OF CHANGES IN KNOWLEDGE, ATTITUDES, AND EMPATHY IN TWO VIOLENCE PREVENTION AND INTERVENTION PROGRAMS

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Abstract

This descriptive and comparative study examined the current landscape of humane education program evaluation and data analysis through a survey of humane educators across the country. Results of the humane education survey show that data collection and evaluation are occurring in humane education programs but these efforts do not capture and measure empathy, the primary goal of most humane education programs. Humane educators reported they felt the profession is progressive and relevant to a broad host of purposes, from building positive relationships with animals to playing a role in the larger social justice scheme. They also suggested that the field is in need of leadership and clearer direction and that they want more rigorous humane education evaluation practices. This study also examined the potential effects of humane education violence prevention and intervention programs on youth from at-risk environments. Students who participated in the violence prevention and intervention programs, TLC™ or jTLC™, between 2001 and 2014 at the Society for the Prevention of Cruelty to Animals, Los Angeles (spcaLA) took pre and post surveys that identify their attitudes towards animals, others, and self. Paired survey data, totaling 395 TLC™ and jTLC™ students, were archived and, for this dissertation, were digitized from their original paper and pencil format. In September 2013 the pre and post surveys for these programs were changed to collect data that focused on changes in empathy, using the Bryant Empathy Index (BEI) (Bryant, 1982). Seventy-one BEI surveys were included in this study's analysis. Data were analyzed using descriptive and comparative statistics. The mean scores increased significantly on knowledge scales and subscales for the participants in TLC™ or jTLC™, across all cases and variables of gender and school level. Mean scores increased significantly on attitude scales and subscales for the jTLC™ participants, across all cases and gender. Mean empathy scores increased for two of the three BEI subscales

for TLC™ or jTLC™ participants across all cases and the variable of gender. Significant increases in attitudes varied by program, gender, and school level. jTLC™ students had the most prominent increase in attitudes, possibly due to their lower pretest means. The research found significant increases in empathy for all participants in the TLC™ or jTLC™. The TLC™ and jTLC™ program participants showed a significant increase in mean scores on the empathy scale. Females and males showed significant increases on the BEI as well. The electronic version of this Dissertation is at the OhioLink ETD Center, http://ohiolink.edu/etd

Author's Note

I have worked with, and been surrounded by, animals my whole life. As a child, I was immersed in nature and taught to love and appreciate the world I live in. I came to realize that I view animals as an integral part of life, which deserve, respect, kindness, and love.

I have been fortunate to find a career path that has allowed me to share my love of the natural world as well as embrace my passion for teaching. As a Director of Humane Education my role has a very distinct purpose: to help create and offer the possibility of experiencing a non-violent future, for children and animals, by using the human-animal bond potential in empathy development programs. In my own work, I have witnessed the importance of instilling empathy and ultimately promoting kindness towards others.

Cruelty and violence, as larger systemic problems, are partially rooted in a lack of empathy. It is imperative to instill in children the basics of empathy and compassion. Many facets of humane education should be a crucial component in the development of children and the design of their education. However, I suspect that if the humane education movement remains on the rise, neither the ideals nor the profession will remain steadfast unless humane educators can produce identifiable results. The same passion and reverence that is generated from educators in the humane movement must also now be applied to new methods of research and data collection. The future of humane education, in order to be taken seriously as an effective profession and a component of the larger social justice field, rests in development of proper program development, evaluation, and analysis.

Table of Contents

List of Tables

List of Figures

Chapter I: Introduction

Humane education is full of complicated ideas and diverse strategies aimed at creating a sustainably kind and compassionate world. At its roots humane education asks students to challenge their assumptions about the world, embrace their values, and, above all, practice empathy. Humane education embraces many facets and seeks to teach students a myriad of concepts, including: individual choice and personal responsibility for one's community, appreciation for local environments, inspiring dedication for mending global concerns, and developing empathy and compassion for all living beings. Humane education aims to empower students to make positive choices. The idea behind humane education is that the more humane knowledge students have, the better equipped they will be to function as kind, committed, and socially aware members of society.

Defining Humane Education

It is difficult to define humane education because it is inherently complex and diverse. For example, some see humane education as an effort to increase social responsibility and global philanthropy, while others see it specifically as a mode for developing positive individual relationships with animals as a means to bettering interpersonal relationships. Some see humane education as globally affecting the course of the planet, and others define it as an individual responsibility.

All of humane education seems to follow a similar path: they look holistically at the individual, as well as the interconnectedness and interdependence of all living beings (Eadie, 2011). One definition of humane education is "an attempt to develop altruism and a sense of compassion in a world where all other pressures are in opposition to it" (p. 74). Milburn's depiction of humane education explains a part of the role on a larger scale but does not entirely

distinguish how humane education can impact an individual. Faver (2010) suggests that one component of humane education is a "type of character education that uses animal-related stories, lessons and activities to foster respect, kindness and responsibility" (p. 365). Some humane education programs have goals specifically based in character education (C. Thompson, 2001; Weil, 1999). Kindness and compassion are key elements in humane education practice. Often included with these elements is the relevance of teaching students "how" to think and not necessarily "what" to think about their interactions with others and their interconnectedness in the world. When humane education began, students were often taught about being kind and showing empathy to animals, focusing more specifically on a child's relationship with animals and less on the current holistic approach (Antoncic, 2003). Although animals are still a large part of the practice, they are not the sole focus and often humane education includes in its teachings a broad range of ideas including critical thinking, citizenship, and social activism. Children are the usual focus, and the concept of creating a "kind," "empathic," or "humane" child is at the center of many of the field's teachings. Selby (1995) defined humane education as

> the teaching of compassion and respect related to animal welfare, environmental, and social justice issues. It teaches relevant knowledge, skills, and commitment to live ethically, sustainably, and peaceably. It does this by infusing the curricula at all levels of education with meaningful information, inspiration, and tools for creating a safe and humane world for all. (p. 49)

Zoe Weil (2004), the founder of the Institute for humane education, broadens this focus and defines humane education as,

> A comprehensive field of study that draws connections between all forms of social justice… Examining what is happening on our planet, from human oppression to animal exploitation, to ecological degradation. It explores how we might live with compassion and respect for everyone: not for our friends, neighbors, and classmates, but for all people; not just for our own cats and dogs, but for all animals; not just for our school and home environments, but for the Earth itself… It invites students to envision creative solutions and to take individual action so that together we can bring about a world where

> kindnesses, and integrity, are the guiding principles in all our choices and relationships. (p. 4)

This definition is comprehensive. It covers the broad spectrum of teachings about global issues but also includes individual choice and one's responsibility to the world. The humane education movement attempts to extend beyond the original model of teaching kindness and respect towards companion animals. It does so by aiming to instill values over broader concepts, which include incorporating environmental issues and human rights into its teachings. One difficulty professional humane educators face, in broadening its purpose, is the challenge of becoming an accepted part of the social justice realm. This difficulty stems from trying to meld the social complexities of institutionalization from a systemic perspective with the individualized focus on interpersonal relationships that is often seen in humane education programs. Professional humane educators, specifically in animal protection organizations, are challenged with the outside assumption that their work only focuses on the human-animal bond, has little focus on human-human interaction and almost no focus on overarching systemic problems. This common misconception can alienate humane educators from social justice advocates. The humane education movement has begun to establish footing in social justice advocacy. Yet, there are professional humane educators, working in animal protection organizations, who have to approach systemic change from a local, or even individual, level. This does not suggest that professional humane educators do not want large-scale systemic change but their hands are often tied. Animal protection organizations are the original mode of humane education and they wish to retain that stature in the field. In contrast with that, restrictions exist within those organizations that hinder humane educator efforts. Many animal protection organizations function in an archaic sense, focusing on programs like single-session elementary school pet care presentations. These limited scope sessions do nothing for the reputation of humane education

as a current or relevant change agent, especially in reference to the broad and complex issues that surround social justice efforts. One core element to understanding humane educators is that much of their work begins with teaching students to love locally so that they may, one day, want to act globally. Appreciation often starts with the little things that students are able to care for at home and in their own backyard. Students are often not even aware that they have these small things to appreciate, especially when they live in, or learn about, communities that are riddled with violence and oppression. Humane educators work to foster students' appreciation locally so that when they are adults they will be empowered to know how to and they will want to make empathic and compassionate choices for the world, its environment, and all of its inhabitants.

Humane education is a vast movement that encompasses integrating programs into many social outputs. Animal protection organizations are where much of the humane education profession and programs began. Extending the reach of humane education is an important part of the current conversation. For the purpose of the following research, much of the discussion focuses on the perspectives of professional humane educators, and the programs that are implemented by animal protection based humane education departments. This is not to diminish the validity, or isolate the practice, of humane educators from the broader social justice field. It is, however, because humane education, as part of animal protection organizations, has come a long way since the beginning, yet still has a long way to go to be recognized as a highly respected and relevant profession in the broader social justice realm. In addition, sprinkled throughout this research are glimpses of how, with improvement, professional humane educators can become one small piece of the larger picture, especially in regards to empathy development via violence prevention and intervention programs.

Modalities of Humane Education

Diversity is humane education's middle name. The way that humane concepts have been, and continue to be, shared is quite broad. From the beginning of the movement until present day, humane concepts have reached students in many ways. The modalities of humane education have changed over time, often as a reflection of a particular era and its societal needs. Interestingly, the core ideas of humane education have never really faltered, even when the various practices and executions of it have changed over time. Many educational institutions (i.e., schools) and the people leading them, continue to believe that teaching concepts of compassion and kindness toward all living beings is essential and they integrate them as part of their individual teachings.

Humane education's beginning in compulsory education. Originally, the humane education movement began, in conjunction with the animal welfare movement, as a component of compulsory education (Unti & DeRosa, 2003). However, although humane education has retained its value in concept, it has lost much support by way of practice, at least from a compulsory education stand point (Unti & DeRosa, 2003). In the early 20th century, compulsory education was commonplace in most states (Butts & Cremin, 1953). Horace Mann led the compulsory education movement and Mann believed that character education was an important part of educational standards. He believed that public schools (and humane ideas) would help children develop philanthropic actions and improve social order (Unti & DeRosa, 2003). Mann's efforts and ideas were instrumental in bringing humane education concepts into public schools without officially coining the term "humane education."

Co-leading this movement was George Angell. Angell was well known for his work in the animal welfare movement and felt that humane education ideas should be taught to all

children as part of a comprehensive education. These humane practices were perceived as a solution for youthful mal-intent and at the same time they helped the animal welfare movement keep in close contact with the socio-educational reformation movement of that era (Unti, 2002).

From roughly 1860 to 1920, Angell was able to integrate humane education mandates into traditional educational statutes into many states. The states mandated teachers to spend one half hour per week on lessons regarding kindness to animals (Unti, 2002). In 1906 Illinois was the first state to recognize that these mandates were equally as important as any other school subject and the state began holding schools accountable by developing sanctions for noncompliance. During the 1920s, at the peak of the compulsory humane education in the schools movement, educational systems in twenty states had adopted humane education mandates and humane education began to gain influence as a movement (Schultz, 1924). This was a great beginning for humane education, as it allowed the complex concepts of empathy, compassion, and respect to spread to a vast number of students over many lessons throughout a school year. Unfortunately, towards the end of its peak, humane education had very little school compliance. Even with mandates and noncompliance repercussions in place, enforcement was nearly impossible.

By the 1930s, humane education in schools started to shift to what it is today, less a part of compulsory education, and more relying on individual teachers or administrators who care to include humane education principals into their teachings (Krows, 1938). This shift in support cannot be entirely blamed on school non-compliance but rather, in large part, because a new era was emerging.

Humane education unhinged from the compulsory education movement. At the beginning of WWI, the major players who held a great stake in the social movements of the era

supported humane education as a relevant educational practice. However, after WWI, society's expectations of boys changed. Schools began to shift their educational standards away from subjects they felt would "weaken" a boy's character (Unti & DeRosa, 2003). Despite the best efforts of humanitarians, the movement began to shrink in popularity. This meant that students were becoming less and less likely to learn humane concepts unless they were coming from home or from a few teachers who believed in their value. Unti and DeRosa (2003) stated, "The message of universal peace through humane education was subordinated to patriotic imperatives. This movement's most vital activity—its outreach to children—was reconfigured dramatically to serve the interest of American Nationalism" (p. 31). During WWI, societal changes began to take place and these changes were furthering humane education's downturn and its inability to sustain itself as an advancing movement.

During WWI the movement faced some difficult obstacles that often kept animal organizations from being welcomed into the educational system. Topics such as animals being used as a food source, vivisection, and hunting became popular societal issues that forced mandated humane education out of the schools and left it with no choice but to exist only indirectly in the school systems, mostly via animal protection volunteers guest speaking in classrooms (Unti, 2004). This is how many humane education departments at animal protection organizations still continue to function, as an indirect component of education and separate from the school systems.

By the time the Great Depression began, funds for supporting animal protection organizations became limited and priorities within these organizations had to shift. Because of this, the humane education movement took another hit to its popularity. Animal organizations were forced to focus on animal control and keeping people safe from the strays roaming the

streets. Gone were the days of having excess financial support to host humane education programs or outreach in the community. Unti and DeRosa (2003) state that during the Great Depression "practical and financial burdens of the shelter and hospital work, animal control obligations, and law enforcement cast other initiatives, including humane education, to the margins of activity" (p. 33).

Humane education's ideals also lost their influence when the mass production of animals for research and food began. This kind of cruelty was novel and unlike the previous individualized cruelty on which humane education had focused. It was no longer the only movement that beckoned attention to the treatment of animals; agriculturists, scientists, religionists, and various other industries all wanted a piece of the educational system (Unti, 2004).

By World War II, the humane education movement had become seemingly outdated and limited in its resources (Unti & DeRosa, 2003). The movement had been unable to steadfastly institutionalize itself as a component of compulsory education and with that came instability. What remained of the movement were small clusters of individuals who still believed in the Progressive Era's ideals and chose to continue to bring humane education into classrooms through presentations and outreach designed to teach kindness to pets (Unti & DeRosa, 2003).

Humane education as part of animal protection organizations. The humane education movement resurfaced in the late 1950s and early 1960s with animal protection organizations and with that came a renewed focus, this time on humane education as a specific profession, dedicated to promoting the movement. Gone were the days of integrating humane standards into the classroom in a standardized fashion. Instead, individual teachers personally began to bring humane education into the classroom. Alternatively, teachers could call on the

organized humane education department of animal protection organizations to educate students through individualized classroom presentations on animal topics such as pet care, overpopulation, and dog bite safety. In the 1950's, the Humane Society of the United States (HSUS) was founded and by 1960 it had incorporated a branch of humane education advocacy into the organization (Unti, 2004). Simultaneously, many animal protection organizations began to implement humane education departments and to employ humane educators to promote and implement their missions.

Current humane education modalities. In recent years, the movement has taken on many forms and there are supporters who have adopted the belief that character education and the humane movement still have a relevant and important connection. See Figure 1.1 for the development of the humane education pathway, specifically focusing on the humane education via animal welfare path. In conjunction with the humane education movement, the profession of humane educator developed and became one of the most frequent ways to have humane education topics brought into the classroom. Animal protection organizations all over the country included humane educators as essential professionals within the industry. The needs of animal welfare organizations using humane educators morphed from the post-war period of volunteers traveling into classrooms to speak about pet care into embracing a broader spectrum of professional educational tools.

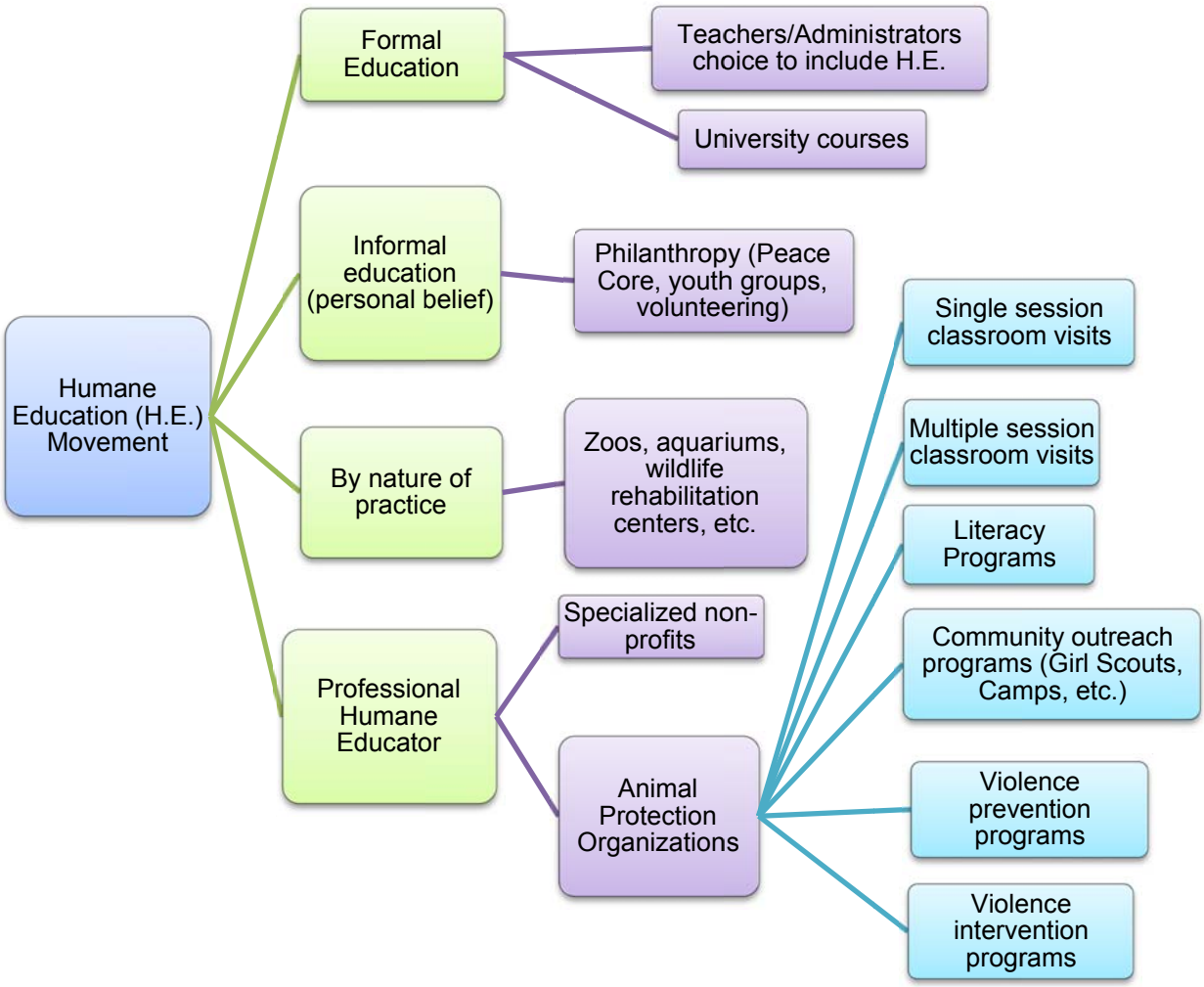

Figure 1.1. This figure represents the current pathway of humane education modalities. This figure does not include the last layer of expansion for any programs other than those related to Animal Protection Organizations—the primary focus of this dissertation research.

Humane education options for professionals. For those professionals interested in humane education practices, university programs such as the Institute for Humane Education (www.humaneedcation.org) and the Humane Society of the United States (www.HSUS.org) have created online programs. These programs are aimed at offering college level coursework for adult professionals. The objective is to continue the movement by teaching others how to

incorporate humane education into their day-to-day practice. A prime example of this integration is the national literacy program known as *RedRover*, a youth program developed to help increase empathy towards people and animals through the use of stories (RedRover, 2012). The *RedRover Readers* program offers workshops, which are aligned with current educational standards, to teachers who are interested in incorporating humane education into their classroom (RedRover, 2012).

Community programs and presentations. Professional humane educators also offer a variety of programs within the community, freeing up teachers and administrators to meet rigorous education standards while also incorporating relevant humane education topics. Most humane education programs occur inside the classroom and focus on pet-care related subjects. A study showed that ten years ago the majority of humane education departments, within animal protection organizations, offered single session classroom presentations, with about 88% of humane educators focusing on this type of educational practice (Unti & DeRosa, 2003).

Many humane education programs are conducted via various types of presentations, including single classroom presentations on pet care or spay/neuter, while others consist of ongoing curricula (Savensky & Maleame, 1981). Other authors point out that there are many forms of humane education, ranging from a one-time class visit to repetitive, long term visits, and covering material using a plethora of modes including: media, in-person presentations, printed materials, hands-on excursions, games, etc. (Aguierre & Orihuela, 2010). Some of these offerings include opportunities to interact with live animals and others do not provide this option. A large percentage of animal welfare organizations across the United States offer similar education programs in various forms ranging from single to multiple session presentations, Scout or recreational programs, and/or day camps.

Violence prevention and intervention programs. Aside from the in-classroom and/or community program models, which are designed to help all students build a strong skill set of empathy and kindness, there are also more intense and out-of-the-classroom modes of humane education. From the early 1990's until the present several research studies were conducted on the relationship between the behavior of youth towards animals and the way children function in the world as they mature. Much of the research indicates that childhood violence towards animals is a predictor for future interpersonal violence (Ascione, 1997, 2001, 2005; Ascione & Weber, 1996; Ascione & Arkow, 1999; Currie, 2006; Gullone & Clark, 2010; Sprinkle, 2008; K. L. Thompson & Gullone, 2003). The research surrounding the cycle of violence suggests that all forms of violence, including family violence, community violence, and animal violence, are intertwined (Ascione & Arkow, 1999). Animal protection organization humane education departments have developed programs to work directly with youth who are identified as residing in at-risk environments (i.e., city demographics or students in juvenile halls, residential facilities, and/or community centers).

Students are selected to participate in violence prevention or intervention programs with humane educators based on their propensity or potential for violent or damaging behaviors. Students in these programs often show a higher risk for potential failure due to an increased level of violence, decreased empathy, or just plain apathy, either in school or in the "real world."

For example, programs such as, or similar to, *Teaching Love and Compassion (TLC™)* or *Healing Species*, focus on identifying students from at-risk or violent environments and work with them to reinsert empathy through building a relationship with an animal. TLC™'s intent, instead of bringing activities to the classroom, is to bring hands-on experience to youth through the training of dogs (Zasioff, Hart, & Melrod-Weiss, 2003). This program was originally

designed in 1992 with the goal of increasing empathic attitudes toward animals and people (Zasioff et al., 2003).

"Healing Species" grew from research that shows decreased empathy and a history of animal abuse is often in the background of violent offenders (Sprinkle, 2008). This program, which also pairs students with dogs, specifically addresses physical violence, aggression, and levels of empathy. Additionally, the program description for *Healing Species* notes, "youth violence and aggression are learned behaviors influenced by the presence or absence of empathy and those behaviors will continue to escalate in severity unless treated" (Sprinkle, 2008, p. 48).

Many similar programs are developing all over the country. These types of programs may take place on-site at animal shelters, after school on school property, or in community centers, residential facilities, or juvenile halls. Although different from the in-classroom presentations, this model of humane education focuses on the same goals: to instill empathy and compassion in youth, to prevent future violence, and to teach youth to advocate for a kinder and more compassionate world.

Humane Education in the 21st Century

As the 21st Century unfolds, it will be valuable to expand the movement to those professionals who are unaware of the benefits of practicing humane education. Programs such as professional online courses are available to everyone, but most likely only those people already interested in humane education participate. So, how does the movement reach out to those schools or teachers of youth who do not think they need to incorporate humane education? This is where the grassroots work of the professional humane educator comes into play.

Humane educators, especially those working in animal protection organizations, must move beyond the antiquated techniques. Programs such as single session classroom visits and

the overdevelopment of "feel good" programs must be reviewed. This will lead to their revamping or removal. Taking a step back from the "we have always done these programs" perspective to look at the big picture will be the next priority of the humane education movement. It is in the development of goal oriented and sustainable programs, accompanied by comprehensive data collection and evaluation practices that humane educators will be empowered to run effective, resource friendly, programs.

Community based programs. Community based programs encourage large numbers of community residents to come to the organization and often consist of students who already want to be involved. These can include programs such as day camps, Scout programs, youth volunteer programs, outreaches, or the like. Educators should give these programs a framework and collect comprehensive data that can be easily evaluated. Broad based community based programs should always be present in humane education and could prove to be successful if measurable goals are inserted into their practice.

Compassionate classrooms. Humane educators should also focus on creating compassionate classrooms, not by individual educators visiting the classrooms regularly, but by expanding teachers' humane education repertoire to accomplish the same results. If this is done effectively, all students can be exposed to humane education principles and practices without adding too much pressure to a teacher's already difficult schedule. Humane education teachings can be inserted in the form of school taught (sustainable) electives, added to supplement anti-bullying campaigns, or attached to character education models. Efforts can also be made to get administrative buy-in for humane education courses to be part of CEU's and/or by seeking administrative acknowledgement and support of state humane education standards.

As an example, *RedRover Readers* has successfully created a program, which instructs teachers how to implement humane education based stories into their classroom, and suggests that their program "builds self-esteem," "stimulates additional student directed learning," "builds students' knowledge and potentially affects their behaviors related to caring for pets," and "builds students' empathy and compassion for pets" (Stokes, 2009, pp. 21-24). Faver (2010) suggests that utilizing humane education programs in conjunction with educational standards helps improve pro-social behavior in elementary students. She states that there are three methods used in humane education practices and these are "curriculum blended lessons, literature with humane themes, and action to facilitate learning" (p. 367). She also suggests that the increase in pro-social behavior will ultimately lead to the reduction of violence among students.

Violence prevention and intervention programs. Humane educators should also focus their individualized attention on those students where the potential for gain is greatest. That is, they should focus on students who come from at-risk environments. For example, this outreach can be conducted through a series of specifically focused empathy development classes. These types of programs often need to be hands-on animal based. This is because children have a natural affinity towards animals, so animals are more likely to catch the attention of the students (K. L. Thompson & Gullone, 2003). Animals are a building block to children's intellectual and social development and building a bond with an animal is more likely to increase empathy development in youth (Faver, 2010). In conjunction with a large-scale plan to integrate humane education into the school systems, humane educators need to focus on those students who are not successful within the schools. Combining the systemic and cyclical nature of violence and the core values of humane education ideals, professional humane educators should focus their

specific efforts on violence prevention and intervention programs. Humane educators should be creating goal oriented violence prevention and intervention programs that focus on the development of empathy.

Humane educators and social justice. The Humane education movement extends beyond the reach of solely teaching kindness about animals or kindness to others; it has broader implications. Social justice focuses on the intricacy of the world's web and connects complex concepts of institutionalized systems, global movements, interpersonal relationships, sense of self and personal responsibility, environmental interactions, and social advocacy. The work done by humane educators can offer a small contribution to the social justice field because it focuses on, not just defining empathy but, more importantly, *practicing* empathy. For example, teaching how to navigate differences between "you" (the student) and the "other' (anyone/anything unfamiliar or unknown) is a staple in humane education practices. Allan Johnson (2013) discusses the variety of ways in which different persons are marginalized based on perceived stereotypes about them related to their gender, race, or disability. Humane educators incorporate how to develop positive relationships into their teachings. The goal is to show that because something is different, or unknown, does not make it something to fear. This type of teaching could introduce the fundamentals of much larger and more difficult issues such as topics surrounding religion, race, or sexuality. Ascione and Shapiro (2009) say, in reference to scholarly studies around the human-animal bond that "they [humane animal studies and feminism studies] play a role in the social justice movements dedicated to ending discrimination against the respective oppressed group (p. 14).

For example, one educational lesson in the TLC™ program asks students to participate in a word association game with the term "pit bull." Students will often choose words like

"vicious," "fighters," "bad-ass", "cropped ears," "gangsta," "turn on you," "killers." Next, the word "black cat" is used and will receive words such as, "superstitions," "witches," "bad luck," "mean," "glowing yellow eyes." Then, students will deconstruct what those words mean. Questions like "are black cats ACTUALLY bad luck?" or "Are ALL pit bulls vicious?" begin to get students to think about how stereotypes come about. Students will then tie in how preconceived ideas can hinder adoptions and/or affect the lives of these animals. Often, students on their own accord will say something similar to "but that's not fair." Future categories for the word association lesson include, but are not limited to, "teen mom," "gang member," "teacher," "policeman," "cheerleader," "gays/lesbians." Humane educators will, sometimes, select categories that reflect themselves without the students knowing and will then choose to be transparent in where they fit in those categories. Responses from students are, often, awestruck and similar to "But, I LIKE you so it's ok you're 'that way' or "Maybe you're just different from all those 'others' in that category." This is where the "real" conversation begins. From comparing animals' lack of adoptions due to stereotypes to how people are affected by them, is the core of the conversation – it is practicing empathy through explorative discussion. Students take this very seriously and begin to deconstruct stereotypes they thought were "truth." This lesson ends with asking students to identify how they think people might stereotype them and how that makes them feel. This lesson opens students up to the idea that they have both dominant and targeted identities (Tatum, 2013, p. 7) embedded in the realm of discrimination.

Lessons similar to this one, and others, are designed to have students open up to conversations about how who they are, the assumptions they have, where those come from, and how to think differently. For example, many of the students are embedded in the complex system of violence and they cannot just "make better decisions" or "walk away from it."

Humane education programs like TLC™ try to empower students to think about these complexities and work together to alter the future systems. The hope is that if these students learn new knowledge about social interactions and assumptions, they will feel compelled to become part of positive change in the long run.

Kirk and Okazawa-Rey (2013) suggests that the creation of identity is a complex system, which involves compiling experience from the environment, the community, social and individual expectations, and social structures. They suggest that this is a never ending process, which involves asking important questions such as, "Who am I?," "Who do I want to be?," "Who and what do societal & community institutions say I am?," and "Who/what are my 'home' and 'community'?" (p. 9). For students, addressing these questions is critical to understanding who they are, where they come from, and where they are going. Creating a "portrait of a humane individual" is different for every student. Assisting in the development of this portrait helps students understand self, which can help shape how they grow up to perceive the world and, in turn, how they choose to behave in it. Having a strong sense of self is an attribute that students can use to help break down the barriers they have about "others," and whomever they define those persons to be (Kirk & Okazawa-Rey, 2013). Just as violence towards the "other" is a systemic and social practice (Young, 2013) so is kindness and compassion; that is, empathy in action. Young says that violence towards a group is "encouraged, tolerated, or enabled" as part of institutions or social practices which are "unjust" and need to be "reformed" (p. 44). Humane educators, currently, cannot use their programs to change the institutionalization of the many systems at work but they can create a foundation in students on how to think about the complexities in the world and assist in the development of students who are interested in, or capable of, becoming social justice change agents. Humane education practices could be

embedded, as one small piece in the social justice conversation and share a common goal at the heart of reformative anti-violence and pro-empathic teachings.

Challenges. When faced with this massively complicated living system, humane educators are up against significant challenges around the globe. Humane education aims to heal one part of this diverse system by finding innovative and creative ways to shift paradigms of violence within communities to empowering positive action through empathy. Building successful humane education programs is dependent on the professional journey of facilitating individual and institutional change to alter community perspective and to ultimately amend at least one facet of larger-scale systemic violence. Challenging these societal systems requires sometime difficult partnerships between practitioners, students, and the community.

Small communities and large scale change. One challenge to those working as humane educators is that violence is an inherently complicated system that, due to an increasingly large number of factors, becomes integrated into a community and can become a "normal" part of life. For humane educators, facilitating individual change is not necessarily the means to ending large-scale systemic violence but rather the opportunity to lay a "thought process foundation" for students to build upon. Wheatley (2005) suggests that over time "individuals become so intermeshed in a process of coevolving that it becomes impossible to distinguish the boundary between self and other, or self and environment" (p. 47). This is one component to the cycle of violence. Children become desensitized within their environment and cannot alter the system because they are an integral part of its functioning. Within this closely linked system, changing one small part (i.e., reducing the violent act/thoughts of a child within this environment) through humane education practices may not alter the entire system of violence but rather trigger a desire for change.

Humane education is best taught by empowering smaller communities through teaching the concepts of compassion and respect for other living beings within our natural system. There are many difficulties in trying to produce large-scale change via these small-scale interjections. First, many pre-existing beliefs are so inherent in a community's culture that it is difficult to obtain buy in. As with most types of change, resistance can manifest itself in multiple ways. Change is a form of loss, whether it is a loss of control, identity, meaning, belonging, competence, or future projections (Essex & Kusy, 2007). Asking an individual to change their ways, in regards to how they treat animals or how to teach their children about valuing animals may sound easy, but in reality it is a difficult process.

For example, take a child who has been routinely taught that dog fighting, a practice that is largely abhorred by the public and illegal in all U.S., is an acceptable way to treat animals and ask them to appreciate dogs differently via empathic techniques. This is not as simple as just teaching that child to "love" a dog. In the child's eyes, that fighting behavior is *how* you love a pet, so there is nothing to change. In addition, you are asking a child to contradict the teachings of an adult role model. On top of that, you are burdening a child with having to question the sub-culture they grew up in and a world-view that they are immersed in. Wheatley (2005) says, in response to change, "uncertainty leads to increased fear" (p. 115). Creating change without suffocating a child in fear may be the goal; fear is inherent in change and finding that balance can prove to be a challenging task.

Humane educators face an additional obstacle in the attempt to empower change: themselves. Practitioners in the field can become very discouraged about their work. Hope and passion for success can be both a blessing and a curse. Figley and Roop (2006) state that there can be a significant "cost in caring" (p. 1). Caring can cause great motivation as well as

significant burnout. Ironically, many people who work in the field of humane education have high levels of empathy and can identify easily with all components of the program, from the animals, to individuals, to family, to community pressures. This ability is both a skill set that makes these individuals successful as well as a hindrance when perceived negative events or processes happen regularly (Figley & Roop, 2006).

Community partnerships. Since most humane education programs fall in the non-profit sector, community partnership is incredibly important, especially in reference to sustainability of programs. Wheatley (2005) suggests that community conditions are kept alive by paying close attention to the center of that community. She calls it the "heart of the community" and "collective purpose" (pp. 50-51). Getting community buy-in requires the constituents of the community to believe that individuals cannot solve these important issues on their own, but rather they need the community for survival. Humane educators strive regularly for community support and backing, often times struggling within communities that are not interested in changing or that have other problems too big to care about the focus of humane education. For example, if a community faces concerns with economic downturn, poor education, loss of work, and so on, it will be increasingly difficult to ask that same community to support the efforts of those they see as the "animal lovers.' The key to getting community buy-in is tying the relationship knot between animals and humans and how our treatment of animals is not only a gauge of the current community climate but also important in the healthy emotional development of children.

Working in communities immersed in violence. Violence is systemic and is often described as a model for the depletion of empathy, thus desensitizing those involved (Ascione, 2001). Senge, a leader in the field of systems thinking, identifies a "system" as a "perceived

whole whose elements 'hang together' because they continually affect each other over time and operate towards a common purpose" (Senge, Kleiner, Roberts, Ross, & Smith, 1994, p. 90). Thus, when systems' thinking is applied to interpersonal violence, it assumes that each component of said system is highly integrated and reliant on the other to retain structure and momentum. This theory suggests that to affect positive change in our communities if we identify and target even just one aspect of the cycle, there will be a significant chance that the whole system will be altered.

Affecting this type of change is where humane education should play a vital role. Violence creates violence creates violence; on and on the cycle goes. Yet, change has to start somewhere. Margaret Wheatley (2005) describes our current society as having,

> Embraced values that cannot create a sustainable society and world. We organize too many of our activities around beliefs that are inherently life destroying. We believe that growth can be endless, that competition creates healthy relationships, that consumption need have no limits that meaning is found in things, that aggression brings peace. (p. 258)

If children are growing up in the society that Wheatley portrays, it is no wonder that children learn early on to harm others as a means to an end. Violence is taught early on as a method of power, ownership, and control. Because of this, one may even argue that interpersonal violence could be considered a closed system. By definition, a closed system is "emphasizing stability, group loyalty, security, clear boundaries, and tight controls" (Senge et al., 1994, p. 415). Since violence continues into adulthood and is something a child has experienced as part of their developmental process, the cycle frequently begins to manifest itself as violence towards animals.

It is a challenge for humane educators, especially for those who are seeking to change the constant reoccurrence of violence (towards people or animals), because violence can become

integrated into culture, it can become a way of life. Thus, it becomes a journey of facilitating individual change in students to alter the community's perspective, which will ultimately amend large-scale systemic violence. Wheatley (2005) suggests that individuals are biologically propelled from themselves in search of community. If violence is part of an individual's persona, then by default of the biological need for community, it becomes immersed in that culture. Also, following Wheatley's view on self-organizing systems, we see that over time "individuals become so intermeshed in a process of coevolving that it becomes impossible to distinguish the boundary between self and other, or self and environment" (Wheatley, 2005, p. 47). Often, this is what is seen in the cycle of violence, children become their environment and cannot alter the system because they are an integral part of its functioning.

Humane education has the potential to break this cycle of violence, offering youth more intellectual and emotional resources to make better choices in life. The challenge is for humane educators to find the most successful way to alter the cycle of violence through a variety of goal specific programs and then effectively evaluate those programs to ensure they are sustainable as a change agent.

Humane educator training. In most professional practices, it is required that people have training to do the work that they do. Unfortunately, for humane educators this is not always the case. Many humane educators receive their training from on-the job responsibilities (i.e., working at the shelter and being the one who "likes kids"), instead of becoming credentialed as teachers or counselors preforming the humane education duties. Olin (2000) found that 50% of humane educators were trained via the job and only 15% of those directly involved with humane education had any sort of certification.

Lack of training creates obstacles for achieving the field's potential. Achieving a goal such as playing a role in interrupting the cycle of violence is incredibly difficult work. For example, teaching teachers how to better create compassionate classrooms requires the skill and grace of a classroom teacher turned humane educator, not simply someone who is well-intentioned or surfaced trained. In addition, humane educators who are faced with running empathy development or violence prevention programs for troubled youth need to know much more than the nature of empathy or how to teach; they need to be properly trained and educated in the humane education field. If the field of humane education is to remain sustainable as a movement, or even as a profession, the proper educational background and tool-set is necessary.

Statement of Problem

As in many professions, there is a notable problem within humane education practices; there is a lot of work done focusing on why humane education is important and considerably less time spent on evaluating humane education programs. It is apparent that there are limitations with the amount and quality of current data collection and analysis. These limitations impede the appropriate growth and direction of the field. The challenge is that many humane education programs have surfaced over time, but very little evaluation has been done to determine if these programs are effective. It is unlikely that humane education programs are ineffective, but if the expectation is to successfully educate youth and raise levels of empathy, then educators need to find supporting evidence backing up their initiatives. It is in this arena that humane education continuously falls short. The lack of research could be one of the biggest contributing factors to the failure recognize the value of humane education in the broader social justice context.

Humane education program evaluation in historical context. This lack of research impediment to growth can be seen from the beginning of the movement itself. When the

movement started, there were no recordings or documentation on how the effects of humane education teachings may or may not have affected students. Even during humane education's flourishing times there was a lack of research. This, in part, contributed to the initial digression of the movement. If the humane education movement had provided concrete evidence of the success of its teachings, it is possible the dramatic shift from the era of mandated inclusion in school standards to the current state of loosely organized and scattered humane educators may not have occurred. For example, if educators had shown research evidence that boys were not becoming "sissies" or "weak in character," the movement may have been able to withstand the tide of changing norms. While the delivery modalities of humane education have shifted and changed over time, one thing remains constant: a lack of research to support the effectiveness of the work.

Lack of current evaluations. There is no disputing the potential for positive effect that humane education lessons can have on a student. Currently, there is a feel-good approach to many aspects of humane education without real evidence-based support. Fawcett and Gullone (2001) claim, "A general bias against the value of non-human animal interactions for human psychological well-being may… explain the lack of empirical interest in the area" (p. 130). Ascione (1997) found that "humane education studies often lack pre- and follow-up-testing, and exclude at-risk children." Ratham (1999) suggested that programs assisting at-risk children by teaching gentleness with animals often lack systematic assessment. Zasioff et al. (2003) found that "Humane education programs often target at-risk children and seek to teach empathy and gentleness with animals, but few of these have been assessed" (p. 352). In 2008, another research study indicated that "there have been few published reports on the effectiveness of these ubiquitous programs" (Nicoll, Trifone, & Samuels, 2008, p. 46). In addition, almost twelve

years after Ascione's suggestion to look at effectiveness of humane education, (Arbour, Signal, & Taylor, 2009) said:

> Although the popularity of Humane Education Programs (HEP) as a method of teaching compassion and caring for all living beings is increasing, there is a need for rigorous, methodologically sound research evaluating the efficacy of HEP. Recent calls for the inclusion of HEP within broader humanistic, environmental, and social justice frameworks underline the importance of HEP beyond a simple "treatment of animals" model. Lack of methodological rigor in the majority of published HEP studies (e.g., absence of a control group) and dispersal across disparate fields (with differing indices of efficacy), however, means that there is a potential for the popular use of HEP to outstrip our understanding of the variables that impact efficacy. (p. 136)

Over the years, not a lot has change with humane education program evaluation. Much of the professional validation comes from anecdotal stories or observational accounts of effectiveness, rather than solid research and data. "More research that contributes to a growing literature on the relations between children and animals is needed to encourage and validate the efforts of educators" (Aguierre & Orihuela, 2010, p. 27). Humane educators often struggle with finding ways other than anecdotal tales of success to identify how their programs are effective within the community. A challenge for humane educators is that, even if the desire to evaluate programs is there, determining what or how to measure is difficult. Humane education programs cover a wide array of topics that include changing students' knowledge of a particular subject as well as their attitude about it (i.e.: empathy development), with the long-term goal of positively shifting their behavior. There is no easy way to measure this type of effect. It was thought that the solution was simple: if the level of knowledge increases behavior will change (Patton , 2008). Now, researchers recognize that these connections are far more complex than originally thought (Fishbein & Ajzen, 2009; Millar & Millar, 1996; Millar & Tesser, 1989) and require a great deal of consideration before developing adequate evaluative measurements for knowledge, attitudes,

and/or behavior. Regardless, it will be imperative for humane educators to find a way to analyze program data, and offer evaluations on the success or failure of these programs.

Researcher Positioning

Since 2004, I have been the Director of Humane Education for a prominent animal protection organization, the Society for the Prevention of Cruelty toward Animals, Los Angeles (spcaLA). I consider myself very fortunate because the core of humane education practices adhere to my root values as an educator. In my role, I have had the pleasure of working with a variety of students who primarily come from less than desirable situations or communities. I lead a team of humane educators and together we host a series of violence prevention and intervention programs throughout Los Angeles County. These programs are designed to assist students in receiving the tools they need to make healthy, and less violent, life choices. Throughout my directorship years I have overseen many programs. Two specific programs are: the violence prevention program TLC™, and the violence intervention program jTLC™. TLC™ has been in place for almost 15 years. jTLC™ is program that works specifically with violent juvenile offenders, and is an initiative I began, along with a committee of district attorneys, in 2009-2010.

Studies show that violence often occurs in a systemic and circular nature (Ascione, 1997, 2005; Ascione & Arkow, 1999; Ascione & Weber, 1996; Faver, 2010). For example, if an adult abuses a child or a child is exposed to a violent environment that child in turn, for a range of reasons, such as fear, power, need for control, emotional justification, etc., often acts out by injuring an animal or another person. Over time that child may become desensitized to such acts of violence, thus decreasing any concept of empathy. Lack of empathy may create a callous demeanor that allows this child to grow up and abuse others: animals, people, their partners,

and/or their own children. Hence, the cycle returns to the beginning. There is not an exact science to the nature of violence, yet there may ultimately be a recognizable beginning of desensitization and lack of empathy, which often initially plays out in the relationship between animals and children.

My work, which focuses on breaking the cycle of violence through the practice and development of empathy in youth, is the impetus for trying to understand through this research their true potential. Figure 1.2 illustrates where the TLC™ and jTLC™ programs aim to break the cycle of violence. This figure also identifies the ideal place for violence prevention programs.

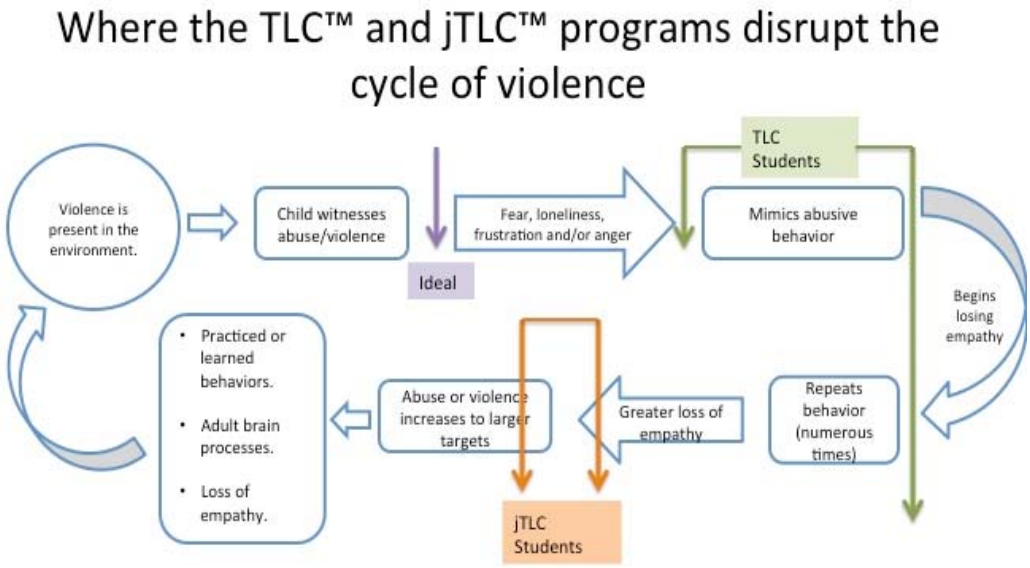

Figure 1.2. This figure illustrates where programs, such as TLC™ and jTLC™, can intervene and aid in breaking the cycle. This also includes the ideal preventative point in which violence should be addressed.

Purpose

The purpose of this study was multifaceted. First, the research was designed to offer insight into the variety of program and evaluation modalities in humane education.

Understanding the current climate of the field, since there is limited comprehensive research, is one step towards understanding where to take potential program evaluation in the future.

Secondly, the research focused on conducting a before and after analysis of archived program data from the Animals, Others and Self (AOS) surveys taken by participants in the TLC™ and jTLC™ programs over the past several years. Participants included middle and high school students who came from at-risk environments. TLC™ student selection occurred through individual school administrators, counselors, or teachers. The jTLC™ student selection came directly from the district attorney's office, as a mandated component of probation.

Originally, UC Davis designed the AOS survey, along with the spcaLA (Zasioff et al., 2003), as part of the TLC™ program at the spcaLA. The survey measures attitudes towards animals, others, and self. Instead of reinventing the wheel and beginning a new program simply to view its effectiveness, assessing a current and sustainable program seemed more purposeful. The TLC™ and jTLC™ programs were the perfect candidates for this type of analysis.

TLC™ has used the same program and survey since its original experimental study in the late 1990's. The initial research on TLC™ was valuable for the launching of the program but the original research had some limitations that we now have the ability to expand on with further research.

jTLC™ was a more recently implemented initiative that works with first time juvenile offenders who have committed a violent crime. In conjunction with the spcaLA, the Los Angeles District Attorneys office, and the Juvenile Offender Intervention Network (J.O.I.N), the jTLC™ program was implemented in early 2011 as an empathy based program for violent youth. The lack of access to an alternative survey led to using the original TLC™ AOS as the data

collection tool for jTLC™. As a relatively new initiative, a review of the jTLC™ programs' before and after data allows for a timely analysis of a novel violence intervention program.

The third purpose of this study was to review additional collected data from the same two programs, TLC™ and jTLC™, using pre and post responses from a reliable and valid empathy tool known as the BEI (Bryant, 1982). The BEI measures any change in empathic responses from the TLC™ and jTLC™ participants. Humane education is a large movement, which embraces a multitude of ways to communicate its message and contains a variety of professions stemming from it. Within the humane education movement are four distinct modes of teaching its practice: formal education, informal education, nature of practice, and the profession of Humane Educator. Professional humane educators have different organizations that are responsible for employing them. This research identifies those who work in animal protection, specifically, with an additional focus on evaluating violence prevention and intervention programs. Figure 1.3 represents the variation in humane education modalities. The highlighted boxes show the specific research focus for this dissertation research: violence prevention and intervention programs supported by animal protection organizations and taught by professional humane educators.

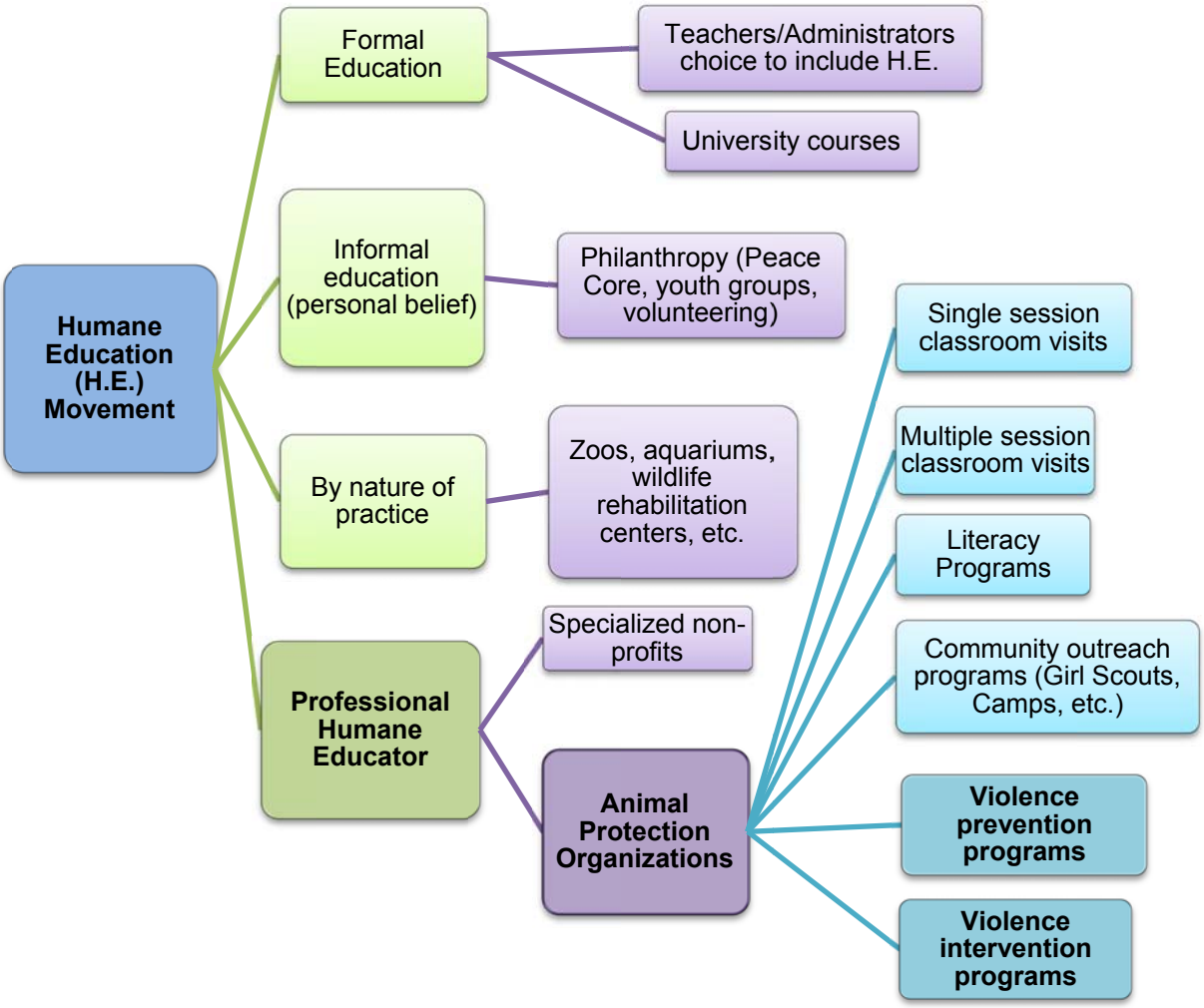

Figure 1.3. This figure represents the current humane education modalities and the research path that this study follows within the modality framework. The pathway is identified in bold.

Population Focus

There are three specific populations focused on in this study: humane educators, at-risk middle and high school age students with some identified behavior issues, and at-risk youth who had already been charged with an act of violence.

The voices of humane educators across the country were necessary to help determine what research is actually going on in the field. Although evaluation efforts are thought to be minimal, they are not non-existent. In addition, a variety of programs exist in the field. Obtaining knowledge about current programs and the data collection and evaluation efforts of those is important for the potential growth of the field. Administering a descriptive and opinion survey to humane educators assisted in gathering comprehensive information related to the landscape of humane education.

The other two populations were students who participated in humane education programs. Specifically, they were youth who were involved in spcaLA's violence prevention and intervention programs, TLC™ and jTLC™, respectively.

Students participating in TLC™ demonstrated concerning behaviors at school, or were students outside of the "normal" school system that were placed into day schools or residential facilities. Over a period of 10 years, these students had completed pre and post paper and pencil AOS surveys about their experience in the TLC™ program.

As part of jTLC™ the same AOS surveys were collected, over a 3 year time period, with a slightly different population of students. jTLC™ students were specifically selected by the juvenile justice system and identified as youth who have already committed a violence crime.

The AOS survey data from both TLC™ and jTLC™ surveys were digitalized, reviewed, and analyzed. All of the youth who participated in both programs were under the age of 18 and

had gotten in some type of trouble. It was important to protect their well-being and identity, which was one impetus for using their anonymous archived survey data.

The intent of this research was to identify the current landscape of humane education programs in the United States and their evaluation status, as well as to identify the effect that two violence intervention and prevention programs have on empathy development and attitudes towards animals, self and others.

The first research focus was on describing humane education program types, data collection efforts, and their evaluation, with an emphasis on empathy development centered programs.

1. What program modalities, data collection tools, and evaluation efforts are used by humane education organizations in the U.S.?
2. What is the current *perception* that humane educators in the U.S. have of humane education programs, its relevance to broader issues, and the status of the profession?

The second focus was on the effect of two violence intervention and prevention programs on attitudes towards animals, self, and others. This analysis was based on before and after archived AOS survey data from the TLC™ and jTLC™ program participants.

3. Are there statistically significant differences between pre and post knowledge and attitude data for TLC™ and jTLC™ participants?

   3a. Are there statistically significant differences between pre and post knowledge and attitude data for TLC™ participants across grade levels?

   3b. Are there statistically significant differences between pre and post knowledge and attitude data for jTLC™ participants across gender categories?

   3c. Do jTLC™ students have an increase success rate, as measured by

violent behavior recidivism rates compared to similar offenders who did not attend the jTLC™ program?

The third focus of the research was on the empathic responses of the TLC™ and jTLC™ students as measured by the BEI.

4. Are there statistically significant differences between pre and post BEI scores for TLC™ or jTLC™ participants?

   4a. Are there statistically significant differences between pre and post BEI scores for TLC™ participants across gender?

Ethical Concerns

Most humane education programs involve working with children under the age of 18. Because of this, it was imperative to be certain that all IRB requirements were met and that the wellbeing of every youth was a constant consideration. The first segment of data collection, via an opinion survey, occurred strictly with adults, with a focus on program and evaluation descriptions. The second part of the data review looked at retrospective data collected from youth in pre and post program surveys. No personal identifying information was included on the surveys. The third component of data collection involved using pre and post empathy scale data collected from youth who were anonymous and only identifiable through pre-assigned identification numbers. In addition, the second and third components did not involve the researcher interfacing with the youth.

Limitations

The major limitation of this study is its inability to be far-reaching on two accounts. First, a plethora of humane education programs exist and it is impossible to evaluate data for them all. Instead, this research intends to paint a picture of the current state of humane education

programs and hones in on two specific violence intervention and prevention humane education programs for evaluation. Secondly, due to the nature of the students and the programs, a longitudinal methodology was out of the reach of this research. Any results that come from this research speak to the students' experiences for the duration of the programs. Further investigation into the long-term effects of these programs on empathy development or behavior change will be needed.

Value of the Research

This research contributes to the humane education movement in several ways. Although Unti & DeRosa (2003) collected survey data on the types of humane education programs run within animal protection organizations there has not been a survey administered to specifically identify current data collection and evaluation practices within the field. This survey assists in identifying common program modalities and data collection and evaluation efforts.

Additionally, humane education research often focuses on elementary school classrooms and the effects of in-class programs. Researchers in this field have noted that there is a need for the further investigation of either "at-risk" or more diverse populations (Arbour et al, 2009; Ascione, 1997). The review of both TLC™ and jTLC™ data establishes further research roots within empathy based humane education programs for youth from at-risk environments.

The evaluation of the BEI data also contributes to the research in this field. Most of the empathy studies within humane education happen within the normal elementary school levels, and often have excluded the very population who may already have lower levels of empathy due to environmental desensitization—youth in the middle and high school years.

This research aims to contribute to the humane education movement in a valuable way. Others may use one or all components of the research for the betterment and sustainability of the

humane education movement, specifically related to violence prevention/intervention programs and their evaluative practices.

Chapter II: Literature Review

Humane education program research focuses on many aspects of the human-animal bond and student interconnectedness with the world. One of the most important areas of research includes the human-animal relationship and how this has manifested and changed over time (American Veterinary Medical Association [AVMA], 2002; Beck & Katcher, 1996; Fuller & Scott, 1974). Relevant research also includes discussion of humane education's role in the cycle of violence, and why humane education programs are considered valuable (Ascione, 2001, 2005; Ascione & Arkow, 1999; Currie, 2006; Faver, 2010; Gullone, 2000; Gullone & Clarke, 2010; Nicoll et al., 2008; K. L. Thompson & Gullone, 2003; Weil, 2004). Research on child development in juveniles, and the effectiveness of early intervention programs on violence, is also relevant to the field of humane education (Reynolds, Temple, Robertson, & Mann, 2001; Yoshikawa, 1995; Zigler, Taussig, & Black, 1992).

In addition, the effectiveness of humane education programs, including a review of existing program evaluations will be covered in this literature review (Aguierre & Orihuela, 2010; Ascione, 1996 Faver, 2010; Nicoll et al., 2008; Sprinkle, 2008; Zasioff et al., 2003). Also introduced in this literature review is the topic of how empathy development occurs in children (Eisenberg & Strayer, 1987; Eisenberg, Losoya, & Guthrie, 1997; R. Thompson, 1987; Wilson, 1984; Zahn-Waxler & Radke-Yarro, 1990). Finally, this literature review will identify and discuss some of the current and most valid empathy scales designed to be used with children (Bryant, 1982; Poresky, 1990; K. L. Thompson & Gullone, 2003). See Figure 2.1 for the theoretical intersection of the literature.

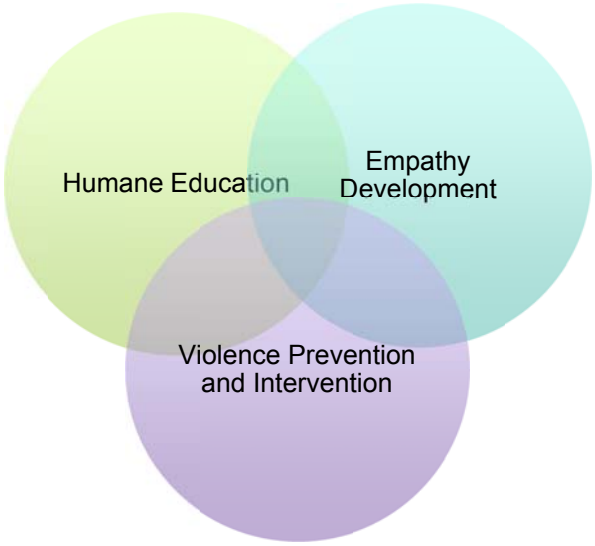

Figure 2.1. Theoretical intersection of the literature.

Human-Animal Relationships

A constant challenge in the field of humane education is that human beings have varying opinions regarding the value and treatment of animals in our society. Similar to many of the heated issues surrounding race, religion, sexuality, or politics, the diversity of these opinions can either instill positive change or potentially create disdain. Amidst the ever-changing paradigms of perceptions about the world around us, there must be an acceptance that all sentient beings, from human to animal, play a role in the development and sustainability of societal balance. Despite personal, cultural, or religious views about the role of animals in our human world, humans cannot deny that there is indeed a role-played.

The distinction between cultural values regarding animals is an important one. Many cultures view animals in different regards, and many of these ideologies surrounding animals make it difficult to find plausible agreement. The intention in the following research is not to

define the value of animal ownership or the ultimate consequences of all societal behavior towards animals. The subsequent research exhibits how our relationships with animals have shifted into holding different kind of "value" in society. This is relevant to furthering the understanding of how positive relationships with animals, and the treatment of them, influences our interconnectedness in the world.

Looking at the role of animals in the lives of humans, they serve an important function in a multitude of ways: as pets, as family, as food, as workers, as entertainment, as religious tools, as research materials, as clothes, as therapy, as companions. Some professional facets identify the perceived value of the human-animal bond for the betterment, health, and/or well-being, of others. Without attaching any moral or ethical stances, it is important to recognize that around the world we (humans) have an undeniable and integral relationship with animals.

Pet Ownership in the United States

According to the American Veterinary Medical Association (AVMA) pet ownership is a majority in the United States (AVMA, 2002). The AVMA national survey found that 69.6% of households have dogs and/or cats and 98% of those families feel as though these pets are part of the family/companion animals. The AVMA's findings indicate that the majority of homes in the U.S not only choose to have animals in their daily lives, but also choose to view those animals as one essential component of "family." In the same study, the AVMA found that there are more pets within homes in the U.S. then children, and that children in the U.S, are more likely to grow up with a pet than with a father. Embedded in these findings is the idea that pet ownership affects children. If growing up with a pet instead of a father continues to be a prominent part of U.S. society, the child-pet relationship may ultimately take on a completely new relevance.

Human Relationships With Dogs, Specifically

Animals, from the beginning of domestication, were predominantly used for food, fur, or guarding property, or they were put to work. Dogs were the first of the domesticated animals, and they began to surface as early as 30,000 BC (speculated) to 7,000 BC (confirmed) (Fuller & Scott, 1974). Historically, some burials included working dogs with their "owners," as early as 12,000 BC (Fuller & Scott, 1974). Dogs have provided support to humans through the process of domestication and they frequently performed many roles for people, such as: hunting, herding, pulling loads, protection, assisting police and military, companionship, and, more recently, aiding handicapped individuals. In the west, dogs have worked their way into everyday pet-ownership life (Wingfield-Hayes, 2002).

Animals and Therapeutic Practices

Many organizational systems incorporate the human-animal relationship into their work for added benefits. For example, physicians and psychologists have recommended companion animals as important factors in assisting with a variety of ailments including: blindness, deafness, high blood pressure, drug addiction, and a range of other illnesses (Beck & Katcher, 1996). In addition, animals have played a large role in helping people who are coping with trauma from physical or sexual assault, chronic mental illness, and the effects of aging (depression, mobility, etc.) (Beck & Katcher, 1996).

The use of animals as therapeutic aids was documented as early as 1792. William Tuke and associates had just experienced the death of a friend who resided in an asylum. This empowered them to look at different ways to improve the treatment of mentally ill persons. Tuke and associates thus developed the York Retreat. Their model incorporated such activities like gardening, exercise, and the presence of animals, such as birds and rabbits (Wesley, 2006).

Florence Nightingale also recognized the therapeutic value of using animals in health care (McDonald, 2001). Nightingale said, "a small pet is an excellent companion for the sick, for long chronic cases especially" and that a "pet bird in a cage is sometimes the only pleasure of an invalid confined for years to the same room." Boris Levinson, a child psychologist, coined the term "pet therapy" in 1962 (Arkow, 2010). Levinson made many observations in sessions with withdrawn children so he began incorporating his dog into therapy sessions. The children began to lose some of their defenses and the dog provided an icebreaker to the therapeutic relationship. Levinson's research provided a foundation for much of the research in the field to begin.

As in most interventions, the goals of human-animal intervention can vary depending on the type of populations addressed, and/or the type of intervention used. Animals have been recorded as: reducing loneliness, improving communication, fostering trust, reducing the need for medication, improving cognitive functioning, enhancing the quality of life, improving physical functioning, decreasing stress and anxiety, improving vital signs, motivating patients or clients, and improving self-image. Much of these gains are attributed to the unconditional love that an animal can offer (Connor, 2001).

The human-animal bond is also a tool for wellness. This bond is used for people of all ages and in a wide variety of settings, such as humane education programs, informal pet visitation, hands-on work with horses or other animals, and/or formalized animal assisted therapy sessions in hospitals and prisons. The research described below covers the role that animals, predominantly dogs, have played in the development of animal-based therapeutic practices.

Animals in prisons. Aside from the numerous medical benefits that the human-animal bond may have, these relationships are also instrumental in other ways within the prison systems.

Developing human-animal bond programs in prisons increases prisoner empathy and pro-social behavior. The prison system, inherently in its design, amplifies violence, gang activity, and other various forms of nefarious acts. Rehabilitation efforts, once an interest for prison models, have decreased over the years due to funding (Strimple, 1991). Attesting to the positive effect of inmate-animal interaction programs, in recent years there has been growth in inmate-animal interaction programs, despite the lack of revenue it generates (Furst, 2006). There are approximately 70 varying models of prison based inmate-animal interaction programs across 36 different U.S. states and there are, in total, 159 prisons throughout the U.S. that actually host these types of programs (Furst, 2006).

The first recorded use of animals with those confined was discovered as early as WWII, in letters between the Secretary of Interior (Franklin K. Lane) and the Superintendent of the Government Hospital for the Insane (William White, M.D.) (D'Amore, 1976). These letters suggested incorporating dogs as playmates for those incarcerated within the mental facility. In addition, during WWII, police dogs at the prison camps helped establish camaraderie between the prisoners of war (POW), guards, and local townspeople. There was a similar sense of "kindness" exhibited between opposing peoples when the horses, at a time when horses were used for logging, would pass through the town. POWs and townspeople would interact with one another while commenting on the horse as a focal point for conversation (Koop, 1988).

The first known successful introduction of placing animals directly into prisons happened in 1975, at the Oakwood Forensic Center in Ohio. The doctor at this facility had noted a dramatic improvement in an inmate who had cared for an injured bird. This became the doctor's impetus for implementing a program that included animals as part of the rehabilitation process. An experimental research study showed a positive change for the participants paired with

animals in the experimental group compared to the control group. Participants who built a relationship with animals showed change in the following ways: a remarkable increase in relating to the staff and other inmates; decreased levels of violence; no suicide attempts compared to 8 for the control group; and a reduction to needing only half of the medication compared to those who did not participate in the animal-based program (Lee, 1983).

Similarly, a women's correctional facility in Washington State implemented a program that included dogs and dog training for the prisoners. The prisoners who participated in the program also showed increased self-esteem (Bustad, 1990). Research was completed on an inmate-animal interaction program in Virginia and the study found, through examining disciplinary records and interviewing the inmates who participated in the program, a self-reported reduction in feeling isolated and frustrated, as well as an increase in their sense of self-worth and their ability to better appreciate others sense of goal setting (Strimple, 1991). Only 11% of the program's participants recidivated and returned to incarceration after release. Strimple (1991) found in a review of the same inmates that they had fewer recorded disciplinary offenses, less altercations, and a decrease in their usual problem behaviors.

Animals in juvenile systems. One of the most well-known current programs for pairing youthful prisoners and dogs is Project Pooch, developed in 1993. Project Pooch was designed to partner up juvenile offenders with shelter dogs. The incarcerated males care for these shelter dogs through fulfilling the animal's basic needs (food and water), grooming, and training the dogs using positive reinforcement methods. The dogs are housed on-site at the correctional facility and the inmates are responsible for the daily care of the animals, including getting them out for daily walks and cleaning the kennels (Hill, 2001). Project Pooch was part of a dissertation study, which sought to explore differences between those youth who participated

versus those who did not. Merriam-Arduini (2000) was looking for differences in youth recidivism, prisoner reformation, and behavioral changes. What Merriam-Arduini found was: zero recidivism, an increased respect for authority, improved social interaction, and positive leadership for those who participated in Project Pooch. The youth self-reported they had grown in the areas of patience, honesty, empathy, nurturing, social growth, and confidence levels (Merriam-Arduini, 2000).

Non-dog based therapeutic animal interactions. Dogs are the most commonly used in the therapeutic realm, but animals such as horses, farm animals, cats, and even wild animals are in prison based animal intervention programs (Lai, 1998). For example, prisoners who were involved in a wild mustang program had an increased sense of autonomy, as well as a higher sense of self-esteem and self-confidence (Cushing & Williams, 1995).

Animals and Interpersonal Violence

Violence affects everyone. In some form or another, we have all fallen victim to violence. If not first hand, then through vicarious experiences, including: the news, the Internet, the community, friends, or family. Violence is a complicated system and it is a source of the depletion of empathy. Often, violence that continues into adulthood stems from what a child has experienced as part of their developmental process and may frequently begin to manifest itself as violence towards animals. Discussions about interpersonal violence should include how a child's relationship with animals plays a large role in shaping pro-social behaviors and decreases desensitization of violence.

In some environments, violence occurs at an alarming rate. Connections can stem from environments between abusive parenting and violent children. For example, the National Coalition Against Domestic Violence (NCADV, 2008) found that approximately 1.3 million

women fall victims to domestic violence each year, 20% of these women were found to be pregnant and 87% of the battery occurs in the presence of children.

Children exposed to domestic violence are three times more likely to be violent to animals than children in non-violent homes (Currie, 2006). A child who witnesses the abuse of their mother and of the family pet may have compromised psychological adjustment, increased propensity for interpersonal violence and increased likelihood of their subsequently abusing animals as a symptom of their distress (Ascione, Weber, & Wood, 1997).

Children's acts of animal abuse are some of the strongest and earliest diagnostic indicators of conduct disorder, often beginning as young as age 6 and a half (Ascione, 2001). One study found that half of school shooters have a history of animal abuse (Verlinden, Herson, & Thomas, 2000). The FBI also recognizes the connection between animal abuse in children and future violence. They identify animal cruelty as one of the several juvenile behaviors associated with increasingly violent behaviors. In an interview with a special agent in the FBI (Lockwood & Church, 1996), the agent identified that the FBI uses a history of violence towards animals as an indicator for threat assessment and a predictor for future violent acts.

Violence towards animals may also be a predictor of future violent behavior, an indicator of household violence, or a coercive tactic used against people in abusive relationships. Children who are the victims may have a propensity towards aggressive behaviors and potentially will hurt others in the future. Surveys of women in domestic violence shelters have also shown that 32% of battered women reported that their children had hurt or killed animals (Ascione, 1997). A child who is victimizing others could mean that the child is experiencing domestic violence in the home and is mimicking violent behavior.

Animal abusers are not always children. An adult abuser in the household will threaten, abuse, or kill the animals in the home as a means of controlling the others in the household. Over 71% of battered women reported that their batterers had harmed, killed, or threatened their animals. More than 75% of these incidents occurred in the presence of women and children to coerce, control, and humiliate them (Ascione, Weber, & Wood, 1997). One review of the survey data found that women have reason to be even more fearful of an abuser who hurts the family pet. The survey findings showed that batterers who harmed animals are more dangerous and likely to use more forms of violence and controlling behaviors then those who did not abuse pets (Simmons & Lehmann, 2007).

In addition, and not separate from interpersonal violence, is the issue of animal abuse, such as dog fighting, cock fighting, a case of a child lighting a dog on fire, or similar acts of horrific violence. Research points at the cyclical nature of violence and does not separate the treatment of animals from interpersonal aggression. In actuality, it considers the treatment of animals to be a considerable factor in the emotional development of children (Ascione, 2001; Ascione & Arkow, 1999; Currie, 2006; Simmons & Lehmann, 2007). In a review of historical research, an Australian article noted that although the existing data does not empirically support the facts that animal abuse *leads to or causes* interpersonal violence, there is sufficient data to suggest these types of violence are closely intertwined (Gullone & Clarke, 2010). Gullone and Clarke (2010) found that the "presence of one type of violence may predict the increased likelihood of another type" (p. 311).

It is important to note a distinction here. Violence and an individual's relationship with animals is a complicated system. Simply inserting an animal into every family and child across the country is not the suggested answer to ending interpersonal violence. To the contrary, an

argument could be made that there are homes across the world that have highly developed socio-emotional children who have never experienced a positive relationship with an animal. Humane attitudes towards people do not always have a correlation with pet ownership. Ascione and Weber (1996) found, in a comparative study of elementary school children, that students who have a positive relationship with a pet also have a positive attitude about their peers. In contrast, children who have spent a lifetime with animals can still develop violent patterns. This is because aggressive behaviors and acts of violence do not exist in a vacuum, but instead within complex systems that depend on changing many parts in order to change the whole. At the root of changing this complicated system is the development of empathy, specifically in reference to children's relationship with animals, an integral part of the whole. Owning a pet is not what defines a person's empathic ability or ability to manage interpersonal relationships. Although, it is possible that obtaining knowledge about kindness towards and treatment of animals, through mastery experience, vicarious experience, or education, as well as the early establishment of a positive human-animal bond may help *shape* the development of empathy within the context of a world that currently exhibits a large amount of violence (Ascione & Arkow, 1999).

Within many communities the responsibility of ending violence has fallen upon agencies such as: Child and Family Services; juvenile courts; domestic violence services; churches; recreational and after-school programs; school counselors; and educational facilities (Lane & Zawistowski, 2008). Included, are humane education departments. Although these have frequently been pushed aside as separate "animal programs" that have to step up and play their role in helping alter the cycle of violence through violence prevention and intervention programs (Ascione & Arkow, 1999). Senge et al. (1994) view the role an organization plays in changing an established system as one: "where people continually expand their capacity to create the

results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together" (p. 3). Different agencies are now focusing on humane education and working together to create change and many of these organizations believe that change starts with reeducating our youth about empathic concepts.

For humane educators, making the world a less violent place, for animals and people, begins with one child and one animal. Although violence towards animals is not a guaranteed cause of violence towards others, there is a strong correlation between those two occurrences. The awareness of this connection is the core piece that humane educators focus on and altering this small aspect of a larger system, through creating a positive, non-violent experience with the human-animal bond is the goal of many humane education practices.

Youth and Empathy

Across the humane education movement there are varying objectives and goals, usually determined by a specific program or initiative. Despite the vast differences in program design and implementation, one important value remains constant: the belief that empathy development is a critical piece of the humane education puzzle.

Understanding empathy is complicated. Many questions still exist around the biological and/or environmental roles that promote or inhibit empathy development. Understandably, embedded in the development of empathy are a variety of factors: environment, parenting (modeling), genetics, and experience, which all play a large role in the level of empathic ability that might manifest in an individual.

Empathy is commonly understood as an emotional reaction that occurs in response to another's affective or psychological state (Eisenberg & Strayer, 1987). An alternative definition

is that empathy is "an innate hardwired response connecting us as social beings to the emotional plight of others" (Zahn-Waxler & Radke-Yarro, 1990, p. 111). There are two defined modes of empathy: cognitive empathy and emotional empathy. Cognitive empathy is recognizable as the ability to *understand* another person's mental state (deWaal, 2008). Emotional (or affective) empathy is the ability to *respond* with the appropriate emotion to another person's mental state (deWaal, 2008). It has been suggested that the early promotion of empathy in children will ultimately help shape both cognitive and emotional values and self-control (Hoffman & Saltstein, 1967). Research has also suggested that the early development of empathy will help increase pro-social behavior in young adult and adulthood (Bryant, 1987).

Hoffman (1982) proposed that human beings have a biological basis for understanding the emotional needs of others. Empathy is a way for human beings to understand one another. The positive development of empathy is one of the biggest assets in joining the affective positioning of individuals (Hastings, Zahn-Waxler, Robinson, Usher, & Bridges, 2000). Children begin to express empathy, through altering their responses based on change in parental affect, as early as infancy (Zahn-Waxler & Radke-Yarro, 1990). There is a high correlation between a toddler's ability to recognize their own reflection and differentiating between the emotions of self and others. This suggests that higher levels of cognition related to empathic development occur between 18 to 24 months (Eisenberg, Losoya, & Guthrie, 1997). This evidence was corroborated by similar research that showed children could understand emotional responses of others by the time they were one year old (R. Thompson, 1987). By two years old, toddlers not only have empathic responses to others' affect but also are able to begin expressing these responses in the form of verbal sympathy. Children begin to express their sympathy for

others parallel to the expectation [by parents] to start behaving appropriately, on an interpersonal level (Zahn-Waxler & Radke-Yarro, 1990).

Developing these interpersonal skills, along with pro-social behavior, is a key factor in stimulating altruism and preventing aggressive tendencies as children get older (Zahn-Waxler & Radke-Yarro, 1990). Empathy and aggression have an inverse correlation and the strength of this negative relationship increases with the age of the child, especially in those youth with behavior problems.

Individuals differ in how they process empathic responses. Understanding empathy is complicated because individual differences, developed through environmental impacts and/or social experiences, play a role in its development. Zahn-Waxler & Radke-Yarro (1990) suggest that a child's family and home life will create the first framework around empathic response towards self and others. Parents are the first to shape empathy in a child but are not the only ones to have a critical impact on empathic development. Teachers, peers, and siblings can all have a positive impact on a child's empathic development (Barnett, 1987). Empathy development is a combination of events and experiences, coupled with a biological drive. Most children are born with empathic responses but not all children have the opportunity to witness or practice it throughout their formative years. Some researchers feel as though the current state of the Western culture inhibits the proper development of empathy in children, suggesting that it is imperative to teach empathy early on (Gullone, 2000).

Barnett (1987) suggests that the positive development of empathy in children is crucial because of the ultimate role it plays in shaping the mental health of a child. Similarly, Eisenberg and Strayer (1987) suggest that empathy development is critical because of its impact on pro-

social behavior. Pro-social behavior is a key component in forming a well-functioning child in society.

Humane Education Programs and the Inclusion of Animals

Giving youth the opportunity to learn about and practice empathy is at the root of humane education practice. This is possible through a variety of programs, but there are areas in which the focus should rest.

Humane educators must create broad, but replicable, education programs, which supply all students with character education and humane concepts. This would give all students the opportunity to practice and develop empathic responses, whether or not they are receiving these skills at home.

In addition, humane educators must focus on working with students who have a particularly difficult time exercising empathy and grasping humane concepts. Professional humane educators, in conjunction with teachers and school administrators, should identify these students and use hands-on humane education practices to assist them in practicing how to be functional pro-social members of society.

The use of non-human animals in humane education based programs, to help stimulate empathy in troubled youth, is effective for several reasons. Children have a natural affinity and inquisition for non-human species (Wilson, 1984). This attraction can facilitate an easily established relationship between a child and an animal. Pets, or companion animals, play a significant role in children developing healthy emotional responses (Serpell, 1999). In addition, animals offer children the freedom of emotional openness with non-judgment, and positive affection thus also leading to a potential stronger and motivational relationship (Gullone, 2000). Piaget's theory of development suggests that children see animals as peers. When we teach a

child to be kind to animals, we teach them to be kind and respectful to people also (Nebbe, 1991). Because children see animals as their peers, it can be easy to teach them to be empathic to animals. Humans can cause distrust and uncertainty but animals behave genuinely, making the expression of feelings with an animal easier than with a human because of the animals' sincerity (Nebbe, 1991).

Humane based programs are not solely about the child-animal bond. There is evidence to support that empathy towards animals extends to empathy in interpersonal interactions. In a parent survey and child in-home assessment study, Poresky (1990) found that children who had overall higher levels of empathy towards animals exhibited higher amounts of empathy toward their fellow classmates. Hein (1987) did an evaluation of humane education programs and found that elementary school students, who participated in humane education programs, showed a significant increase in positive attitudes towards animals.

Empathy Scales

Empathy is a complicated emotion and can be difficult to measure. There are a limited number of validated scales that measure empathy in children. Empathy scales differentiate between situational empathy and empathic responses based on a specific situation, and dispositional empathy or empathic responses as part of a person's overall character (Zhou, Valiente, & Eisenberg, 2003). Situational empathy is measured either by asking participants about their experiences directly after their involvement in an intervention or through studying the "facial, gestural, and vocal indices of empathy-related responding" (Zhou et al., 2003, p. 275). Dispositional empathy is measured in a number of ways. The two most common ways are to rely on the reports of others (i.e. when working with children) or, more frequently, to obtain information through questionnaires associated with specific empathy scales.

Some of the most frequently used scales are the Bryant's Empathy Index (BEI), Hogan's empathy (EM) scale, Mehrabian and Epstein's questionnaire measure of emotional empathy (QMEE), and Davis's Interpersonal Reactivity Index (IRI) (Bryant, 1982; Davis, 1980, 1983, 1994; Hogan, 1969; Mehrebian & Epstein, 1972). Each of these scales reflect the author's own personal belief about empathy and its origin. Hogan sees empathy as a cognitive function, Mehrabian and Epstein view it as an affective function, and Davis categorizes empathy as both cognitive and affective. Bryant's scale is modeled after the Mehrabian and Epstein Measure, and focuses on affective empathy. The EM has 64 questions, which were derived from other personality tests (i.e., the Minnesota Multiple Personality Inventory and California Personality Inventory).

The QMEE has 33 questions that breakdown into seven subscales. These subscales are:

- "Appreciation of the feelings of unfamiliar and distant others.
- Extreme emotional responsiveness.
- Susceptibility to emotional contagion.
- Sympathetic tendency.
- Tendency to be moved by others' positive emotional experiences.
- Tendency to be moved by others' negative emotional experience.
- Willingness to be in contact with others who have problems." (Mehrebian & Epstein, 1972, p. 179)

One of the main concerns with the QMEE is that it only allows for an empathy score if the participants finish the questionnaire, which can be problematic, especially working with children, who often skip questions (Mehrebian & Epstein, 1972).

The Davis IRI has 28 questions and four subscales. These consist of:

- Perspective taking (the tendency to spontaneously adopt the psychological view of others in everyday life).
- Empathic concern (the tendency to experience feelings of sympathy or compassion for unfortunate others).
- Personal distress (the tendency to experience distress or discomfort in response to extreme distress in others).
- Fantasy (the tendency to imaginatively transpose oneself into fictional situations) (Davis 1994, pp. 55-57).

Of the scales, Davis' IRI is by far the most widely used and accepted for adults. The main concern with using the IRI for this research is that the IRI is most often used with adults and much of the verbiage is considered too difficult for youth in the participating programs to clearly understand. In addition, the Davis' IRI scale does not assign a complete value at the end, but rather allows for scoring by subcategory (Davis, 1994).

The BEI for children and adolescents is a frequently used questionnaire with youth because it is valid for children from elementary school through high school. Bryant (1982) suggests scoring anyone under 7th grade with a T/F (valuing 0 or 1, respectively) and anyone over 7th grade with a Likert score of +/- 4. This scale consists of 22 items that have three subcategories, which include:

- Feelings of sadness;
- Understanding feelings;
- Tearful reactions.

The BEI specifically focuses on measuring empathic responses to human relationship issues, specifically in youth. The BEI has been used in the well-known humane education study

entitled, “Children’s Attitudes about the Humane Treatment of Animals and Empathy: One-Year Follow up of a School-Based Intervention” (Ascione & Weber, 1996). This scale seems most appropriate for use in measuring youth empathy development in humane education programs. Not only is the scale shown to have an acceptable level of reliability and validity, it has already been used in a reputable humane education study.

Research in Humane Education Programs

Since animals have an increasingly larger role in day-to-day life, it stands to reason that the human-animal relationship naturally becomes intertwined, as though animals are simply an extension of our society and perhaps, in large part, how we view them affects how we interact in the world itself.

Elementary school classroom programs. A recent study on empathy found that “educating people to be empathic could be an education for peace, bringing about a reduction in conflict and belligerent acts” (Moya-Albiol, Herrero, & Bernal, 2010, p. 98). Additional supporting research suggests that utilizing programs in conjunction with educational standards helps improve pro-social behavior and increases empathy in elementary students (Faver, 2010). Faver also connects the increase in pro-social behavior with a reduction of violence among the same students.

Inserting humane education into daily classroom standards and teachings goes hand-in-hand with the idea that empathic development at a young age can shape future attitudes towards others. It is plausible that enabling programs in school classrooms, distinctly designed to build and maintain positive relationships with animals and the environment, is one critical step towards successfully altering the prevalence of integrated violence. If teachers incorporated humane education ideas in the elementary classroom, or if schools were to offer humane

education electives, it is possible that classroom management could lead to the development of compassionate classrooms.

One experimental design study using pre and posttest analysis with different groups and repeated classes found an increase of empathic skills and reduction of aggressive behaviors in elementary students (Sprinkle, 2008). Faver (2010) wrote:

> Given the levels of violence in families and communities, human services professionals cannot afford to overlook a potentially powerful mode of primary prevention. Building empathy and inhibiting aggression are the twin themes underlying humane education. The centuries old insight that treatment of animals and treatment of people are connected has gained empirical support in the past half century. All that remains is to act on this knowledge to foster compassion and kindness for both people and animals. (p. 369)

Faver (2010), in a study on humane education practices, suggests that: empathy is inversely related to aggression, empathy towards animals is positively associated with empathy towards people, and high levels of empathy are a protective factor in relation to aggressive acts. The study results suggest that in order to decrease violence towards humans, programs should be in place for all schoolchildren, not only the children identified as "at-risk" for violent behaviors (Faver, 2010).

One of the first legitimate studies done in humane education was a year-long longitudinal study designed to look at children's attitudes towards animals and the generalization of empathy towards humans through a randomized experimental design (Ascione & Weber, 1996). This study included 762 students, across 32 classes of 1st, 2nd, 4th, and 5th graders. The children, selected randomly to be in the experimental group, received humane education classes and the control group received no additional classes. The students filled out pre and post surveys at the beginning and end of the study. The surveys used were the Intermediate Attitude Scale (IAS) and the Bryant Empathy Index (BEI). When the data were reviewed, 1st and 2nd graders were compared, as were 4th and 5th graders (Ascione & Weber, 1996). The results yielded no

significant difference in 1st and 2nd graders, although there was an increase seen in positive attitudes towards animals in the 1st grade alone. Within the 4th and 5th grades, there was a significant difference in attitudes and empathy. When the data were separated by grade, it was seen that the 4th graders showed a significant difference in humane attitudes towards animals when compared to the 5th grade. Both grades showed a significant difference in the ability to generalize empathy.

A year later, the researchers returned to administer the IAS and BEI to the same group of previous 4th graders, 80% of the original students participated in the follow up questionnaires (Ascione & Weber, 1996). This research indicated that the experimental group continued to exhibit higher levels of empathy, as well as generalizable attitudes towards animals and humans, than the control group.

One study focused on the effectiveness of a humane education program (Arbour et al., 2009). This experimental study used pretests and posttests of the Children's Treatment of Animals Questionnaire (CTAQ) and the BEI to measure the children's changes in attitudes and empathic feelings. The randomly selected study groups consisted of 37 4th graders. The experimental group had 11 boys and 12 girls, while the control group had 5 boys and 9 girls. Each humane education program ran 2 hours a week, over the course of 4 weeks and did not include a live animal. The study found that there was a significant increase in the BEI scores with the experimental group, demonstrating that perhaps the program did indeed increase empathy, in the short-term. The CTAQ, which measures the degree that a child is humane to non-human animals, did not show any significant increase between groups. When gender was added as a variable, boys had decreased levels of empathy as measured by the BEI within the control group and an increased within the experimental group, suggesting the 4th grade boys

show a statistically significant change in empathic attitudes with the presence of humane education programs (Arbour et al., 2009). This particular study noted that future research should also look at long-term interventions and include the use of an animal.

One study aimed to look at the efficacy of in-class humane education programs (Nicoll et al., 2008). This particular humane education program took place inside the classroom and included the presence of a therapy animal as part of the research. In this study, the humane education program expected the intervention to "nurture respect, kindness, empathy, and positive attitudes towards people and other animals" (Nicoll et al., 2008, p. 45). Nicoll et al. (2008) noted that some previous works found increased empathy in pre-school children that had pets in their lives. This research design incorporated pet ownership and gender as factors of attitudes towards animals.

One hundred and fifty four 1st graders participated in the study. Forty-five percent were female, and approximately 85% were Caucasian. The groups were split randomly into eight classes. Nicoll et al. (2008) used an already existing in-class humane education program called "We Love Animals" (WLA!). WLA! incorporated six lessons that repeated twice a month over the course of 4 months, in 30-minute presentations. The study also included the use of a humane education children's magazine known as Kind News. The design was a 2 x 2 factorial looking at the presence or absence of the WLA! program and the presence or absence of Kind News. The classes participated in either receiving only Kind News distributed to them as a mode of humane education, only the WLA! program as a mode of teaching humane education, or both forms of humane education. The control group received no form of humane education. Measurements for all four groups included the Primary Attitude Scale (PAS) and Companion Animal Bonding Scale (CABS). The PAS, which measures elementary school children's humane attitudes

towards the humane treatment of animals, was given as both a pre and posttest. The CABS, which measures attitudes about pets, was also given as a pre and posttest one week before and one week after the program.

The PAS data showed that the 1st graders who received both the WLA! program and Kind News showed significantly increased empathy towards animals (Nicoll et al., 2008). The use of Kind News only, showed increased empathy but not statistically significantly. The CABS and demographic data showed that owning a pet significantly affected the CABS scores (Nicoll, et al., 2008).

It is important to note that there are many forms of humane education. They range in duration from a one-time class visit to repetitive, long-term visits. They cover material using a wide variety of modes to deliver the information (Aguierre & Orihuela, 2010). Many factors contribute to potential effects of humane education, including: gender, location, age, pet ownership, and levels of past interaction with animals.

Humane education violence prevention/intervention programs. In addition to in-class presentations and generalized humane education teachings, research looks at alternative, out-of-class humane education models. For example, instead of bringing classroom activities to the classroom, one program's intent was to bring hands-on experience to troubled youth through the training of dogs. In the TLC™ program (Zasioff et al., 2003) the purpose was to increase empathy levels in students through the human-animal bond. A study of this program looked at the longitudinal effectiveness. TLC™ is a 3-week long program designed to increase empathic attitudes toward animals and people. The research began, in part, because programs assisting children from at-risk communities by teaching gentleness with animals often lack systematic

assessment (Ratham, 1999). Four TLC™ classes participated in this study. Students were selected to participate in the program if they scored below the 25th percentile in reading or math.

This was a longitudinal randomized experimental design that took place over the course of two years. Forty-one children participated in the experimental group and 42 in the control group. The researchers administered pre and posttests one week before and directly after the TLC™ programs. Twenty-four randomly selected participants (half from the control group and half from the experimental group) answered open-ended follow up questions 4-6 months after the program was completed. The AOS survey was originally designed by the University of California, Davis for the purpose of measuring conflict management skills, attitudes toward self and others, and fear of dogs (Zasioff et al., 2003). Members of the experimental group increased their understanding of pet care, as well as showed a higher level of knowledge retention than the control group. The study also showed that participants in the experimental group had less fear of dogs at post testing and follow up (Zasioff et al., 2003).

Upon interviewing graduates, testers found an increased sense of self-worth, better tools to handle anger, and a self-proclaimed increase of affection towards dogs. The researchers stated:

> Further efforts toward an experimental approach for evaluating humane education could focus on the use of standardized instruments administered to both students and teachers, compiling data on school-related behavior such as attendance and the observance of school rules, and long-term follow-up of the students. (Zasioff et al., 2003, p. 358)

What emerged from this study was a TLC™ manual. The TLC™ program has since expanded throughout Los Angeles County and beyond. TLC™ has morphed and the original structure has adapted to meet differing school needs. What has remained the same is the use of the pre and post AOS surveys.

A similar study was conducted to evaluate the effectiveness of school-based violence prevention programs by using student self-reports, disciplinary action data, and teacher observational data (Sprinkle, 2008). Students participated in the program known as "Healing Species," and then were evaluated after receiving the program. "Healing Species" developed on the platform that decreased empathy and a history of animal abuse is prevalent in violent offenders (Sprinkle, 2008). "Healing Species" is an 11 unit, 45 minute per unit, classroom presentation curriculum using animals as teachers. The study specifically addressed physical violence, aggression, and levels of empathy. The author noted in the study report a few basic assumptions: "That youth violence and aggression are learned behaviors influenced by the presence or absence of empathy and that those behaviors will continue to escalate in severity unless treated" (Sprinkle, 2008, p. 48). The researchers used a pre and post survey to see if a significant change happened from participating in the "Healing Species" program and changing normative beliefs about aggression and empathy.

One hundred and ninety 4th graders, 90 5th graders, and 130 6th graders from 4 different schools participated in this research. About half, 49.7% of participants were male and 50.3% were female. The student testing instruments included the BEI and the Normative Beliefs about Aggression Scale (NOBAGS). Both instruments were administered one week before and one week after the program. The teachers also participated by using the Aggressive Teacher Behavior Checklist (ATBC) to identify any potential changes in behavior for the students who participated.

The researcher found that there was a significant effect on empathy between both the pre and post BEI and NOBAGS surveys. There were weak correlations with grade level, showing that younger children had higher levels of empathy and less aggression than older children.

Female students showed greater net gains in changing aggressive beliefs and behaviors. The teacher checklist identified that overall fighting went down from 13% to 6% for those who participated in the program. The researcher concluded from the data that the "Healing Species" program did have a positive effect on normative beliefs about aggression.

Making Meaning of the Research

Unfortunately, it is difficult to find large quantities of data on humane education practices since directly researching the effects of humane education are still in beginning stages (Faver, 2010). Faver also suggests that there are many questions regarding the evaluation of humane education's best practices including whether or not programs are taught as individual or group units, taught by the classroom teacher or a humane educator, includes live animals, or is more or less successful with students from various cultural backgrounds or life experiences. Aguirre and Orihuela (2010) also claim, "more research that contributes to a growing literature on the relations between children and animals is needed to encourage and validate the efforts of educators" (p. 27).

Of the discussed humane education studies, four were randomized experimental designs (Arbour et al., 2009; Ascione & Weber, 1996; Nicoll et al., 2008; Zasioff et al., 2003), one was quasi experimental (Sprinkle, 2008), and one was a follow-up study done after an original 1992 study (Ascione & Weber, 1996).

In addition, four of the six studies focused solely on elementary students (Arbour et al., 2009; Ascione & Weber, 1996; Nicoll et al., 2008) with one focusing on both elementary and middle but only up to 6th grade (Sprinkle, 2008), which in some school systems is elementary school. The remaining study specifically focused on 7th graders (Zasioff et al., 2003).

Animals were present in three of the six studies (Nicoll et al., 2008; Sprinkle, 2008; Zasioff et al., 2003). Of the studies that did include animals, only one had hands-on interaction and one-on-one dog training with the dogs (Zasioff et al., 2003). The remaining studies included animals, but only as part of the classroom setting, and they were not specifically focused animal interactions.

All but one of the programs took place inside the classroom, during school hours, with teachers present (Arbour et al., 2009; Ascione & Weber, 1996; Nicoll et al., 2008; Sprinkle, 2008), Only one of the five in-classroom programs specifically focused on violence prevention (Sprinkle, 2008). The remaining research studied external program interventions, focusing solely on violence prevention (Zasioff et al., 2003).

The most popular data collection tool was the BEI. This measurement tool was used in four of the six studies (Arbour et al., 2009; Ascione & Weber, 1996; Sprinkle, 2008). No other tool was used in more than one study. The TLC study used a self-made survey to collect responses (Zasioff et al., 2003). Table 2.1 provides information on the primary studies in this area of humane education.

Table 2.1

Humane Education Research

Year	Study	Grade	Demographics	Participants	Type of Program	Evaluation Tool Used	Reference
1992	Randomized Experimental Design Over the course of 1 year No animal present	1st, 2nd, 4th, and 5th grades	Standard Elementary Classroom	762 students across 32 classrooms	Inside the classroom	Pre and post survey with the Bryant Empathy Index (BEI) and Intermediate Attitude Scale (IAS)	Ascione & Weber, 1996
1996	Continuation of 1992 study one year later.	4th grade	Same 4th graders who were randomly selected for the initial study.	80% of the previously selected 4th graders.	Inside the classroom	Re-administered the BEI and IAS	Ascione & Weber, 1996
2003	Longitudinal randomized experimental design Over 2 years long. Program was three weeks long and occurred 4 times with separate groups. Students work directly with dogs.	7th grade	Students selected from as "at risk." The selection process included those students who score below the 25 percentile in reading or math.	41 students in the exp. group and 42 in the control group.	External program - outside of the tradi-tional class-room.	Used self-created survey. Open ended follow-up questions given 4-6 months after.	Zasioff et al., 2003

2008	Random Experimental Design 2x2 factorial with the absence or presence of a humane magazine and/or humane teachings. 6 lessons repeated twice a month for four months at 30 minutes each. Therapy dog was persent.	1st grade	Standard elementary school.	154 total 85% Caucasian and 45% female	Inside the classroom	Pre and posttest of Primary Attitude Scale (PAS) and only a posttest for the Companion Animal Bonding Scale (CABS)	Nicoll et al., 2008
2008	Quasi-experimental design. 11 units, for 45 minutes each unit. Animal was present in classroom.	4th, 5th, and 6th grades	2 classes from predominantly Caucasian and upper-middle class areas. 2 classes with predominantly African American students and from low-income areas.	190 4th graders 90 5th graders 130 6th graders From 4 different schools. 49.7% male and 50.3% female.	Inside the classroom. Violence Prevention Program	Used BEI as a pre and posttest. Used the Normative Beliefs about Aggression Scale (NOBAGS) as a pre and posttest. Teachers were asked to complete an Aggressive Behavior Teacher Checklist (ABTC) before and after the program.	Sprinkle, 2008
2009	Random Experimental Design 4 weeks long No animal present.	4th grade	Standard Elementary classroom	37 total exp. Group: 11 boys, 12 girls Control group: 5 boys. 9 girls	Inside the classroom.	Pre and posttest of the BEI and Children's Treatment of Animals Questionnaire (CTAQ)	Arbour et al., 2009

There are many humane education programs in practice across the country that are aimed at breaking the cycle of violence or inserting basic empathic skills into youth but, unfortunately, many of them do not have systematic documentation of results or data collection. A few studies confirm that a lot more research is needed to determine the effectiveness of different types of programs for a diverse group of schoolchildren (Arbour et al, 2009; Ascione, 1997; Faver, 2010). This is where addressing the research questions can assist in furthering the knowledge base of humane education programs.

Measuring program effectiveness is, however, not a cut and dried process. Program evaluation can be an arduous and complicated task. Humane education programs are complex and made up of multiple layers of possible variables and outcomes. One challenge educators face is being certain that the evaluation methods measure their intended purpose and not their *validity assumptions* (Patton, 1990). *Validity assumption* is a term coined by Suchman (1967) that defines one's belief about a cause and effect relationship. A common validity assumption is to assume that increasing knowledge always increases attitudes and, thus, always increases behavior (Patton, 1990). For example, humane education programs often aim to change long-term behavior through the development of new knowledge and improved attitudes. If educators choose an evaluation method that measures students' increase in knowledge without substantive evidence of attitude or behavior change, absolutes about attitude or behavior change cannot be made. This is not to say that educators should overlook the value of increased knowledge as a positive result. Social psychologist have "argued that knowledge is a necessary but not a sufficient condition" of behavior change (Fishbein & Ajzen, 2009, p. 243). As educators continue to navigate their way through data collection and evaluation efforts, it will be increasingly important to rely on and develop pertinent cause and effect measures of change in

knowledge, attitudes, and behavior for both the short and long term. Finding humane education's spot in the greater social behavior and justice issues in the world will depend on solid evidence of its efficacy.

In summary, the research identifies the need for empathic development in youth through humane education programs. It is established that violence is cyclical and empathic desensitization is a key factor in that cycle. Included in empathy development is the fact that children have an easier time establishing a healthy relationship with an animal than with people, and this has shown to be beneficial in child development. Humane education programs have developed using diverse teaching strategies, with varied demographics, with or without animals present. The consistent theme within humane education program development is that there is a need for further programmatic goal setting and data collection. Evaluation of humane education programs is essential and current evaluations continue to be limited**.** This research will assist in bridging the gap between humane education practice and evaluation of humane education programs.

Chapter III: Research Methods

The research methodology was multifaceted. The first focus was on describing the current landscape of humane education, including current delivery modalities, data collection efforts, and evaluation activities. This part of the study was conducted with a researcher developed Humane Education Opinion Survey distributed online to humane educators across the U.S. Respondents primarily worked for animal protection agencies. The second focus was on analysis of potential change for youth enrolled in a humane education intervention for two violence prevention and intervention programs, TLC™ & jTLC™ respectively. This part of the research used archived AOS and BEI pre and post survey data for the TLC™ & jTLC™ program participants. The AOS surveys asked knowledge and attitude questions about animals, self, and others. The BEI surveys asked empathy attitude questions. This study focused on the theoretical and research intersection of humane education programs and evaluation, with youth empathy development specifically through the human-animal bond, and violence prevention and intervention programs. Figure 3.1 illustrates the intersection of that theory and research.

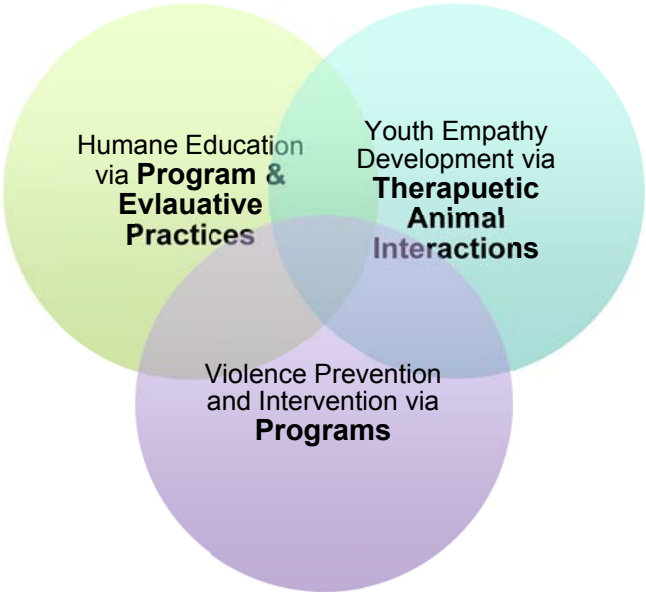

Figure 3.1 Research and theoretical intersection.

Research Questions

The first research focus was on describing humane education program types, data collection efforts, and their evaluation, with an emphasis on empathy development centered programs.

1. What program modalities, data collection tools, and evaluation efforts are used by humane education organizations in the U.S.?
2. What is the current *perception* that humane educators in the U.S. have of humane education programs, the relevance to broader issues, and the status of the profession?

The second focus was on the effect of two violence intervention and prevention programs on attitudes towards animals, self, and others. This analysis was based on before and after archived AOS survey data from the TLC™ and jTLC™ program participants. Are there statistically

significant differences between pre and post knowledge and attitude data for TLC™ and jTLC™ participants?

3a. Are there statistically significant differences between pre and post knowledge and attitude data for TLC™ participants across grade levels?

3b. Are there statistically significant differences between pre and post knowledge and attitude data for jTLC™ participants across gender categories?

3c. Do jTLC™ students have an increase success rate, as measured by violent behavior recidivism rates compared to similar offenders who did not attend the jTLC™ program?

The third focus of the research was on the empathic responses of the TLC™ and jTLC™ students as measured by the BEI.

4. Are there statistically significant differences between pre and post BEI scores for TLC™ or jTLC™ participants?

4a. Are there statistically significant differences between pre and post BEI scores for TLC™ participants across gender?

These research foci developed around the hypotheses that violence prevention and intervention humane education programs do positively relate to the development of empathy, at least in the short-term. This research is also based on the hypothesis that reduced future rates of violence may be a result of the programs' ability to foster empathy. An additional hypothesis is that humane education, as a whole, is not collecting or analyzing data in a manner that could foster the growth and promotion of the profession as well as programs supporting the development of empathy.

Program Descriptions

There are two different populations of participants, adult humane educators, and youth enrolled in the violence prevention and intervention programs. There are two different youth programs included in this study, the TLC™ and jTLC™ violence prevention and intervention programs, respectively.

TLC™ program description. TLC™ is a two to four week program conducted through the spcaLA. The TLC™ program's goals are to help students learn about complex concepts such as: animal kindness, animal issues (overpopulation, spay/neuter, anti-cruelty, dog fighting, etc.), interpersonal skills (anger management, conflict resolution, & communication skills), empathy, and/or how to stop the cycle of violence (whether at home, personally, or within their community.)

The program originated in 1996, with spcaLA and UC Davis, as a 3-week pilot for 7th grade students. Over time, the program morphed and now runs for varying lengths of time with a range of age groups. The length of time and age groups served depend on a particular school's needs, resources, or availability. TLC™ services range from working with students who are still in school to students removed from "normal" school and placed into continuation schools, or within residential facilities. The TLC™ program developed a manual that provides the foundation for anyone interested in starting a similar program. Additionally, it offers a consistent framework for humane educators to follow when running a TLC™ program.

TLC™ classroom. Each TLC™ class size varies in number of participants, the smaller the length of the class, the fewer number of students involved. For example, during a 2-week program, humane educators will see approximately 6 students per class. Three week or 4 week long programs will have 12 students per class. Students pair with shelter dogs for the duration of

TLC™ and meet their program specific dogs within the first few hours on the first day of the program. Students learn how to train dogs using positive reinforcement techniques, specifically, clicker training. There are up to 6 dogs per class. With smaller class sizes students are one on one with the shelter dog. In larger classes, students pair with a human partner and a shelter dog.

TLC™ educators use the manual as a guide for the program. During the first half of every class, approximately 1.5 hours, leaders cover "classroom subjects." Each class begins with a journaling activity that leads into a lesson. Every class ends with a "closing circle" activity, which wraps up the day and allows students the opportunity to voice their feelings about that day's activities/discussions. Although lesson plans might shift with different instructors, the main structure of the program remains consistent. Each TLC™ has the overarching theme of "empathy development" laced through the structure. Every TLC™ must cover the interpersonal topics of:

- Group agreement of TLC™ expectations;
- Initial lesson defining/understanding empathy & compassion;
- Anger management
- Conflict resolution;
- Active listening;
- Positive communication;
- Deconstructing stereotypes;
- Tolerance of difference;
- Anti-bullying;
- Breaking the cycle of violence;
- Creating healthy and sustainable communities;

- Student teaching a younger grade;
- Writing and presenting a graduation speech;
- At minimum, 3 additional activities that directly focus on empathy and compassion. These can be combined with any of the above listed topics or be individual lessons.

Every TLC™ also must include animal related topics of:

- Responsible pet ownership;
- Animal behavior and communication;
- Animal overpopulation (including spaying and neutering issues);
- Anti-animal cruelty;
- Positive reinforcement training;
- Animals in the community with a focus on individual actions affecting the natural world.

TLC™ dog training. The second half of each class day, approximately an hour, is dog training. Students are asked to tie in the lessons for the day with dog training and, as each training outcome is reached, students receive a check mark for the day that ultimately leads to them being identified as a level 1, 2, or 3 "dog trainer." A sample question might look like, "How have you shown compassion towards your dog and your teammate this week?" or "Please explain what positive reinforcement means and then demonstrate it through shaping a behavior [in your dog]." Students move through these levels at their own pace, in conjunction with teaching their dog a multitude of behaviors. Students always have the chance to revisit any area that is a struggle to them. Students receive systematic rewards with badges that denote their level of dog training capabilities.

TLC™ program locations. TLC™ takes place in different locations, and happens either on-site at the animal shelter or off-site at the school. Adaptation is one key to success for running a TLC™ class. For example, at one animal shelter the dog-training yard is turned into a temporary classroom while at another animal shelter there is an education center available for use. If TLC™ occurs at the school, it occurs in any room made available. At one location, the classroom is a converted staff conference room and the dog training area is a gymnasium, while at another school TLC™ is held in an actual classroom with an outdoor, fenced in, grassy area for dog training. With every new location comes a different set up for the classroom and dog training, which requires both flexibility and mobility in order to be successful.

TLC™ student selection. Student selection for TLC™ occurs through principals and teachers who choose students based on need. Different schools have different selection processes. However, students do tend to fit a "type." Students selected for TLC™ are usually experiencing one or more of the following: violent tendencies, gang affiliation or are in danger of it, severe social anxiety or shyness, excessive truancy, violent home life or violent death of a recent family member (i.e.: closely related, such as a parent or sibling), and/or showing apathy or disdain for other living beings. The selection process is subjective based on school needs and the administrator selecting the students.

jTLC™ program description. jTLC™ functions differently than the TLC™ program but the end goal of empathy development remains the same. jTLC™'s main difference is in the duration and size of the class. jTLC™ takes place over an intense 2-day, or 16-hour, time frame. Because jTLC™ is significantly shorter, there is specific focus on empathy development and anti-cruelty. jTLC™ focuses on students who have been referred to the program by the juvenile district attorneys in Los Angeles. jTLC™ students have been arrested for violent criminal

activity such as: animal cruelty, bullying, assault (physical or sexual), or bringing weapons to school. Students may also be selected for jTLC™ for minimal criminal activity, such as shoplifting, if a history of domestic violence or child abuse is found to be present in the child's home. jTLC™ focuses on the cycle of violence, how to have positive interaction with animals as well as other people. jTLC™ has a minimum limit of 4 students and a maximum limit of 7 students.

jTLC™ student selection. Student selection for jTLC™ is done as a collaborative effort with the Los Angeles Juvenile District Attorneys and the spcaLA. The only involvement that the spcaLA has in student selection is to reserve the right to refuse anyone, if they are seemingly too violent or show sociopathic tendencies. To date, spcaLA has never refused any student into the program and relies on the district attorneys to find the proper candidates.

The criteria for selection of these students are stringent. Participants in jTLC™ have been arrested and must have either shown cruelty to animals or violent acts against another human. This can include dog fighting, bullying, being forced via peer pressure to preform acts of cruelty, and/or various forms of assault ranging from physical to sexual.

Even though all students referred to jTLC™ have been accepted into the program, not all students attend the program. For example, on average all scheduled classes are "full" (7 students), but often have only the minimum 4 students in attendance. There are a variety of reasons why the classes do not see full student attendance, and mostly it is due to insufficient parenting. Reasons can range from students who have parents that refuse to cooperate to students who reoffend before making it to the program's start date.

jTLC™ c*lassroom and dog training.* jTLC™ intertwines classroom lessons with dog training, usually on an every-other-hour schedule. Dog training for jTLC™ students includes

learning basic obedience and minimal agility training. jTLC™ does not have a manual, however, it does have a structured schedule that was developed prior to the program's inception. Educators may determine to shift lesson plans based on the dynamics of the crimes committed by participants in each group, but the framework remains the same for every class. Each jTLC™ class must consist of the following interpersonal topics:

- Rules and expectation of the program;
- Icebreaker that creates a sense of teambuilding and emotional safety within the group.
- Defining empathy and compassion;
- At least two additional lesson specifically focusing on empathy and compassion (can be combined with other topics);
- Cycle of violence;
- Accountability (for their crimes);
- Anger management;
- Conflict resolution;
- Anti-bullying;
- Deconstructing stereotypes;
- Role modeling (where they receive it from and how they play a role in it);
- "Pay-it-forward" homework assignment.

jTLC™ must also include the following animal topics:

- Anti-animal cruelty;
- Proper pet responsibility;
- Animal behavior and communication;

- Positive reinforcement training;
- Empathy lesson directed at understanding shelter animals.

Population and Sample

There were two different populations of participants: adults, and youth. Adult humane educators from around the country contributed to framing the landscape of humane education practice through an opinion survey. The youth who enrolled in the violence prevention and intervention programs contributed to the field of humane education via a comparative analysis of their learning experiences as documented in archived pre and post survey data.

Adult participants. Adult participants included the population of humane educators across the United States. "Humane educator" encompasses a broad definition. The definition of humane educator was any person who is one either by title/profession or as self-proclaimed. The Humane Educator Survey, available for any humane educator to take, identified each respondent's position in the humane education field.

The Humane Educator Survey, developed in an initial pilot study during an Antioch University PhD in Leadership and Change Individual Learning Achievement, received IRB approval and, for this dissertation research, was sent to a larger population via a link on the Instituted for Humane Education Facebook page and website. As per the Institute for Humane Education's representative, approximately 5,000 humane educators had access to this survey via these electronic links. Email blasts also went out to those humane educators whose emails were accessible through the Association of Professional Humane Educators (APHE) database. The emails encouraged the recipients to respond to the survey and to send the survey link on to other humane educators. Of course, not all persons who, either passively or actively, received notice of the survey participated in the survey and nor was that expected. Many people on the lists are

not actually humane educators; they work in or are active in related fields. Regardless, the study was open to all of those people who fit the criteria of either being a humane educator by trade or someone who incorporates humane education into their practice. The survey produced 104 responses with 103 of them completed in full. Four fifths of the respondents were employed by animal protection organizations.

In addition, adult humane educators for the TLC™ and jTLC™ programs participated by journaling their reflections about students in TLC™ and jTLC™ programs. Portions of these narratives are reported with the results.

Youth participants. There were two groups of youth participants. These two groups included the participants of the voluntary after-school violence prevention program, known as TLC™ and the participants who were mandated to attend a weekend program through the Los Angeles District Attorneys, known as jTLC™.

Youth in TLC™. One group of participants involved in the research was the youth who participated in the TLC™ program at spcaLA. In the initial analysis, the data sets reviewed were ex post facto. Participants who took the AOS surveys ranged from 5th graders through high school students. Each TLC™ class ranged in participant size from 6 to 12 students and was identifiable by grade level as well as by school. Three hundred and forty eight students completed pretests and posttest of AOS surveys.

In addition, 46 TLC™ program participants completed pre and post BEI surveys. Individual students did not reveal their identity on the digitized surveys aside from an identification number that made it possible to pair pre and post surveys. Students involved with TLC™ ranged from 5th graders through high school students. All of the TLC™ students who participated in the program, and who completed the AOS survey, had parental consent via a

waiver through the spcaLA. This waiver allows full participation in the program including the use of student information for purposes determined by spcaLA. In addition, I received written permission from spcaLA to use the data for this dissertation research.

Youth in jTLC™. An additional set of participants involved in this research were the youth who participated in the jTLC™ program. The analyses in this study uses archived before and after AOS survey data for these program participants. Survey data do not include identification information on students. A digital identification number was used to pair the pre and post surveys for comparative analysis. Participants in jTLC™ were selected through the Los Angeles juvenile court system and range from 13 to 17 years old. All of the jTLC™ students who participated in the program, and who completed the AOS survey, had parental consent via a waiver through the spcaLA. This waiver allows full participation in the program including the use of student information for purposes determined by spcaLA. In addition, I received written permission from spcaLA to use the data for this dissertation research (see Appendix A).

Instruments

For this study, five distinct instruments were used. The first data collection instrument was the author-developed Humane Educator Survey developed on Survey Monkey™. The Humane Educator Survey collected data on current programs, data collection and evaluation practices in humane education organizations and the personal perceptions of respondents regarding empathy development as well as the current state of humane education. The second instrument was the pre and post AOS survey, originally designed by UC Davis and administered to all TLC™ and jTLC™ students from the program's inception. The AOS survey captured information regarding youth's attitudes toward animals, others, and self. The third instrument, the BEI, was administered pre and post program and measured empathic responses in TLC™ and

jTLC™ participants. The fourth instrument was a non-standardized tool where all jTLC™ graduates were cross-referenced for reoffending in order to compare their recidivism rate with similar students who did not participant in jTLC™. The final instrument was a non-standardized journaling tool, which humane educators involved with the TLC™ and jTLC™ used to capture daily observations about students. Following is a description of the five instruments.

Humane educator survey. In 2003, the research showed that 88% of humane educators held in-classroom, single session presentations as the focus of their job (Unti & DeRosa, 2003). Since that study, the humane education profession launched into a movement that has enabled many more people to provide humane education practices without, necessarily, being a humane educator by trade. While the 2003 research reviewed the types of programs that humane educators offered, it did not collect information about program evaluations in the field. The Humane Educator Survey collected previously un-captured data related to humane education program modalities, data collection, and evaluation activities.

Prior to this dissertation research, the researcher-developed Humane Education Opinion survey was test piloted by administering it to a handful of humane educators. The survey focused on questions pertaining to type of humane education programs offered, data collected about those programs, and, if data were collected, whether and how it was analyzed. The survey asked humane educators to clarify and/or discuss their current program modalities. It also inquired about specific assessment tools or evaluative methods used, or not used, in these programs.

AOS surveys. The AOS survey was used for both the TLC and jTLC program evaluations.

TLC™ survey data. The TLC™ program's initial evaluation happened in the late nineties as part of a pilot program. During this evaluation, a spcaLA self-created survey was developed in collaboration with the University of California (UC) at Davis. Initially, the UC Davis research team planned to use the BEI (Bryant, 1982) and Attitude towards Animals scale (Ascione F., 1988) but, because at the time, the researchers felt the reading and comprehension level of the index was too difficult for program participants an alternative questionnaire was developed in lieu of those tools (Zasioff et al., 2003). The original self-created AOS survey consists of 20 true/false (right/wrong) questions, as well as 10 4-point response attitude items, which, based on the apparent meaning of the statements relate to attitudes towards animals, others, and self. For this dissertation research study, there were 348 archived matched pre and post program AOS surveys completed by TLC program participants between October 2001 and May 2013.

The paper and pencil AOS surveys, collected for over a decade, had little or no data analysis. One goal of this study was to digitize and analyze these historical TLC™ AOS survey data, looking at how this type of program can address issues related to whether or not humane education programs make a difference in participant knowledge about and attitudes towards animals, self, and others, at least within the short elapsed time frame of this violence prevention program.

jTLC™ survey data. jTLC™ was developed in 2010 and first implemented in 2011 as an intensive empathy-based program for juvenile offenders. Since the AOS survey was available and ready to use, it was selected as the tool to measure the jTLC™ participant's experience in the program. There were 47 participant AOS surveys to review. Similar to TLC™, the jTLC™ BEI focused survey data, which were archived and digitized, were also reviewed in the analyses.

BEI surveys. Many violence prevention programs, including this one, are "empathy-based" and the original AOS surveys did not directly measure empathy. Therefore, a program decision was made to change the pre and post program surveys to an empathy survey: the BEI. The BEI was administered to both the TLC™ and jTLC™ participants between September 2013 and April 2014. The BEI captured pre and post empathy scores for TLC™ and jTLC™ program participants. There were 46 pre and post paired TLC™ BEI surveys and 25 paired jTLC™ BEI surveys available for analysis.

The BEI is a 22-point scale, designed specifically for youth and adolescents, to measure their empathic response to situations. These situations include items such as, "It makes me sad to see a boy who can't find anyone to play with," or "I get upset when I see an animal being hurt." The original BEI, when used with this similar age demographic had a 4-point Likert scale. For this dissertation analysis of the TLC™ and jTLC™ programs, the BEI was modified to a 6-point Likert style response scale, including: *"strongly disagree," "disagree," "somewhat disagree," "somewhat agree," "agree,"* and *"strongly agree."* The BEI consists of three subscales: *Understanding Feelings, Feelings of Sadness,* and *Tearful Reactions* (Bryant, 1982).

J.O.I.N. data resource. Given the archived nature of the data for this study, a true experimental design was not possible; there was one data resource that gave some "experimental" and "control" case type information. Since the students participating in jTLC have records as juvenile offenders, data about participants and non-participants were available through the J.O.I.N. database.

Participants in jTLC™ are selected through the district attorney's office and associated with the J.O.I.N program. One way the J.O.I.N program reviews success is by looking at recidivism rates of their students and comparing the characteristics of reoffenders against those

who are not repeat offenders. Measuring the recidivism rates of students from J.O.I.N who do not attend jTLC™ with J.O.I.N students who do attend jTLC™ was another tool for evaluating the potential program effectiveness.

Humane educator feedback. Humane educators who were assigned to running the TLC™ or jTLC™ programs, documented their experiences and opinions of the students' behavior through their own personal journal. Humane educators could use one word, a couple of sentences, or write a full description of the attitudes and behaviors of the students in each group. Humane educators wrote down their observations on a daily basis. They did not revisit what they wrote in previous days, but rather gave an honest account of their experiences with each student that day.

TLC™ and jTLC™ Demographic Variables

The demographic variables for TLC™ and jTLC™ were school level and gender.

Participant demographics. The variables on the AOS and BEI, for both TLC™ and jTLC™, also included participant demographics of: grade level, age, and gender.

School level. The students who participated in both programs varied in ages, from 11 to 17. Their grade levels ranged from 5th grade (a very small n = 9) through high school, with the majority of the participants in the middle school grade levels.

Gender. Based on experience with the program, it is known that most TLC™ and jTLC™ groups were equal in their male/female ratios. There is no way to identify if the participants of TLC™ were male or female for the time period that the archived AOS surveys were collected. In jTLC™, the gender variable was added to the AOS survey. Gender was also an identifiable variable for all BEI surveys.

Data Collection

Hackett (1981) states that survey research is one of the oldest and most widely used methods in the social sciences, with surveys being utilized as early as ancient Egypt, to understand social circumstances. The goal of surveys, and all forms of descriptive research, is to gather the information that identifies the thoughts, beliefs, and opinions of a particular group of people (Stangor, 1998). Fink characterizes surveys as "information-collection methods used to describe, compare, or explain individual or societal knowledge, feelings, values preferences, and behavior" (Fink, 2005, p. 1).

Humane educator survey. Survey Monkey™ gathered data, in the form of opinions, from the adult humane educators across the country. Using Survey Monkey™ allowed access to a wide audience of educators, as well as the ability to track the answers and view the descriptive results. Via Survey Monkey™, participants chose to answer as many or as few of the questions as they wanted, although many of the questions were required to assure complete responses. Potential respondents were free to not submit their survey at any point in the process.

Archived AOS surveys. The archived survey data, which came from the students in TLC™ and jTLC™ was collected from the AOS. The goal was to analyze these survey data via Survey Money and SPSS. Unfortunately, many of the surveys did not pair correctly in the beginning years of the programs. This made matching pre and post surveys extremely difficult. The earliest matched surveys began in 2001. Historically, the TLC™ program has not run as frequently as it does currently. As the years progressed, the TLC™ program did too, expanding from once or twice a year into six to eight times a year. There were 348 matched TLC™ AOS surveys available for the analyses.

The AOS survey was also used in jTLC™ from the inception of the program in 2011 through August 2013. Since jTLC™ was an initiative that began in 2011, only 47 pre and posttest matched jTLC™ AOS surveys were available for the analyses.

BEI. Administration of the BEI began in September 2013 as a pre and post survey for the TLC™ and jTLC™ programs. There were 46 TLC™ and 25 jTLC™ completed matched pre and post BEI surveys available for the analyses.

Researcher Position With Respect to Data Collection and Analysis

It is important to note that, although I am the Director of the TLC™ and jTLC™ programs, I am not currently the person conducting the classes or administering the surveys. Prior to the past few years I was responsible for conducting some of the classes and administering some of the surveys. Since the collected archived data does not include facilitator identification, it was not possible to parcel out the students that took the surveys under my program guidance versus those who did not.

Data Analysis

This study had multifaceted foci, with survey data measured by a variety of instruments and types of variable. Thus, a few different methods of data analysis were used.

Humane educator survey. All responses to the Humane Education Opinion Survey were collected through Survey Monkey™. The responses to and analyses of data from this survey were strictly descriptive. Educators answered questions about what kinds of programs they run, how they collect data (if at all), how they analyze the data (if at all), and what their personal opinions are around current humane education practices and issues. Percentage and frequency distributions describe the landscape of programs, data collection efforts, and evaluation efforts. Crosstabs by type of program are included.

Humane educators also offered narrative information pertaining to programs, data collection, and evaluations. The narrative data were visually reviewed and included as part of the analysis. The narrative assisted in developing themes that corroborated the descriptive survey data. Themes were derived from this narrative and noted in the conjunction with the quantitative data analyses.

AOS surveys. All variables were described using percentage and frequency distributions. Mean scores and measures of distribution were also reported where appropriate. For the 20 bivariate true/false (right/wrong) response variables, an overall score was calculated by assigning a value of "1" to a correct response, and a value of "0" for a wrong response, then totaling across all items for both the pretest and posttest scores. The 20 items were also divided into three subscales: attitude towards animals, self, and others. Each of the 18 items was placed in a subscale based on the apparent meaning of the statement. In some cases, when the meaning of the statement could fit under more than one subscale, the item score was used for both subscale total scores. Paired sample t-tests were used to test before and after differences for the total and subscale scores from the 20 bivariate response items. Differences between the numbers of right responses on the pretest compared to the number of right responses on the posttest for each individual item were determined with the McNemar test for binomial data using a McNemar online calculator, found at http://vassarstats.net/propcorr.html.

One overall and three subscale scores were also developed for the attitudes towards animals, others, and self-data measured on a 4-point response scale format. The items were again sorted into the subscale based on the apparent meaning of the statement. The total and subscale scores were calculated by averaging the response scores for each statement, *1 = never, 2 = sometimes, 3 = most of the time and 4 = always.* Some items were included in more than

one scale when their apparent meaning fit. Other spcaLA staff familiar with the instrument and a dissertation committee member also concurred on the placement of the items in the subscales. Paired sample t-tests were also run to compare before and after 4-point response data for the total, subscales, and individual items.

The same approach to analysis was used for both the TLC™ and jTLC™ data, but each program's data were run and analyzed separately. Group analysis was also conducted for gender (jTLC™) and grade level (TLC™). All paired sample t-test analyses were completed in SPSS and significant findings were those where differences are at the $p = .05$ or better level.

BEI survey. All variables were described using percentage and frequency distributions. Mean scores and standard deviations were also reported. The BEI as modified for use in this study was a 22 item survey with a 6-point scale. Eleven of the 22 items are scored in a reverse manner. After recoding the reverse scored items so that response codes all had the same meaning, the subscale scores were calculated by averaging the response scores for each statement. Eleven (11) of the items are scored as *1= strongly disagree, 2= disagree, 3= somewhat disagree, 4= somewhat agree, 5= agree,* and *6= strongly agree*. The other 11 items are reversed scored, but recoded to match the meaning of the above scoring. Paired sample t-tests were run to compare before and after data for the overall mean score and the three subscales. The same approach to analysis was used for both the TLC™ and jTLC™ data, but each program's data were run and analyzed separately. Group analysis was also conducted for gender. All analyses were completed in SPSS and significant findings were those where differences are at the $p = .05$ or better level.

J.O.I.N. A list of jTLC™ graduates between 2011 and December 2013 were sent to a Los Angeles J.O.I.N hearing officer. The hearing officer cross-referenced all student cases for

re-offense. Three categories were established: the student reoffended, the student did not reoffend, and the student could not be found. In these few cases the students moved out of the jurisdiction and the hearing officer was unable to locate any further information. Any students who could not be located were noted and removed from the total percentage. The percentages compared the rate of jTLC™ reoffenders to non-reoffenders against J.O.I.N's standard recidivism rate.

Humane educator journal narrative. Humane educators working with the TLC™ and jTLC™ students were asked to keep a daily journal about their observations of each student's behavior and attitude towards classroom peers, as well as their relationship to the dog they worked with. This journaling served to add human interaction stories as the backdrop to the quantitative analysis, as well as provide a glimpse into how and why change may or may not happen. Themes were derived from this narrative and noted in conjunction with the quantitative data analyses.

Conclusion

In conclusion, comparative analysis was completed for both the TLC™ and jTLC™ programs using the archived AOS and BEI pre and post survey data. This analysis covered the experiences of the youth who participated in the two programs. Adult humane educators also contributed to this research by offering, via surveys, their knowledge and opinions about current humane education practices. Humane educators involved specifically with the TLC™ and jTLC™ programs also contributed to the research through their daily journaling.

Descriptive statistics were used to present results from the Humane Educator Survey. The McNemar test was used to evaluate the bivariate AOS data for both the TLC™ and jTLC™ programs. A paired sample t-test was used for total and subscale scores, the 4-point AOS

responses, and all BEI statements. In addition, narrative data from the humane educators involved with the TLC™ and jTLC™ programs, was used when applicable, to support or clarify findings from the survey data.

Chapter IV: Results

The data from the Humane Educator, AOS, and BEI (Bryant, 1982) surveys and J.O.I.N. database were collected and analyzed to address the research questions. The seven research questions are in four overarching focus areas as follows:

Current Landscape of Humane Education Programs.

1. What program modalities, data collection tools, and evaluation efforts are used by humane education organizations in the U.S.?
2. What is the current *perception* that humane educators in the U.S. have of humane education programs, the relevance of humane education to broader issues, and the status of the profession?

Pre and Post TLC™ and jTLC™ AOS Knowledge and Attitude Survey Data

3. Are there statistically significant differences between pre and post program knowledge and attitude data for TLC™ and jTLC™ participants?

3a. Are there statistically significant differences between pre and post program knowledge and attitude data for TLC™ participants across grade levels?

3b. Are there statistically significant differences between pre and post program knowledge and attitude data for jTLC™ participants across gender categories?

3c. Do jTLC™ students have an increase success rate, as measured by violent behavior recidivism rates compared to similar offenders who did not attend the jTLC™ program?

Pre and Post TLC™ and jTLC™ BEI Survey Data.

4. Are there statistically significant differences between pre and post program BEI scores for TLC™ or jTLC™ participants?

4a. Are there statistically significant differences between pre and post program BEI scores for TLC™ participants across gender?

Humane Educator Survey

The first research focus was a review of current humane education program modalities, data collection efforts, and evaluation practices used by humane education organizations, and how humane educators view the state of humane education practices. Research question 1 focused specifically on addressing the modalities, data collection efforts, and evaluation activities of humane education programs across the country. Question 2 focused on identifying the humane educators' perception of the current state of the profession. Data collection occurred through a researcher developed online survey.

Humane educator respondents. Survey participants received an invitation, via email, to respond to the Humane Education Survey created in Survey Monkey. Between the posts on the Institute of Humane Education's Facebook page and the 151 individual emails sent out, there were 104 respondents, of which 103 participants completed the survey. A few survey questions collected basic demographic information, such as "gender," "level of education," "age range," and "state." Respondents were predominately female. A high percentage of participants had a bachelor degree or above. In addition, most states (39 of 50) and Washington, D.C. were represented by at least one participant. Table 4.1 shows the breakdown of respondents' demographics.

Table 4.1

Descriptive Statistics for Humane Educator Survey Demographics: Gender, Age, and Education Level.

Demographic		Frequency	Percent
Gender	Female	79	90.8%
	Male	8	9.2%
	Total	87	100.0%
Age	Under 20	0	0.0%
	20-30	14	16.0%
	30-40	24	27.5%
	40-50	14	16.0%
	50+	35	40.2%
	Total	87	100.0%
Education level	High School	5	5.7%
	Associates	6	6.9%
	Bachelors	42	48.2%
	Masters	32	36.7%
	Doctorate	2	2.3%
	Total	87	100.0%

Note. Sixteen respondents did not give demographic information.

Demographic questions about each participant's role in the humane education field were also included in the survey. These questions included topics such as, "What type of organization do you work for?" and "How long have you been in the field?" Most respondents practiced humane education professionally, as humane educators, within non-profit animal shelters. The majority of responses submitted came from those in the field between 1-10 years. Table 4.2 breaks down the descriptive statistics for participants' roles in the field.

Table 4.2

Descriptive Statistics for Humane Educator Survey Demographics: Organization Type, Position Held, and Length of Time in Humane Education.

Demographic		Frequency	Percent
Type of Organization	Animal Shelter –Private	10	9.7%
	Animal Shelter – Non profit	76	73.7%
	Non-profit (not animal shelter)	6	5.8%
	School Administration or Teacher	4	3.8%
	Zoo or Aquarium	0	0.0%
	Environmental Organization	3	2.9%
	Other	17	16.5%
	Total	103	100.0%
Position Held	Administrator	10	9.7%
	Humane Educator	60	58.2%
	Educator – other	5	4.8%
	Manager	8	7.7%
	Animal Control Officer	0	0.0%
	Humane Officer	0	0.0%
	Volunteer	6	5.8%
	Other	14	13.5%
	Total	103	100.0%
Length of Time in Humane Education	<1 year	13	12.6%
	1-5 years	29	28.1%
	5-10 years	32	31.0%
	10-15 years	17	16.5%
	15+	12	11.6%
	Total	103	100.0%

Humane education program statistics. In the Humane Educator Survey, respondents were able to share what type of programs their organizations normally offer. There were four categories of program type options. The categories were "classroom presentations," "violence prevention and intervention programs," "community programs," and "additional humane education programs."

Classroom presentations. "Classroom presentations" included single session classroom sessions, multiple classroom sessions, or literacy programs. Of the 103 responses, 91%

answered yes to offering one or more of these types of programs. This high percentage is consistent with the historic mode of humane education programs. Traditionally, humane education programs began with in-classroom, single session presentations. Additional questions asked respondents to identify the specific type of program offered and 86% still offer single session presentations. The "other" category, which 16% of the respondents chose, allowed them to enter their own narrative on classroom presentation types. The other types of programs included: service learning projects, assemblies, outreach, tours, birthday parties, providing resources to teachers, peer leadership programs, electives, and afterschool programs (see Table 4.3).

Table 4.3

Descriptive Statistics for Humane Educator Survey Program Type: Classroom Presentations

Type of Humane Education Program	Specific Type of Program	Frequency	Percent
Classroom presentations (n = 94)	Single session	82	86.3%
	Multiple session	68	71.6%
	Literacy/Reading programs	39	41.0%
	Other	17	17.9%

Violence prevention and intervention programs. "Violence prevention and Intervention" refers to programs that have the specific empathy development goals and work with youth from high-risk environments, particularly if they have had incidents of violence. This category also includes programs designed to help survivors of domestic violence. Of the 100 survey respondents who answered this question, 35% indicated they offered violence prevention or intervention programs, leaving 65% who did not offer these programs. It is possible that this low incidence rate reflects a lack of a distinct definition for violence prevention programs. "Violence prevention" is a very broad concept and without clear program parameters this type of program may also be labeled as a "community program" or "classroom presentation." A few

respondents (8%) opted to comment in the "other" category. The additional types of violence intervention and prevention programs included: anti-animal cruelty programs, anti-bullying programs, court ordered community service, anti-dog fighting classes, group home programs, county jail programs, the TLC program, and the FLIP program (see Table 4.4).

Table 4.4

Descriptive Statistics for Humane Educator Survey Program Type: Violence Prevention and Intervention Programs

Type of Humane Education Program	Specific Type of Program	Frequency	Percent
Violence prevention and intervention programs (n = 35)	Violence prevention	27	77.14%
	Violence intervention	13	34.17%
	Domestic violence	16	45.71%
	Other	8	22.9%

Community programs. "Community programs," as defined by the researcher, included camps, recreation programs, Scout groups, day care, and an unspecified "other" option. Of the 100 people who responded, 84% indicated that their organizations offer community programs. Similar to classroom presentations, community based programs are a common form of teaching and are often referred to as "outreach programs." About one-fourth (25%) of the respondents checked the "other" category for community programs. The "other" responses included programs at: youth group, junior volunteer groups, peer education, Boys and Girls Clubs, senior/hospice centers, homeless shelters, faith-based organizations, veterinarians, and libraries and "anyone who will have us" (see Table 4.5).

Table 4.5

Descriptive Statistics for Humane Educator Survey Program Type: Community Programs

Type of Humane Education Program	Specific Type of Program	Frequency	Percent
Community programs (n = 84)	Day care programs	35	41.7%
	Recreation day programs	42	50.0%
	Afterschool programs	61	72.6%
	Scout programs	71	84.5%
	Camps	78	92.9%
	Other	25	29.7%

Additional humane education programs. One question in the survey offered respondents the opportunity to add-in other programs that they felt were not covered by the classroom, violence prevention, and community-centered options. About two-fifths (40%) of the respondents indicated that their agency offered another type of humane education program. Some respondents used this narrative space in the survey to further explain already mentioned programs, while others added "new" program types to the conversation. This list, of additional programs offered, included:

- Preschool story time.
- Lesson plans/classes that match Core Standards.
- Adult classes for offenders.
- "Kind Teacher" award.
- Puppy movie night.
- Film screenings.
- Poster contests.
- Art for Animals fundraisers.

- Pet loss support.
- Volunteer humane education training.
- Homeschooling partnerships.
- Pet first aid.
- Speakers Bureau.
- Street teams (distribute fliers).
- Wildlife protection classes.

Descriptive statistics for humane education data collection activities. After asking participants to discuss the types of programs their organizations offer, the next section of the survey asked whether they also collect feedback on the various types of programs they offer. The number of responses to these questions was lower than the total because survey participants were not asked this question if their agency did not offer this type of program. Participants who answered "yes" to collecting data also identified the type of group they collected data from, as well as how they collect data. Participants who answered that their organizations did not collect data on the programs they run answered a follow up question explaining why.

Classroom presentations. Details about data collection for classroom presentations included whom the feedback data were collected from, how the data were collected, and why they did not collect data.

Respondents who collect data. Of the 94 survey respondents whose organizations offer classroom presentations, 75% do collect data. They most frequently collected data at the *elementary* (84%), *middle* (69%) and the *high* (46%), school level. A few also collected data from *teachers and school administrators* (15%) or some *other* (11%) population. Eight respondents chose the "other" category, specifying that data were collected from parents, adult

member of the public, and college students. While historically data collection may not have happened regularly, according to these survey statistics, data collecting is now frequently occurring for classroom presentations (see Table 4.6).

Table 4.6

Descriptive Statistics for Participants in Data Collection for Classroom Presentations

Type of Humane Education Program	Data Collection Respondents	Frequency	Percent
Classroom presentations (n = 71)	Elementary School Students	60	84.5%
	Middle School Students	49	69.0%
	High School Students	33	46.5%
	Teacher	50	70.4%
	School Administrators	11	15.5%
	Other	8	11.3%

The respondents, who answered, "yes, they collected data for classroom presentations" also expanded on how data were collected. The choices were "orally," "written feedback," "surveys," or "other." Written feedback (67%) and surveys (63%) were the most common forms of data collection, with oral feedback not far behind (49%). Eight respondents checked the "other" category, specifying that they used Survey Monkey, a professional to administer a program evaluation, social media, email, focus groups, or hosted a "thank you event" for teachers (see Table 4.7).

Table 4.7

Descriptive Statistics for Type of Data Collection Efforts for Classroom Presentations

Type of Humane Education Program	Data Collection Types	Frequency	Percent
Classroom presentations (n = 71)	Orally	35	49.3%
	Written Feedback	48	67.6%
	Surveys	45	63.4%
	Other	8	11.3%

Respondents who do not collect data. Of the 94 survey participants whose organizations offer classroom presentations, 22% did not collect data on those programs. The descriptive statistics related to the "why don't you collect data" question are shown in Table 4.8. Lack of time, financial resources, and preparation were the main reasons given.

Table 4.8

Descriptive Statistics for Reasons for Not Collecting Data on Classroom Presentations

Type of Humane Education Program	Reason for Not Collecting Data	Frequency	Percent
Classroom presentations (n = 21)	Do not know how to start	3	14.3%
	Do not have the financial resources	6	28.6%
	Do not have the time	9	42.9%
	Too difficult to collect data	3	14.3%
	Not prepared for doing an analysis	8	38.1%
	Do not think it is needed	1	4.7%
	Do not think it appropriate to collect data from children	0	0.0%
	Other	6	28.5%

Six respondents checked the "other" category, and stated that:

- "No staff or assistance from top leadership thought it is urgently needed."
- "Used to have teachers fill out evaluations but they were general or complimentary instead of offering constructive feedback."
- "All of the reasons listed [on the survey choices], except the last two."
- "We don't know how we would measure the impact: cognitive gains? Behavioral change among a population not empowered to change?"
- "Hate paperwork and would prefer to be doing field work."
- "Collect my own data but nothing aligned with the school."

Violence prevention and intervention programs. Details about data collection for violence prevention and intervention programs include whom the data were collected from, how the data were collected, and why they did not collect data.

Respondents who collect data. Of the 35 survey participants whose organizations offer violence prevention and intervention programs, 71% of them do collect data. When organizations collected data for violence prevention and intervention programs they most frequently collected from: *elementary school* (32%), *middle school* (80%), or *high school* (60%) students, and *school administrators, teachers, or counselors* (36%). Past research indicates that more information is needed about how humane education reaches "at-risk" youth. If the data collected in these violence prevention programs reflects the opinions of "at-risk" youth populations, it is possible that a previously noted problem in the field is on the mend. A few organizations with violence prevention or intervention programs also collected data from: *adult educators* (12%), *district attorneys or probation officers* (16%), or some *other* (12%) population. Three respondents checked the "other" category; specifying they collected data from law enforcement, foster parents or families, social workers (see Table 4.9).

Table 4.9

Descriptive Statistics for Participants in Data Collection in Violence Prevention and Intervention Programs

Type of Humane Education Program	Data Collection Respondents	Frequency	Percent
Violence prevention and intervention programs (n = 25)	Elementary School Students	8	32.0%
	Middle School Students	20	80.0%
	High School Students	15	60.0%
	School Administrators	9	36.0%
	Adult Educators	3	12.0%
	District Attorneys	4	16.0%
	Other	3	12.0%

The respondents, who answered, "yes, they collected data for violence prevention and intervention programs" also expanded upon how data were collected. The choices were "orally," "written feedback," "surveys," or "other." Survey (80%) was the most common form of data collection with written narrative (36%) next, followed by oral feedback (32%). Three

respondents chose the “other” category, specifying they collected data through a photo elicitation survey, evaluations, and email follow-ups (see Table 4.10).

Table 4.10

Descriptive Statistics for Type of Data Collection Efforts for Violence Prevention and Intervention Programs

Type of Humane Education Program	Data Collection Types	Frequency	Percent
Violence prevention and intervention programs (n = 25)	Orally	8	32.0%
	Written Feedback	9	36.0%
	Surveys	20	80.0%
	Other	3	12.0%

Respondents who do not collect data. Of the 35 survey participants whose organizations offer violence prevention and intervention programs, 29% of them did not collect data on those programs. The descriptive statistics related to the "why don't you collect data" question are in Table 4.11. Different from classroom presentations, those who did not collect data on this type of program said it is often because they did not know how to start.

Table 4.11

Descriptive Statistics for Not Collecting Data on Violence Prevention and Intervention

Type of Humane Education Program	Reason for Not Collecting Data	Frequency	Percent
Violence prevention and intervention programs (n = 10)	Do not know how to start	5	50.0%
	Do not have the financial resources	1	10.0%
	Do not have the time	1	10.0%
	Too difficult to collect data	0	0.0%
	Not prepared for doing an analysis	1	10.0%
	Do not think it is needed	0	0.0%
	Do not think it appropriate to collect data from children	0	0.0%
	Other	3	30. 0%

Three respondents checked the "other" category, and made comments that included:

- "Confidentiality;"
- "[We] only aid in the program, not lead it."

- "In two years, [even though they are offered], no one has requested a violence prevention or intervention presentation."

Community programs. Details about data collection for community programs include whom the data were collected from, how the data were collected, and why they did not collect data.

Respondents who collect data. Of the 84 survey participants whose organizations offer some form of community program, 25% do not collect data. Of the 75% who collect data, these data were most frequently collected from *elementary* (82%) and *middle school* (64%) students. Data collection also came from *parents* (56%), *adult leaders or volunteers* (49%), and *high school* (40%) students. It makes sense that, unlike the other types of programs, camps and Scout programs facilitate data collection from parents since they are often involved in these programs. The "other" category had no new responses (see Table 4.12).

Table 4.12

Descriptive Statistics for Participants in Data Collection From Community Programs

Type of Humane Education Program	Data Collection Respondents	Frequency	Percent
Community programs (n = 62)	Elementary School Students	51	82.2%
	Middle School Students	40	64.5%
	High School Students	25	40.3%
	Adult Leaders or Volunteers	30	48.4%
	Parents	35	56.5%
	Other	0	0.0%

The respondents who answered "yes" they collected data for community programs, expanded upon how the data were collected. The choices were "orally," "written feedback," "surveys," or "other." Survey (66%) and oral feedback (54%) were the most common forms of data collection, with written feedback (40%) not far behind. The "other" category produced no new responses (see Table 4.13).

Table 4.13

Descriptive Statistics for Type of Data Collection Efforts for Community Programs.

Type of Humane Education Program	Data Collection Types	Frequency	Percent
Community programs (n = 62)	Orally	34	54.8%
	Written Feedback	25	40.3%
	Surveys	41	66.1%
	Other	0	0.0%

Respondents who do not collect data. Of the 84 survey participants who indicated that their organizations offer community programs, 23% of them did not collect data on those programs. The descriptive statistics related to the "why don't you collect data" question are in Table 4.14. Similar to classroom presentations, many did not have time, did not have the financial resources, or were not prepared to do the analysis.

Table 4.14

Descriptive Statistics for Not Collecting Data on Community Presentations

Type of Humane Education Program	Reason for Not Collecting Data	Frequency	Percent
Community programs (n = 19)	Do not know how to start	5	26.3%
	Do not have the financial resources	7	36,8%
	Do not have the time	10	52.6%
	Too difficult to collect data	4	21.0%
	Not prepared for doing an analysis	7	36.8%
	Do not think it is needed	4	21.0%
	Do not think it appropriate to collect data from children	0	0.0%
	Other	3	15.8%

Three respondents checked the "other" category, offering the following options.

- "Confidentiality;"
- "[We] only aid in the program, not lead it."
- "Plan to in the future."

Descriptive statistics on evaluation efforts. After survey participants answered questions regarding the programs they offer as well as the type of data collection occurring within those programs, they were asked to share if these data were evaluated or analyzed in any fashion. If the answer was "yes," they were then asked to describe the type of evaluations they conducted as formal, informal, or both formal and informal evaluations. The response of "no, not really" was a choice as well. If they responded "no," or "no, not really" respondents were asked to identify why they choose not to evaluate the data they collected.

Classroom presentations. Details about evaluation methods for classroom presentations include if evaluations are being done and, if they are not, why not.

Respondents who evaluate data. Of the 71 survey respondents whose organizations did collect data on classroom presentations, 89% of them conduct evaluations with these data. "Informal evaluation" (51%) was the most popular method, with "informal and formal" (34%) also common, and only "formal" evaluations (4%) used infrequently. The fact that most organizations are completing evaluations on humane education activities shows progress. One remaining limitation is that these evaluations tend to be informal. Future determination on what "informal" and "formal" evaluations mean would help establish a clearer picture.

Respondents who do not evaluate data. Of the 71 survey respondents whose organizations collect data, 11% do not use these data for evaluation of classroom presentations. Similar to those who do not collect data for classroom presentations, "time constraint" (88%) was the most frequently given reason for not doing evaluations. Table 4.15 shows the frequency and percentage distributions for why there are no evaluations conducted with these collected data.

Table 4.15

Descriptive Statistics for Not Evaluating Data From Classroom Presentations

Type of Humane Education Program	Reason for not Evaluating Data	Frequency	Percent
Classroom presentations (n = 8)	Do not know how to evaluate data	2	25.0%
	Do not have the financial resources	5	62.5%
	Do not have the time	7	87.5%
	Do not think evaluation is needed	0	0.0%
	Other	0	0.0%

Additional comments from respondents. Thirty-nine survey participants shared additional feedback about data collection and evaluation efforts with classroom presentations. The themes are:

- It is difficult to get teachers to cooperate/respond. (8 respondents)
    - "Teachers and students are more willing to provide feedback when offered incentives and, even then, we only get about 20%."
- It is difficult to do correctly. (5 respondents)
    - "Gathering data is quite labor intensive and requires a high degree of skill as a researcher."
    - "Most evaluation tools need to be tweaked and just don't fit."
- Organizational factors. (4 respondents)
    - "No time or resources to do it properly."
    - "Administrators/parents have fears of liability and aren't interested in things that aren't on the standardized test."
- It is difficult to evaluate long-term effectiveness. (3 respondents)
    - "Very few standards for Humane Education."
- Suggestions for future evaluations. (6 respondents)

- "Data collection needs to be built into programs."
- "Current pre and posttest models are outdated and need to be remade."
- A useful evaluation would be one that looks at attitudes and choices, over time, and explore possible HE effects on these.
- Doing evaluations with the same students, from K-12.
- "They need to be easy to collect and I would do"
- "It has to be done right so schools will take us seriously."

Violence prevention and intervention programs. Details about evaluation methods for violence prevention and intervention programs include whether evaluations are being done and, if they are not, why not.

Respondents who evaluate data. Of the 25 survey respondents who responded that their organizations collected data on violence prevention and intervention programs, 88% indicated they usually do evaluate data from these programs. For this particular survey question, respondents were not asked to go into further detail about what kind of evaluations are occurring in violence prevention programs.

Respondents who do not evaluate data. Three respondents (12%) answered "no" to evaluating the collected data for violence prevention and intervention programs and all of them indicated it was because of a lack of financial resources. We "don't know how" and "don't have time" were also reasons given by one respondent. The "other" category received no responses. Table 4.16 shows the frequency and percentage distribution for why evaluations were not conducted with the collected data on violence prevention and intervention programs.

Table 4.16

Descriptive Statistics for Not Evaluating Data From Violence Prevention and Intervention Programs

Type of Humane Education Program	Reason for not Evaluating Data	Frequency	Percent
Violence prevention and intervention programs (n = 3)	Do not know how to evaluate data	1	33.3%
	Do not have the financial resources	3	100.0%
	Do not have the time	1	33.3%
	Do not think evaluation is needed	0	0.0%
	Other	0	0.0%

Additional comments from respondents. Four survey participants shared additional feedback about data collection and evaluation efforts with violence prevention and intervention programs. The responses include:

- "Need more empirical data. We need conclusive data and we need to link humane education not to animals rights or moral justification but rather to the link between animal abuse and violence. That's a message educators will respond to…"
- "Challenge to collect student data years after the programs finish. I wish we could posttest them one year and five years later."
- "Oral feedback is too differentiated from student to student."
- "The people who see the effect of humane education [parent and teachers] are the ones we don't get feedback from. On my part, it's a bit like acting on faith they [programs] will make a difference.

Community programs. Details about evaluation methods for community programs include if evaluations are being done and, if not, why not.

Respondents who evaluate data. Of the 62 survey respondents who do collect data, 52% responded "yes, usually" and 45% responded "yes, sometimes" to evaluating the data from these programs.

Respondents who do not evaluate data. Only 2 (3%) of survey respondents indicated that their organizations do not do evaluations on the data collected from community programs. Reasons for not conducting evaluations included, "Limited financial resources," "don't know how to," and "don't have time." The "other" category produced one response of: "I don't feel as though I have the skills to create an evaluation tool to use." Table 4.17 shows the frequency and percentage distributions for why there are no evaluations done with the collected data on community programs.

Table 4.17

Descriptive Statistics for Not Evaluating Data From Community Programs

Type of Humane Education Program	Reason for not Evaluating Data	Frequency	Percent
Community programs (n = 2)	Do not know how to evaluate data	1	50.0%
	Do not have the financial resources	1	50.0%
	Do not have the time	1	50.0%
	Do not think evaluation is needed	0	0.0%
	Other	1	50.0%

Additional comments from respondents. Nineteen survey participants shared additional feedback about data collection and evaluation efforts with community programs. The responses included:

- "It helps to know what kids like about camp. If they are happy and engaged they will get more out of the experience."
- "We only collect data on number of presentation and participants given during the year…"
- No time/motivation to collect data. (2 respondents)
- "Rarely will people be unkind in humane education evaluations."
- Evaluation is still in the process of development. (2 respondents)

- "Camp parents are great at taking surveys!"

In summary, the survey respondents identified a variety of program offerings within their organization, primarily in the format of classroom presentation, violence prevention and intervention, and community programs. Data are being collected and some evaluations are being conducted for all of the major program types. Responses about data collection and evaluation show that about three-fourths of the respondents collect data for the types of programs they offer. Most respondents chose surveys as their organization's most commonly used tool for collecting data, with oral and written feedback used less frequently. Most organizations evaluated the programs either formally or informally, with a much smaller percent conducting formal evaluations. Figure 4.1 illustrates the percentage of current programs, data collection, and evaluation efforts of humane education organizations.

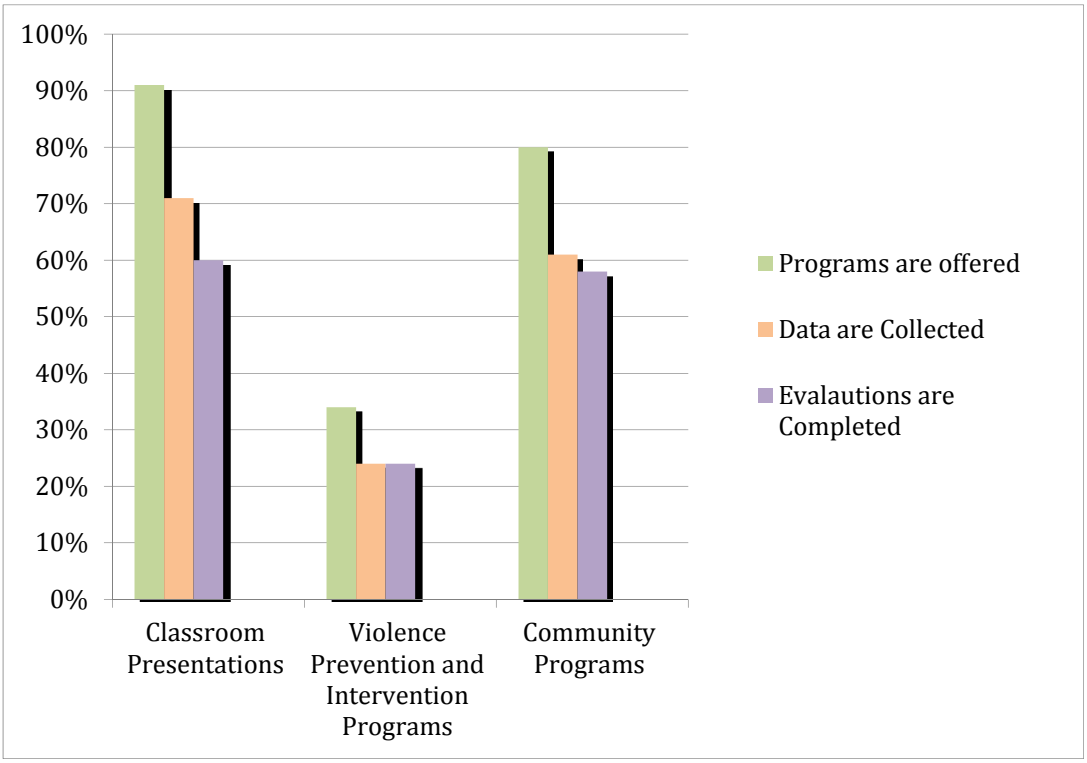

Figure 4.1. This figure represents the percentage of current program types, data collection, and evaluation efforts in humane education organizations.

Empathy in humane education programs. Survey respondents were asked about whether their organizations included empathy development in their programs. Those who did include the development of empathy in their programs were then prompted to respond to whether or not they collected data on and conducted evaluations related to the effect of their programs on empathy development.

Of the 103 survey respondents, 89% answered the question related to whether their programs incorporated the concept of empathy development. As suspected, empathy is a main focus for the majority of classroom presentations (93%), violence prevention and intervention programs (98%) and community programs (95%). This suggests that even without explicit overarching program definitions there is an understood framework that most humane educators operate within. Table 4.18 shows the frequency and percentage distributions for the survey questions related to empathy development as a program goal.

Table 4.18

Descriptive Statistics for Empathy as a Program Goal, by Program Type.

Type of Humane Education Program	"Is Empathy a Goal of Humane Education	Frequency	Percent
Classroom presentations (n = 88)	Yes, it is a goal	82	93.2%
	No, it is not a goal	6	6.5%
	Total	88	100.0%
Violence prevention and intervention programs (n = 46)	Yes, it is a goal	45	97.8%
	No, it is not a goal	1	2.2%
	Total	45	100.0%
Community programs (n = 78)	Yes, it is a goal	74	94.8%
	No, it is not a goal	4	5.1%
	Total	78	100.0%

The 92 respondents who indicated that empathy development was a goal of their programs also responded to questions about collecting data and conducting evaluations on empathy development. Interestingly, data collection and evaluation related to empathy development was

much less common than for other program aspects. Less than half of the respondents indicated that their organizations collected data about empathy development for their classroom presentations (42%), violence prevention and intervention programs (33%), and community programs (36%) (see Table 4.19).

Table 4.19

Descriptive Statistics for Collecting Data About Empathy Development, by Program Type.

Type of Humane Education Program	Empathy Measured?	Frequency	Percent
Classroom presentations (n = 83)	Yes, usually collect data	15	18.1%
	Yes, sometimes collect data	20	24.1%
	No, do not collect data on empathy	48	57.8%
	Total	83	100.0%
Violence prevention and intervention programs (n = 45)	Yes, usually collect data	14	31.1%
	Yes, sometimes collect data	1	2.2%
	No, do not collect data on empathy	20	44.4%
	Total	45	100.0%
Community programs (n = 76)	Yes, usually collect data	9	11.8%
	Yes, sometimes collect data	18	23.7%
	No, do not collect data on empathy	49	64.5%
	Total	76	100.0%

If they did collect data on empathy development, survey participants were asked how they measured it. The categories were: a self-designed survey, the Bryant Empathy Scale (BEI), Davis Interpersonal Reactivity Index (IRI), Hogan's Empathy Scale (EM), Mehrabian & Epstein's Questionnaire Measure of Emotional Empathy (QMEE), empathy is not measured, and/or other. Most of the choices did not receive a response. "Empathy is not measured" was a frequently selected response for 58% for classroom presentations, 44% for violence prevention programs, and 64% for community programs. For those who did measure empathy, "self-designed survey" was the most frequently selected response (40%). The remaining selections were distributed between BEI (4%), IRI (1%), and other (16%). The other responses included:

- Working with a University to establish an empathy scale.
- "I don't know if we do this."
- "Teach Observation of Child Adaptation-Revised (TOCA-R).
- "I want to learn more about this!"

In summary, responses show that empathy is a main focus of program development but with fewer follow-throughs on data collection and evaluation. When asked about empathy development, 98% of respondents agreed that empathy development is a critical component of their organization's program goals. Data collection and evaluation of empathy development was less frequent. Only at about 50% collected data and only half of those evaluated the data. Figure 4.2 illustrates the percentage of respondent organizations where empathy is considered a primary goal in programs, data are collected, and evaluations completed.

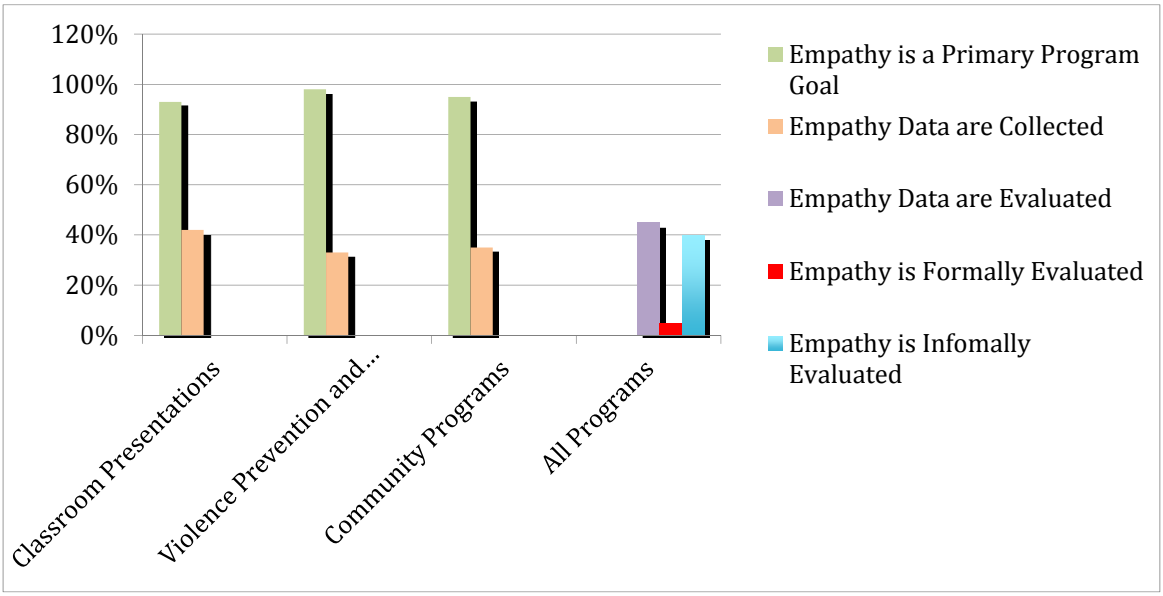

Figure 4.2. This figure shows the percentage of survey respondents' organizations where empathy is considered a primary program goal and where data are collected and evaluations conducted.

Perception of humane education professional practices. The final part of the survey inquired about humane educators' perceptions on program data collection and evaluation as well as about the current state of humane education. There were two questions, both of which had a 6-point response Likert scale of "*1=strongly disagree," "2=disagree," "3=somewhat disagree", "4=somewhat agree," "5=agree," and "6=strongly agree."* Both questions had a response rate of 85%.

The first question was, "Thinking about the field of humane education, how strongly do you agree with each of the following statements about the place of data collection and program evaluation in the field?" This question had five items. Three items were negative statements about evaluation activities in the field and the other two were positive statements. Both negative and positive statements had response categories ranging from strongly disagree to strongly agree. A high mean for the negative statements implied there is work to be done and a low mean for the positive statements implied respondents did not think evaluation activities were up to par. Most agreed that there was work to be done, specifically, "more evaluation is needed in humane education," (M = 5.26) and "higher quality evaluation is needed" (M = 5.22). In addition, many indicated that their organizations disagreed with the statement that they were "not interested in evaluations" (M = 1.58) or that "there is definitely enough evaluation work being done in this field" (M = 1,85). There were mixed perceptions about whether "evaluations are openly shared with other practitioners (M = 3.51) (see Table 4.20).

Table 4.20

Means, Standard Deviations, and Percentages for Humane Educators' Perception of Current Data Collection and Evaluation Efforts in Humane Education

Item	Mean	Standard Deviation	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1.There is definitely enough evaluation work being done in this field. (n = 88)	1.82	.95	38.1%	30.5%	8.6%	5.7%	1.0%	0.0%
2. We could use more program evaluations in this field. (n = 88)	5.26	1.056	1.9%	1.9%	7.6%	29.5%	42.9%	16.2%
3. I would like to see a higher quality of evaluation work in this field. (n = 88)	5.22	1.14	2.9%	1.0%	1.0%	9.5%	25.7%	43.8%
4. Findings from individual program evaluations are openly shared with other practitioners. (n = 88)	3.51	1.28	3.8%	18.1%	21.9%	19.0%	2.9%	2.9%
5. I am not that interested in humane education program evaluation because we already know what we need to know. (n = 88)	1.58	.827	49.5%	23.8%	6.7%	3.8%	0.0%	0.0%

The second question was **"**Thinking about the humane education field, how strongly do you disagree or agree with each of the following statements." This question had 11 items. Five items were positive statements about the perceived current state of humane education and three items were negative statements. Both positive and negative statements had responses that ranged from strongly disagree to strongly agree. A high mean for the negative statements suggested that change is needed in that area and a low mean for the positive statements implied respondents did not think that current humane education standards were acceptable. Most respondents agreed with item 7, "humane education is important in fostering empathy" (M = 5.44) and item 10, "humane education is essential in character education" (M = 5.34). Interestingly, the two negative statements with the highest level of agreement were item 4 "humane education is in need of leadership" (M = 4.74) and item 6 "it is a field in need of clear direction." Clearly respondents saw a need for change in the field (see Table 4.21).

Table 4.21

Means, Standard Deviations, and Percentages for Humane Educators' Perception of the Field

Item	Mean	Standard Deviation	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1. It is a field which teaches a love for animals.	5.22	1.02	1.9%	0.0%	2.9%	8.6%	30.5%	40.0%
2. It is a field that teaches respect for the environment.	5.28	.970	1.9%	0.0%	1.9%	5.7%	33.3%	41.0%
3.It is progressive.	5.07	1.09	1.9%	1.9%	1.9%	10.5%	34.3%	33.3%
4. It is a field in need of leadership.	4.74	1.11	1.0%	1.9%	9.5%	15.2%	34.3%	21.9%
5. It is a component in the broader social justice arena.	5.00	1.14	2.9%	1.0%	1.9%	13.3%	33.3%	31.4%
6. It is a field in need of clear direction.	4.41	1.19	1.0%	3.8%	13.3%	25.7%	21.9%	18.1%
7. It is a field that serves an important role in fostering empathy development.	5.44	.920	1.9%	0.0%	0.0%	5.7%	25.7%	50.5%
8. It is a field that teaches people how to better get along with each other.	5.10	1.062	1.9%	0.0%	2.9%	15.2%	26.7%	37.1%
9. It is a field that successfully adapts to the changing educational standards.	4.40	1.34	3.8%	2.9%	14.3%	17.1%	26.7%	19.0%
10. It is an essential component in character education programs.	5.35	.947	1.9%	0.0%	1.0%	5.7%	30.5%	44.8%
11. It is a profession that is falling behind the times.	2.98	1.51	14.3%	22.9%	21.0%	7.6%	12.4%	5.7%

The Humane Educator Survey respondents identified many different programs offered within their organization. These programs are primarily classroom presentations, violence prevention and intervention programs, and community programs. Responses about data collection and evaluation show that the majority of the respondents collect data for their programs. Most organizations evaluated their programs either informally or formally, but most often informally. Responses also show that empathy is an important goal of humane education programs but there is less data collection and evaluation related to empathy than to other program aspects. In response to opinions about data collection and evaluation, most Humane Education survey respondents agreed that "more program evaluations are needed in the field."

TLC™ and jTLC™ AOS Data Preparation

The second research focus was on evaluating the archived AOS survey data from both the TLC™ and jTLC™ programs. These data focus on program participants' knowledge of, empathy for, and attitude towards animals, others, and self. They also speak to the issue of whether or not programs' goals are met. Research questions 3, 3a, 3b, and 3c are addressed in this section.

AOS survey for TLC™ and jTLC™. The AOS survey data were analyzed for both the TLC™ and jTLC™ programs. Although analyzed separately, the structure and components of the AOS remained the same for both program analyses.

The AOS survey split easily into two sections and was analyzed using two different strategies. One section of the survey consisted of 20 questions in a binary, true/false format. However, two of the questions were inappropriate due to subjectivity and/or incorrect wording. These questions were not included in the analysis. True/false

question 5, which read, “Trained dogs do not always have to be on a leash they should be allowed to run free sometimes,” and true/false question 8, which read, “Spiders are important insects and should be protected,” were not included in the analysis for this study. Although these two questions were removed, the remaining 18 survey questions retained their numbering for the analysis.

jTLC™ AOS true/false knowledge questions, q2, q6 and q16, were missing 29 responses. These three questions were removed from the AOS survey for the jTLC™ analysis. This left 15 binary true/false knowledge questions. All original numbering was retained.

The other section of the AOS survey had 10 items about “attitudes” in a 4-point response format of *“never,” “sometimes,” “most of the time”* and *“always.”* All 10 questions appeared to address the issue of attitudes towards animals, others, and self, and therefore, were all used in the analyses.

True/false knowledge questions data. The true false knowledge data were converted to correct and wrong answers. For the 18 (TLC™) and 15 (jTLC™) bivariate true/false (right/wrong) response questions, an overall score was calculated by assigning a value of “1” to a correct response, and a value of “0” for a wrong response, then summing across all items for both the pretest and posttest scores. The McNemar test for binomial before and after data tests the relationship that exists between the cells of a 2 x 2 table, identifying the statistical significance of the difference between proportions. This test was used to determine if there were statistically significant differences for each of the 18 (TLC™) and 15 (jTLC™) questions individually. Calculation of probability of

statistical significance using the McNemar test was completed using an online calculator for the test http://vassarstats.net/propcorr.html.

True/false knowledge subscales data. The true/false data were also converted into six researcher developed subscales: *knowledge of animals, knowledge of others, empathy for animals, empathy for others, hard facts,* and *soft facts*. The subscales were developed based on the apparent meaning of the statements. The subscale scores were the sum of correct answers for each of the true/false items in the researcher-defined scale. All subscale analysis was also broken down by available demographic variables; school level for TLC™ and gender for jTLC™. A paired sample t-test was used to analyze the subscale scores.

"Hard fact" and "soft fact" subscale. The 18 true/false questions were first split into either a *hard fact* or *soft fact* category. A *hard fact* subscale included any question that was based on a scientific or legal fact. For example, question 7 was "there is a law that says pets must have food, water and medical care" and was considered a *hard fact.* Figure 4.1 describes the questions selected for the "hard fact" subscale.

A *soft fact* was information taught to the TLC™ or jTLC™ participants and could be considered a "correct" response to learn but is not necessarily a legal or scientific fact. For example, question 12, "many times conflict can be resolved by talking" was considered a *soft fact.* No question selected was in both the hard and soft fact categories. The variable of *school level* was also included in the analysis of the subscales. Figure 4.1 describes the questions selected for the "soft fact" subscale.

"*Knowledge of"* and *"empathy for" subscales.* The subscales of *knowledge of* (animals or other) and *empathy for* (animals or others) had some cross over in question

placement. For example, the first question of "animals and people have similar needs and can feel pain" was included in all four categories. Alternatively, question 3 was, "getting an animal spayed or neutered will reduce the number of homeless pets" was placed only in the "knowledge of animals" category. Figure 4.3 shows the questions selected for each of the subscales.

		Knowledge of Animals	Knowledge of Others	Empathy for Animals	Empathy for Others	Hard Facts	Soft Facts
q1	Animals and People have similar needs and can feel pain.	✔	✔	✔	✔	✔	
q2	*Running up to a dog you don't know is ok as long as you're nice.	✔		✔			✔
q3	Getting an animal spayed or neutered will reduce the number of homeless animals.	✔				✔	
q4	It's best to wait until your pet has had one litter before you spay or neuter them.	✔				✔	
q6	*It's okay to leave your dog in parked car as long as you open the window a little.	✔		✔		✔	
q7	There is a law that says pets must have food, water, and medical care.	✔				✔	
q8	It's okay to hit a dog when training if he/she went to the bathroom in the house.	✔		✔			✔
q9	There will always be enough homes for the cats and dogs that are born.	✔					✔
q10	It's best to be violent if someone is threatening you with violence.		✔		✔		✔
q11	There are laws that protect children and animals from neglect and abuse there are officer who investigate cruelty and neglect of animals.	✔	✔			✔	
q12	Many times conflict can be resolved by talking.		✔		✔		✔
q13	I know of place that I can go or call for help if anyone or I know is ever abused or a victim of violence.		✔				✔
q14	It's better to abandon an animal in the street than to bring him/her to a shelter where he/she might be euthanized.	✔		✔			✔
q15	It's okay for a parent to hit a child or another if they're angry.		✔		✔		✔
q16	*A raccoon or opossum would make a great house pet.	✔		✔		✔	
q17	It's okay to train animals to fight as long as people enjoy watching the fight.	✔		✔		✔	
q19	It is okay for me to hit another person if I am angry.		✔		✔		✔
q20	Cats that are allowed to live outside tend to live a longer, healthier life.	✔		✔		✔	

Figure 4.3. This figure represents how the binary questions in the AOS survey were assigned to subscales. *Removed from jTLC™ subscale analysis with permission (see Appendix A).

10 item overall attitudes scale and subscale data. The AOS "attitudes" section of the survey consisted of 10 items each with a 4-point response of *"1=never," "2=sometimes," "3=most of the time," and "4=always."* A paired samples t-test was conducted on an overall score for all 10 of these items for both the TLC™ and jTLC™ programs, independently. I developed subscales labeled: "animals, "others," and "self" using these 10 4- response attitude items. The subscales were developed because many of the items appeared to refer to different concepts, implying that one overall scale would not be appropriate. For example, item 6 focuses specifically on an attitude towards an animal stating, "I feel sad when I see and animal suffering." In contrast, item 7 states, "I feel confident speaking in front of other people." The items were placed in the subscales based on their apparent meaning and with concurrence from program staff and a member of the dissertation committee. For example, item 3, "I can control my anger," was included in the "attitudes about self" subscale. Item 2 was included in both "attitudes about animals" and "attitudes about others" subscales because the statement was "I respect all living things." The subscale scores for the 4-point response scale items was an average of response codes for all of the items included in the subscale.

The subscale of "attitude towards animals" consisted of items 2 and 6. The second subscale of "attitude towards others" consisted of items 2 and 10. The third subscale of "attitude towards self" consisted of items 1, 3 to 5, and 7 to 9. A total "attitude" scale was also developed, averaging the response scores for all 10 items. The paired samples t-test was used to analyze the total and subscale scores as well as the individual item scores. Each analysis was also run by the school level (TLC™) and

gender (jTLC™). Figure 4.4 shows how the 10 4-point response items were assigned to subscales.

	Attitudes about Animals	Attitudes about Others	Attitudes about Self
Item 1: I feel good about myself			✔
Item 2: I respect living things	✔	✔	
Item 3: I can control my anger			✔
Item 4: I get along with other people in the group			✔
Item 5: I get to know someone before I decided if I like them or not			✔
Item 6: I feel sad when I see any animal suffering	✔		
Item 7: I feel confident speaking in front of other people			✔
Item 8: I look forward coming to school every day			✔
Item 9: I feel I have friends and peer support at school			✔
Item 10: I feel sad when I see a person suffering		✔	

Figure 4.4. This figure represents the 10 "attitude" items and subscales.

TLC™ AOS Knowledge Data Analysis

The data for the TLC™ AOS were collected, matched, given an identification number, and digitized for analysis. There were 339 cases. The variable of gender was used in the analysis. Analyses of the data were done with the McNemar test for binary data for individual items and paired sample t-tests for all scale and subscale data.

TLC™ descriptive statistics. Survey participants included students involved with the TLC™ program since year 2001. The collection of pre and post AOS surveys is from TLC classes #16 through TLC #68. Of the 495 archived surveys, 147 of the pre surveys had no corresponding post survey match or did not have a match in the

approximately eighty unmatched post surveys. The pre-surveys, which did not have matched post surveys, most likely occurred because of student attrition. In addition, the labeling and identification process from the earlier years would not allow for proper pairing. This left 348 paired surveys for analysis.

Since the program's inception, each TLC™ participant was identified through an identification number. This allowed for each set of surveys to be correctly matched to the school name, grade of the students in that particular TLC™ class, and year that each TLC class took place. Within each TLC™ class, AOS surveys receive an identification number, making it possible to identify the grade or school type variable. Table 4.22 shows that participation by school varied greatly and participants were not equally distributed across schools.

Table 4.22

Descriptive Statistics for TLC™ Cases by School

School Name	Frequency	Percent
Aviva High School	29	8.3%
Burbank Middle School	6	1.7%
Bunch Middle School	49	14.1%
Cubberley Middle School	58	16.7%
Demille Middle School	7	2.0%
Fulton Middle School	8	2.3%
George Washington Elementary School	9	2.6%
Lomita Middle School	20	5.7%
Ofman High School	22	6.3%
Prairie Vista Middle School	83	23.9%
San Fernando Middle School	12	3.4%
Stanford Middle School	6	1.7%
Tincher Middle School	22	6.3%
Whittier Community Day School	17	4.9%
Middle School		
Total	100.0	100%

Table 4.23 shows that elementary school students had lower participation rates than middle or high school students. Participant "grade" was originally defined by six categories, including "unknown."

Table 4.23

Descriptive Statistics for TLC™ Cases by Grade Level

Grade level	Frequency	Percent
Unknown	46	13.2%
5th	9	2.6%
6th	28	8.0%
7th	76	21.8%
8th	138	39.7%
High School	51	14.7%
Total	348	100.0%

The original grade variable was recoded into a "school level" variable. The "unknown" category consisted of all middle school students who did not have an assigned specific grade. This recoded "school level" variable had three categories: elementary school (5th grade), middle school (6th to 8th grade), and high school (9th to 12th grade) (see Table 4.24).

Table 4.24

Descriptive Statistics for TLC™ Cases by School Level

School level	Frequency	Percentage
Elementary School (5th grade)	9	2.6%
Middle School (6th – 8th grade)	288	85.6%
High School (9th – 12th grade)	51	11.8%
Total	348	100.00%

There were only 9 cases for elementary school students. Since this number was too small for meaningful statistical analysis of differences between pre and post surveys and, since the primary focus of the programs and this study is on middle and high school age youth, all elementary school cases were removed from the analyses. This left 339 cases for the comparative pre and post analyses.

Analysis of TLC™ 18 question true/false knowledge data. A paired samples t-test was conducted on the 18 question overall score to compare the pretest and posttest scores across all cases (N = 339). A second analysis was then done to split the pre-posttest comparison by school level, which included middle school (n = 288) and high school (n = 51). The average pretest score for all cases was 13.20 out of 18, and the

average posttest score for all cases was 15.62. Not surprisingly, high school students showed a higher initial mean score for the knowledge questions than middle school students, suggesting that they knew more of the correct answers to begin with (see Table 4.25).

Table 4.25

Paired Sample t-test for the TLC™ 18 Question True/False Knowledge Score

All Cases and School Level	Pre and Post Surveys	Mean	Std. Deviation
All Cases (N = 339)	18 q T/F Pre Scores	13.20	2.83
	18 q T/F Post Scores	15.62	2.48
Middle School (n = 288)	18 q T/F Pre Scores	13.10	2.79
	18 q T/F Post Scores	15.68	2.42
High School (n = 51)	18 q T/F Pre Scores	13.76	3.01
	18 q T/F Post Scores	15.29	2.81

The test found that the difference in increased correct responses between the pretest (M = 13.20) and posttest (M = 15.62) was statistically significant, with t(338) = 16.16, p = .000 (see Table 4.25 and Table 4.26).

Table 4.26

Paired Sample t-test Results for All 18 TLC™ True/False Knowledge Score

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
All Cases (N = 339)	2.42	2.76	2.12	2.71	16.16	.000
Middle School (n = 228)	2.58	2.67	2.27	2.89	16.40	.000
High School (n = 51)	1.52	3.10	.65	2.40	3.52	.001

Analysis of TLC™ "hard fact" and "soft fact" knowledge subscales. Both the *hard facts and soft facts* subscales had nine questions and the total score for each was the number of correct answers. A paired sample t-test was run for both the *hard fact* and *soft-fact* subscales and split by school level.

"Hard facts" subscale. The average pretest score for all cases was 5.96 out of 9, and the average posttest score for all cases was 7.55. The increase from pre (M = 5.96) to posttests (M = 7.55) for the *hard facts* was statistically significant, with t(338) = 18.33, $p < .001$ (see Table 4.27 and Table 4.28).

Table 4.27

Paired Sample Statistics for TLC™ True/False Knowledge Subscales of "Hard Facts" and "Soft Facts"

Cases	Pre and Post Surveys	Mean	Std. Deviation
All Cases (N = 339)	Hard Facts Pre Scores	5.96	1.29
	Hard Facts Post Scores	7.55	1.39
Middle School (n = 288)	Hard Facts Pre Scores	5.95	1.31
	Hard Facts Post Scores	7.58	1.35
High School (n = 51)	Hard Facts Pre Scores	6.05	1.20
	Hard Facts Post Scores	7.37	1.59

Middle and high school students shared similar beginning mean scores for this subscale. This suggests that there is not much difference between the groups with respect to how much either group knows about "hard facts" in humane education. The results of the paired sample t-test showed that right responses increased for middle school participants from the pretest (M = 5.94) to the posttest (M = 7.58) and the difference was statistically significant, with t(287) = 17.95, p = .000. Correct responses from high

school level participants also increased from the pretest (M = 6.05) to the posttest (M = 7.37) and this difference was also statistically significant, with t(50) = 5.10, p =.000 (see Table 4.27 and Table 4.28).

Table 4.28

Paired Sample t-test Results for TLC™ True/False "Hard Facts" Knowledge Subscale

Hard Facts Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
All Cases (N = 339)	1.58	1.59	1.41	1.76	18.33	.000
Middle School (n = 288)	1.63	1.54	1.45	1.81	17.95	.000
High School (n = 51)	1.31	1.83	.79	1.83	5.10	.000

"Soft facts" subscale. The average pretest score for all cases on the *soft facts* subscale was 7.07 out of 9, and the average posttest score for all cases was 8.06. The results indicated that the increase from the *soft facts* subscale pretest (M = 7.07) to the posttest (M = 8.06) was statistically significant, with t(338) = 11.15, $p < .001$ (see Table 4.29 and Table 4.30).

Table 4.29.

Paired Sample Statistics for TLC™ True/False "Soft Facts" Knowledge Subscale

Cases	Pre and Post Scores	Mean	Std. Deviation
All Cases (N = 339)	Soft Facts Pre Scores	7.07	1.81
	Soft Facts Post Scores	8.06	1.42
Middle School (n = 288)	Soft Facts Pre Scores	7.03	1.80
	Soft Facts Post Scores	8.09	1.42
High School (n = 51)	Soft Facts Pre Scores	7.31	1.87
	Soft Facts Post Scores	7.92	1.45

There was also an increase between pretest (M = 7.03) and posttest (M = 8.09) mean scores for middle school students that was statistically significant, with t(287) = 10.87, p = .000. High school students also showed an increase in correct responses for the *soft facts scale from* pretest (M = 7.31) to posttest (M = 7.92) and this difference were significant, with t(50) = 2.89, p = .006. In contrast with the "hard facts" subscale, high school students had a slightly higher mean score than middle school students, suggesting they were already more knowledgeable about "soft facts" than the younger students (see Table 4.29 and Table 4.30).

Table 4.30

Paired Sample t-test Results for TLC™ True/False "Soft Facts" Knowledge Subscale

Soft Facts Cases	Difference Between Means	Std. Deviation	95% Confidence Interval Lower	95% Confidence Interval Upper	t (two-tailed)	*p*
All Cases (N = 339)	.99	1.64	.81	1.16	11.15	.000
Middle School (n = 288)	1.06	1.65	.87	1.25	10.87	.000
High School (n = 51)	.60	1.49	.18	1.02	2.89	.006

Analysis of TLC™ "knowledge of animals" subscale. The *knowledge of animals* true/false subscale had 13 questions and the total score was the number of correct answers. A paired sample t-test was run for the *knowledge of animals* subscale and split by school level. The average pretest score for all cases on the *knowledge of animals* subscale was an 8.94 out of 13, and the average posttest score for all cases was 11.07. The paired sample t-test showed a statistically significant increase between pretest (M = 8.94) and posttest (M = 11.07) mean scores, with t(338) = 17.18, p = .000 (see Table 4.31 and Table 4.32).

Table 4.31

Paired Sample Statistics for TLC™ True/False Subscale "Knowledge About Animals"

Cases	Pre and Post Scores	Mean	Std. Deviation
All Cases (N = 339)	Knowledge about Animals Pre Scores	8.94	2.21
	Knowledge about Animals Post Scores	11.07	1.95
Middle School (n = 288)	Knowledge about Animals Pre Scores	8.85	2.19
	Knowledge about Animals Post Scores	11.12	1.88
High School (n = 51)	Knowledge about Animals Pre Scores	9.50	2.26
	Knowledge about Animals Post Scores	10.76	2.32

Results showed that middle school students had increased mean scores from their pretest (M = 8.85) to posttest (M = 1.12) for the knowledge of animals subscale and the difference was statistically significant, with t(287) = 17.681, p = .000. High school students had a change in the mean score for number of correct answers from the pretest (M = 9.50) to the posttest (M = 10.76) for the knowledge of animals subscale and the difference was statistically significant, with t(50) = 3.469, p = .001 (see Table 4.31 and Table 4.32).

Table 4.32

Paired Sample t-test Results for TLC™ True/False "Knowledge About Animals" Subscale

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval Lower	95% Confidence Interval Upper	t (two-tailed)	*p*
All Cases (N = 339)	2.12	2.27	1.88	2.36	17.18	.000
Middle School (n = 288)	2.27	2.18	2.02	2.53	17.68	.000
High School (n = 51)	1.25	2.58	.52	1.98	3.46	.001

Analysis of TLC™ "knowledge of others" subscale. The *knowledge of others* true/false subscale had 7 questions and the total score was the number of correct answers. A paired sample t-test was run for the *knowledge of others* subscale and split by school level. The average pretest score for all cases on the *knowledge of others* subscale was 6.02 out of 7, and the average posttest score for all cases was 6.44 (see Tables 4.33 and Table 4.34).

Table 4.33

Paired Sample Statistics for TLC™ True/False Subscale "Knowledge About Others"

Cases	Pre and Post Scores	Mean	Std. Deviation
All Cases (N = 339)	Knowledge about Others Pre Scores	6.04	1.26
	Knowledge about Others Post Scores	6.45	.99
Middle School (n = 288)	Knowledge about Others Pre Scores	6.02	1.25
	Knowledge about Others Post Scores	6.46	1.00
High School (n = 51)	Knowledge about Others Pre Scores	6.15	1.36
	Knowledge about Others Post Scores	6.43	.94

The paired sample t-test showed a statistically significant increase between pretest (M = 6.02) and posttest (M = 6.44) mean scores for the knowledge of others subscale, with t(338) = 6.19, p = .000. Middle school students showed a significant increase in correct responses from pretest (M = 6.02) to posttest (M = 6.46), with t(287) = 6.160, p = .000. High school students had somewhat higher (M = 6.15) pretest scores than the middle school participants and this lack of room for growth most likely accounted for the "not significant" pretest to posttest difference for the high school group (see Table 4.33 and Table 4.34).

Table 4.34

Paired Sample t-test Results for TLC™ True/False "Knowledge About Others" Subscale

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t(two-tailed)	*p*
			Lower	Upper		
All Cases (N = 339)	.42	1.23	.28	.54	6.14	.000
Middle School (n = 288)	.44	1.20	.29	.57	6.16	.000
High School (n = 51)	.27	1.41	.12	.67	1.38	.172

Analysis of TLC™ "empathy for animals" knowledge subscale. The *empathy for animals* true/false subscale had 8 questions and the total score was the number of correct answers. A paired sample t-test was run for the *empathy for animals* subscale and split by school level. The average pretest score for all cases on the *empathy for animals* subscale was a 6.08 out of 8, and the average posttest score for all cases was 6.94 (see Table 4.35 and Table 4.36).

Table 4.35

Paired Sample Statistics for TLC™ True/False "Empathy for Animals" Knowledge Subscale

Cases	Pre and Post Mean Scores	Mean	Std. Deviation
All Cases (N = 339)	Empathy for Animals Pre	6.08	1.41
	Empathy for Animals Post	6.94	1.23
Middle School (n = 288)	Empathy for Animals Pre	6.03	1.41
	Empathy for Animals Post	6.96	1.20
High School (n = 50)	Empathy for Animals Pre	6.35	1.43
	Empathy for Animals Post	6.82	1.38

The paired sample t-test showed a statistically significant increase between pretest (M = 6.08) and posttest (M = 6.94) mean scores, with t(338) = 10.74, p = .000. Middle school students had an increase in correct responses from pretest (M = 6.03) to posttest (M = 6.96), with a statistically significant t(287) = 10.94, p = .000. High school students increased from pretest (M = 6.35) to posttest (M = 6.82) mean scores, with a statistically significant t(50) = 2.01, p = .041 (see Table 4.35 and Table 4.36).

Table 4.36

Paired Sample t-test Results for TLC™ True/False "Empathy for Animals" Knowledge Subscale

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
All Cases (N = 339)	.85	1.47	.70	1.01	10.74	.000
Middle School (n = 288)	.92	1.43	.76	1.09	10.94	.000
High School (n = 51)	.47	1.60	.01	-.92	2.09	.041

Analysis of TLC™ "empathy for others" knowledge subscale. The *empathy for others* true/false subscale had 5 questions and the total score was the number of correct answers. A paired sample t-test was run for the *empathy for others* subscale and split by school level. The average pretest score for all cases on the *empathy for others* subscale was 4.45 out of 5, and the average posttest score for all cases was 4.61 (see Table 4.37 and Table 4.38).

Table 4.37

Paired Sample Statistics for TLC™ True/False "Empathy for Others" Knowledge Subscale

Cases	Pre and Post Mean Scores	Mean	Std. Deviation
All Cases (N = 339)	Empathy for Others Pre	4.45	.89
	Empathy for Others Post	4.61	.77
Middle School (n = 288)	Empathy for Others Pre	4.46	.87
	Empathy for Others Post	4.61	.78
High School (n = 51)	Empathy for Others Pre	4.39	.98
	Empathy for Others Post	4.56	.72

The paired sample t-test showed a statistically significant increase between pretest (M = 4.45) and posttest (M = 4.61) mean scores, with t(338) = 3.13, p =.003. Middle school responses increased between pretests (M = 4.46) and posttests (M = 4.61) and the change was statistically significant, with t(287) = 2.76, p = .006. There was no significant change for the high school group on the empathy for others subscale (see Table 4.37 and Table 4.38).

Table 4.38

Paired Sample t-test Results for TLC™ True/False "Empathy for Others" Knowledge Subscale

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
All Cases (N = 339)	.15	.95	.05	.25	3.01	.003
Middle School (N = 288)	.15	.93	.04	.26	2.76	.006
High School (N = 51)	.17	1.05	.11	.47	1.19	.237

The researcher-defined subscales developed from the 18-question true/false (right/wrong) knowledge questions tended to show statistically significant increases in mean scores for number of correct responses from pretest to posttest. There was an improvement on all subscale scores for all cases and for the middle school group. This was also true for the high school group except for the knowledge of others and empathy towards others subscales. High pretest scores for the two "others" subscales demonstrate that students tended to already know most of the correct answers in the focus on "others" areas. In addition, high school students had higher pretest means for all of the subscales, and somewhat lower than middle school students on the "others" posttest scores. This resulted in differences that were statistically significant for middle school students and not significant for high school students for the "others" subscales. Effect sizes for the significant differences ranged from small (.20 - .49) to large (.80 – 1.04), with most in the medium (.50 - .79) and large range. Figure 4.5 shows the statistically significant findings at $p < .05$ or better for the subscales for all cases, middle school, and high school groups.

	All cases	Middle School	High School
Overall Score Knowledge Questions	✔ Lg	✔ Lg	✔ Md
Hard fact subscale	✔ Lg	✔ L g	✔ Md
Soft fact subscale	✔ Md	✔ Md	✔ Sm
Knowledge of animals subscale	✔ Lg	✔ Lg	✔ Sm
Knowledge of others subscale	✔ Sm	✔ Sm	
Empathy toward animals knowledge subscale	✔ Md	✔ Md	✔ Sm
Empathy toward others knowledge subscale	✔	✔	

Figure 4.5. This figure represents the significant findings for knowledge subscales, by all cases and school level. ✔= Significant increase between pretest and posttest means at $p <$ .05 or better. Effect size: Sm. = .20 - .49, Md. = .50 - .79, Lg. = .80 – 1.04

Analysis of TLC™ 18 knowledge questions. The McNemar test was run on the 18 individual true/false (right/wrong) knowledge questions. Results indicated that 13 of the questions showed statistically significant increases from incorrect responses to correct response.

Five questions did not have statistically significant increases. For these questions (q1, q10, q15, q16, and q19) the majority of the students knew the correct answers on both the pretest and posttest, creating a ceiling effect, or no room to improve. Question 1 was "Animals and people have similar basic needs and can both feel pain." Of the 339 participants, 325 gave the correct answer in both the pretests and posttests. Question 10 stated, "It is best to be violent when someone is threatening you with violence." In this instance, 261 of 348 answered this question with no change in their response. Of those, almost three quarters (75%) of the students answered correctly on both the pre and post survey. Question 15 asked whether, "It's okay for a parent to hit a child if they're

angry." Results indicated that 88% of all cases had the correct response on the pretest and posttest. Question 16 asked students if "A raccoon or an opossum would make a great house pet." Results indicated that 79% of the participants were correct on both the pretest and posttest.

Thirteen of the individual true/false questions showed statistically significant pretest to posttest results. Question 2 asked if, "Running up to a dog is ok as long as you talk to it nicely." Of the 339 students, 288 gave the right answer on the posttest compared to 226 on the pretest. This increase was statistically significant for all cases at the $p < .001$ *level*. The increase in correct answers from pretest (188) to posttest (248) was also statistically significant at the $p < .001$ level for the middle school group. The change for the high school group was not statistically significant. This "not significant" difference in change for the high school group could be attributed to the large number of these students who already "knew" the right answer. It is also, no doubt, because the TLC™ programs for high school students are only 2-weeks in length, and this could have been only slightly covered in the curriculum (see Table 4.39).

Table 4.39

Crosstabulation of TLC™ *True/False Question #2 "Running up to a dog is ok as long as you talk to it nicely."*

Cases	Pretest	Posttest "Wrong"	Posttest "Correct"	N	
All Cases (N = 339)	Wrong	35	78	113	
	Correct	16	210	226	
	Total	51	288	339	***
Middle School (n = 228)	Wrong	27	73	100	
	Correct	13	175	188	
	Total	40	248	288	***
High School (n = 51)	Wrong	8	5	13	
	Correct	3	35	38	
	Total	11	40	51	

*** $p < .001$

Question 3 asked whether it was true or false that "Getting an animal spayed or neutered will reduce the number of homeless animals." The number of correct responses increased to 313 on the posttest from 184 on the pretest. Overpopulation issues are discussed at length in both the middle school and high school level TLC™ programs and the McNemar analysis showed that results were statistically significant for all cases, and for each school level, at the $p < .001$ level (see Table 4.40).

Table 4.40

Crosstabulation of TLC™ *True/False Question #3"Getting an animal spayed or neutered will reduce the number of homeless animals."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
	Wrong	17	138	155	
All Cases	Correct	9	175	184	
(N = 339)	Total	26	313	339	***
	Wrong	15	116	131	
Middle School	Correct	6	151	157	
(n = 228)	Total	21	267	288	***
	Wrong	2	22	24	
High School	Correct	3	24	27	
(n = 51)	Total	5	46	51	***

*** $p < .001$

Question 4 was "It is best to wait until your pet has had one litter before you spay or neuter." Almost one third (99) of the participants showed an increase in the correct response from the pretest to posttest. The McNemar test results indicate that there was a statistically significant increase in correct responses across all cases, as well as for the middle school group, at the $p < .001$ level and the high school level at $p < .05$ level (see Table 4.41).

Table 4.41

Crosstabulation of TLC™ *True/False Question #4 "It is best to wait until your pet has had one litter before you spay or neuter."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases (N = 339)	Wrong	116	128	244	
	Correct	29	66	95	
	Total	145	194	339	***
Middle School (n = 228)	Wrong	89	116	205	
	Correct	25	58	83	
	Total	114	174	288	***
High School (n = 51)	Wrong	27	12	39	
	Correct	4	8	12	
	Total	31	20	51	*

*$p < .05$, *** $p < .001$

Question 6 asked if it was true or false that "It's ok to leave your pet in parked car as long as the windows are open a little." Of the 339 participants, 202 gave the right answer on the pretest and 254 gave the correct answer on the posttest. The McNemar test results found that there was a statistically significant change in responses for all cases, for the middle school group at the $p < .001$ level, and for the high school group at the $p < .05$ level (see Table 4.42).

Table 4.42

Crosstabulation of TLC™ *True/False Question #6 "It is ok to leave your pet in parked car as long as the windows are open a little."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases (N = 339)	Wrong	54	83	137	
	Correct	31	171	202	
	Total	85	254	339	***
Middle School (n = 228)	Wrong	49	71	120	
	Correct	28	140	168	
	Total	77	211	288	***
High School (n = 51)	Wrong	5	12	17	
	Correct	3	31	34	
	Total	8	43	51	*

* $p < .05$ and *** $p < .001$

Question 7 asked if it was true or false that "There is a law that says pets must have food, water, and medical care." Correct responses increased from the 227 on the pretest to 301 on the posttest. The McNemar test indicated that the results were statistically significant at the $p < .001$ level for all cases and for the middle school group and for the high school group at the $p < .05$ level (see Table 4.43).

Table 4.43

Crosstabulation of TLC™ *True/False Question #7 "There is a law that says pets must have food, water, and medical care."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases (N = 339)	Wrong	20	92	112	
	Correct	18	209	227	
	Total	38	301	339	***
Middle School (n = 228)	Wrong	18	84	102	
	Correct	17	169	186	
	Total	35	253	288	***
High School (n = 51)	Wrong	2	8	10	
	Correct	1	40	41	
	Total	3	48	51	*

*$p < .05$ and *** $p < .001$

Question 8 asked if it was true or false that "It's okay to hit a dog when you are training if he/she goes to the bathroom in the house." Participants with correct responses increased from 285 on the pretest to 320 on the posttest. The McNemar test results show that, similar to question 7, there was a significant change in correct responses, from pretest to posttest, for all cases and middle school students at the $p < .001$ level. A possible ceiling effect may explain the lack of significant pretest to posttest change for the high school group–only 10 students had this question wrong on the pretest (see Table 4.44).

Table 4.44

Crosstabulation of TLC™ *True/False Question #8 "It's okay to hit a dog when you are training if he/she goes to the bathroom in the house.*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases	Wrong	8	46	54	
(N = 339)	Correct	11	274	285	
	Total	19	320	339	***
Middle School	Wrong	6	41	47	
(n = 228)	Correct	11	230	241	
	Total	17	271	288	***
High School	Wrong	2	5	7	
(n = 51)	Correct	0	44	44	
	Total	2	49	51	

***$p < .001$

Question 9 asked if it was true or false that "There will always be enough homes for all of the cats and dogs that are born." Results show that 95 more participants answered the question correctly on the posttest than did on the pretest. This was statistically significant, at the $p < .001$ level for all cases and for the middle school group (see Table 4.45).

Table 4.45

Crosstabulation of TLC™ *True/False Individual #9 "There will always be enough homes for all of the cats and dogs that are born."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases (N = 339)	Wrong	48	104	152	
	Correct	9	178	187	
	Total	57	282	348	***
Middle School (n = 228)	Wrong	41	94	135	
	Correct	6	147	153	
	Total	47	241	288	***
High School (n = 51)	Wrong	7	10	17	
	Correct	3	31	34	
	Total	10	41	51	

***$p < .001$

Question 11 asked if it was true or false that "There are laws that protect children and animals from neglect and abuse and there are officers of the law that investigate cruelty and neglect of animals." There was an increase in correct responses from pretest (278) to posttest (307). The McNemar test showed that the difference was statistically significant for all cases and for the middle school group at the $p < .001$ level. Similar to the results for question 8, with only 4 students in this group getting the question wrong on the pretest, the lack of statistical significance is most likely due to the ceiling effect (see Table 4.46).

Table 4.46

Crosstabulation of TLC™ *True/False Individual #11"There are laws that protect children and animals from neglect and abuse and there are officers of the law that investigate cruelty and neglect of animals."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
	Wrong	17	44	61	
All Cases	Correct	15	263	278	
(N = 339)	Total	32	307	339	***
	Wrong	17	40	57	
Middle School	Correct	10	221	231	
(n = 228)	Total	27	261	288	***
	Wrong	0	4	4	
High School	Correct	5	42	47	
(n = 51)	Total	5	46	51	

***$p < .001$

Question 12, on the true/false survey, was "Many times conflict can be resolved by talking." A high, 307 participants had this question right on the posttest compared to 285 on the pretest. The results of the McNemar test indicate that the difference in correct responses from pretest to posttest was statistically significant for all cases at the $p < .01$ level and at the $p < .05$ level for middle school participants. The difference was not statistically significant for the high school group. This was most likely because most of the older students knew the correct answer on the pretest (see Table 4.47).

Table 4.47

Crosstabulation of TLC™ *True/False Question #12 "Many times conflict can be resolved by talking."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
	Wrong	13	41	54	**
All Cases	Correct	19	266	285	
(N = 339)	Total	32	307	339	
Middle School	Wrong	12	31	43	
(n = 228)	Correct	17	228	245	
	Total	29	259	288	*
High School	Wrong	1	10	11	
(n = 51)	Correct	2	38	40	
	Total	3	48	51	

*$p < .05$ and ** $p < .01$

Question 13 asked if it was true or false that "I know of places I can go or call for help if I or anyone else I know is ever abused or is a victim of violence." Students were more likely to respond correctly to this question on the posttest (318) than on the pretest (261). The McNemar results indicated a statistically significant difference at the $p < .001$ level for all cases and for the middle school group. Again, results were not significant for the high school participants because overall they knew the correct answer at the time of the pretest (see Table 4.48).

Table 4.48

Crosstabulation TLC™ *True/False Question #13 "I know of places I can go or call for help if I or anyone else I know is ever abused or is a victim of violence."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases (N = 339)	Wrong	10	68	78	
	Correct	11	250	261	
	Total	21	318	339	***
Middle School (n = 228)	Wrong	10	60	70	
	Correct	9	209	218	
	Total	19	269	288	***
High School (n = 51)	Wrong	0	8	8	
	Correct	2	41	43	
	Total	2	49	51	

*** $p < .001$

Question 14 asked if it was true or false that "It is better to abandon a pet in the street then bring him or her to the animal shelter where he/she might be euthanized." Participants' correct responses increased from 266 in the pretest to 304 in the posttest. The results of the McNemar test indicated significance at the $p < .001$ level for all cases and for the middle school group, but not for the high school group. Consistent with most of the other individual true/false questions, high school students show high levels of "already knowing the answer" on the pretests (see Table 4.49).

Table 4.49

Crosstabulation TLC™ *True/False Question #14 "It is better to abandon a pet in the street then bring him or her to the animal shelter where he/she might be euthanized."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases (N = 339)	Wrong	15	67	82	
	Correct	29	237	266	
	Total	44	304	348	***
Middle School (n = 228)	Wrong	12	57	69	
	Correct	20	199	219	
	Total	32	256	288	***
High School (n = 51)	Wrong	3	8	11	
	Correct	5	35	40	
	Total	8	43	51	

***$p < .001$

Question 17 asked if it was true or false that "It's okay to train animals to fight as long as people enjoy watching the fight." A high, 336 students had the correct posttest response compared to 315 on the pretest. The McNemar analysis indicates that there was a statistically significant difference in responses from pretest to posttest for all cases and the middle school group at the $p < .01$ level, but not significant for the high school group (see Table 4.50).

Table 4.50

Crosstabulation TLC™ *True/False Question #17 "It's okay to train animals to fight as long as people enjoy watching the fight."*

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases (N = 339)	Wrong	5	28	33	
	Correct	7	308	315	
	Total	12	336	348	**
Middle School (n = 228)	Wrong	5	20	25	
	Correct	5	258	263	
	Total	10	278	288	**
High School (n = 51)	Wrong	0	5	5	
	Correct	2	44	46	
	Total	2	49	51	

**$p < .01$

Question 20 stated, "Cats that are allowed to live outside tend to live a longer, healthier life." Results show that correct responses increased from 164 on the pretest to 232 on the posttest. Results of the McNemar analysis indicated a statistically significant increase between the pretest and posttest for all cases and for the middle school group at the $p =< .001$ level. Results were not significant for the high school group. This is congruent with the lesson plans of the two-week high school program that rarely includes in depth coverage of specific cat information (see Table 4.51).

Table 4.51

Crosstabulation of TLC™ *True/False Question #20*
"Cats that are allowed to live outside tend to live a longer, healthier life."

Cases	Pretest	Posttest		N	
		Wrong	Correct		
All Cases	Wrong	70	105	175	
(N = 339)	Correct	37	127	164	
	Total	107	232	339	***
Middle School	Wrong	58	92	150	
(n = 228)	Correct	31	107	138	
	Total	89	199	288	***
High School	Wrong	12	13	25	
(n = 51)	Correct	6	20	26	
	Total	18	33	51	

*** $p < .001$

The McNemar test results showed that for 13 of the 18 individual knowledge questions there was a significant increase between correct pretest and posttest responses, for all cases and the middle school group. High school students had a significant increase for three questions. The majority of high school students knew the correct response for both the pretest and posttest on all other questions. Figure 4.6 shows the individual questions that had a statistically significant difference, for all cases and by school level.

		All Cases	Middle School	High School
q1	Animals and People have similar needs and can feel pain.	✚	✚	✚
q2	Running up to a dog you don't know is ok as long as you're nice.	✔	✔	✚
q3	Getting an animal spayed or neutered will reduce the number of homeless animals.	✔	✔	✔
q4	It's best to wait until your pet has had one litter before you spay or neuter them.	✔	✔	✚
q6	It's okay to leave your dog in parked car as long as you open the window a little.	✔	✔	✔
q7	There is a law that says pets must have food, water, and medical care.	✔	✔	✔
q8	It's okay to hit a dog when training if he/she went to the bathroom in the house.	✔	✔	✚
q9	There will always be enough homes for the cats and dogs that are born.	✔	✔	✚
q10	It's best to be violent if someone is threatening you with violence.	✚	✚	✚
q11	There are laws that protect children and animals from neglect and abuse there are officer who investigate cruelty and neglect of animals.	✔	✔	✚
q12	Many times conflict can be resolved by talking.	✔	✔	✚
q13	I know of place that I can go or call for help if anyone or I know is ever abused or a victim of violence.	✔	✔	✚
q14	It's better to abandon an animal in the street than to bring him/her to a shelter where he/she might be euthanized.	✔	✔	✚
q15	It's okay for a parent to hit a child or another if they're angry.	✚	✚	✚
q16	A raccoon or opossum would make a great house pet.	✚	✚	✚
q17	It's okay to train animals to fight as long as people enjoy watching the fight.	✔	✔	✚
q19	It is okay for me to hit another person if I am angry.	✚	✚	✚
q20	Cats that are allowed to live outside tend to live a longer, healthier life.	✔	✔	✚

Figure 4.6. This figure illustrates the individual questions that had statistically significant increases in the number of correct answers from pretest to posttest, by all cases and school level. *Note.* ✚Knew correct answer in the pretest and posttest, ✔ increased in correct answer.

TLC™ AOS Attitudes Data Analysis

Analysis of TLC™ attitude items overall scale and subscales. The overall attitude scale score was an average of responses to the 10 attitude items. The subscale scores were an average of responses to the items on each of the subscales. A paired sample t-test was run on the overall scale and the three subscales for all cases and by school level. There was no statistical difference, in any direction, between pretest and posttest scores for the overall average of the 10 items or for any of the three subscales (animals, others, and self) at the $p < .10$ level, either for all cases or by school level.

Analysis of TLC™ 10 individual attitude items. A paired samples t-test analysis was run for the pretest and posttest data for each of the 10 individual attitude items, for all cases and by school level. The t-tests run on each individual item showed that participants had a statistically significant change from the pretest to the posttest in reported attitudes for 6 of the 10 items. Of the 6 items, scores increased for 2 and decreased for 4.

Item 1, "I feel good about myself" showed an significant increase from a position closer to "sometimes" in the pretest ($M = 3.14$) to the high end of "most of the time" in the posttest ($M = 3.21$), with $t(338) = 1.86$, $p = .062$. Item 7, which is "confidence with public speaking," showed a slight shift in position between the "sometimes" and "most of the time" positions, moving from ($M = 2.44$) in the pretest to ($M = 2.66$) in the posttest, with $t(338) = 3.80$, $p = .000$.

For the other 4 items there was a decrease in the attitude score, with most of the shifts moving between the "most of the time" and "sometimes" positions. Item 3, which

states, “I can control my anger,” showed a decrease between the pretest (*M* = 3.06) and posttest (*M* = 2.88) mean score, with t(338) = -3.59, *p* = .000. Item 4, “I get along with others in a group,” also had a decrease from pretest (*M* = 3.19) to posttest (*M* = 3.10), with t(338) = -2.06, *p* = .040. Item 8, “I look forward to school” showed a decrease from pretest (*M* = 3.24) to posttest (*M* = 3.04), with t(338) = -3.87, *p* = .000. Item 9, “I have friends and peer support,” had a decrease from pretest (*M* = 3.27) to posttest (*M* = 3.16), with t(338) = -2.17, *p* = .029. Items 3, 4, 8, and 9 showed an initially surprising decrease in means. Although counter-intuitive to what might be considered progress, it is possible that students took the program’s self-reflection lessons to heart and felt more comfortable giving honest answers on the posttest (see Table 4.52 and Table 4.53).

Table 4.52

Paired Sample Statistics for TLC™ Attitudes Individual Items – All Cases

Items	Pre and Post Scores (N = 339)	Mean	Std. Deviation
"I feel good about myself"	Item 1 Pre:	3.14	.77
	Item 1 Post	3.21	.78
"I respect living things"	Item 2 Pre	3.55	.67
	Item 2 Post	3.55	.65
"I can control my anger"	Item 3 Pre	3.06	.79
	Item 3 Post	2.88	.77
"I get along with others"	Item 4 Pre	3.19	.78
	Item 4 Post	3.10	.73
"I get to know someone first"	Item5 Pre	3.25	.83
	Item 5 Post	3.30	.82
"I feel sad when an animal suffers"	Item 6 Pre	3.78	.53
	Item 6 Post	3.80	.49
"I feel confident public speaking"	Item 7 Pre	2.44	.90
	Item 7 Post	2.66	.94
"I look forward to school"	Item 8 Pre	3.24	.87
	Item 8 Post	3.04	.92
"I have friends and peer support"	Item 9 Pre	3.27	.83
	Item 9 Post	3.16	.86
"I feel sad when a person suffers"	Item 10 Pre	3.58	.73
	Item10 Post	3.53	.73

The t-test statistics for the 10 individual attitude items are shown in Table 4.53.

Table 4.53

Paired Sample t-test Results for TLC™ Attitudes Individual Items – All Cases

All Cases and Items (N = 339)	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
Item 1: Feel good about myself"	.07	.75	.00	15	1.86	.063
Item 2 "I respect living things"	.00	.73	.07	.08	.07	.941
Item 3 "I can control my anger"	-.17	.90	-.27	.08	-3.59	.000
Item 4 "I get along with others"	-.09	.86	-.19	.00	-2.06	.040
Item 5 "I get to know someone first"	.04	.98	.05	.15	.87	.381
Item 6 "I feel sad if animal suffers"	.02	.59	.04	.08	.63	.525
Item 7 "I feel good public speaking"	.21	1.02	.10	.32	3.80	.000
Item 8 "I look forward to school"	-.20	.95	-.30	.09	-3.87	.000
Item 9 "I have friends and peers"	-.10	.91	-.20	.01	-2.18	.029
Item 10 "I feel sad if person suffers"	-.04	.48	-.12	.03	-1.16	.246

A paired samples t-test was also run by school level. Similar to the results for total cases, middle school participants had a statistically significant change between the pretest and posttest for the same 6 items at the $p < .10$ level. Again, most of the shifts took place around the "3= most of the time" code. Item 1, which states, "I feel good about myself," showed an increase between pretest ($M = 3.11$) and posttest ($M = 3.19$) with $t(287) = 1.59$, $p = .051$. Item 7 "I feel confident public speaking, also showed an increase between pretest ($M = 2.38$) and posttest ($M = 2.62$) mean scores, with t(287), 3.76, $p = .000$. Item 3, "I can control my anger" showed a decrease between pretest ($M = 3.07$) and posttest ($M = 2.89$), with $t(287) = -3.54$ $p = .000$. Item 4, "I get along with others in a group" had a decrease between pretest ($M = 3.21$) and posttest ($M = 3.09$) mean scores, with $t(287) = -2.24$, $p = .025$. Item 8, "I look forward to school" also had a decrease between pretest ($M = 3.25$) and posttest ($M = 3.03$) mean scores, with $t(287) = -3.93$, $p = .000$. Item 9, "I have friends and peer support showed a

decrease between pretest (M = 3.31) and posttest (M = 3.22) mean scores, with t(287) =-1.87, p = .062 (see Table 4.54 and Table 4.55).

Table 4.54

Paired Sample Statistics for TLC™ "Attitudes" Individual Items – Middle School

Items	Middle School Pre and Post (n = 288)	Mean	Std. Deviation
"I feel good about myself"	Item 1 Pre:	3.11	.76
	Item 1 Post	3.19	.77
"I respect living things"	Item 2 Pre	3.55	.65
	Item 2 Post	3.57	.63
"I can control my anger"	Item 3 Pre	3.07	.79
	Item 3 Post	2.89	.78
"I get along with others"	Item 4 Pre	3.21	.77
	Item 4 Post	3.09	.74
"I get to know someone first"	Item5 Pre	3.27	.83
	Item 5 Post	3.30	.82
"I feel sad when an animal suffers"	Item 6 Pre	3.81	.47
	Item 6 Post	3.81	.49
"I feel confident public speaking"	Item 7 Pre	2.38	.89
	Item 7 Post	2.62	.93
"I look forward to school"	Item 8 Pre	3.25	.86
	Item 8 Post	3.03	.92
"I have friends and peer support"	Item 9 Pre	3.31	.81
	Item 9 Post	3.22	.83
"I feel sad when a person suffers"	Item 10 Pre	3.61	.71
	Item10 Post	3.56	.71

The t-test statistics for the 10 individual attitude items split by middle school are shown in Table 4.55.

Table 4.55

Paired Sample T-Test Results for TLC™ "Attitudes" Individual Items – Middle School

Middle School (N = 288)	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
Item 1: Feel good about myself"	.08	.75	.00	.14	1.95	.051
Item 2 "I respect living things"	.02	.73	.06	.10	.48	.639
Item 3 "I can control my anger"	-.18	.89	-.08	.29	-3.54	.000
Item 4 "I get along with others"	-.11	.86	-.01	.15	-2.24	.025
Item 5 "I get to know someone first"	.03	.97	.08	.14	.54	.587
Item 6 "I feel sad if animal suffers"	.00	.56	-.06	.06	.10	.917
Item 7 "I feel good public speaking"	.23	1.04	-.11	.35	3.83	.000
Item 8 "I look forward to school"	-.21	.94	-.10	.32	-3.93	.000
Item 9 "I have friends and peers"	-.09	.84	.00	.19	-1.87	.062
Item 10 "I feel sad if person suffers"	-.04	.71	-.03	.12	-1.06	.288

The analyses of the overall mean score for the 10-item attitude scale and the 3 subscales of attitude towards animals, self, and others indicated there were no significant changes, with all cases or by school level. The analysis of the individual items showed significant increases and decreases between pretest and posttest means across all cases and for middle school students, largely shifting around the "*most of the time*" response option. There were no significant differences with high school students. Figure 4.7 illustrates the significance found in the 10-item attitude scale and subscales, by all cases and school level.

Attitude Survey	All Cases	Middle School	High School
Overall Attitude Scores			
Attitude about animals			
Attitude about others			
Attitude about Self			
Item 1: I feel good about myself	✔	✔	
Item 2: I respect living things			
Item 3: I can control my anger	✗	✗	
Item 4: I get along with other people in the group	✗	✗	
Item 5: I get to know someone before I decided if I like them or not			
Item 6: I feel sad when I see any animal suffering			
Item 7: I feel confident speaking in front of other people	✔	✔	
Item 8: I look forward coming to school every day	✗	✗	
Item 9: I feel I have friends and peer support at school	✗	✗	
Item 10: I feel sad when I see a person suffering			

Figure 4.7. This figure illustrates the statistically significant individual items, overall and subscale scores by all cases and school level. *Note.* ✔Significant increase, ✗ significant decrease.

jTLC™ AOS Knowledge Data Analysis

The data for the jTLC™ AOS were collected, matched, given an identification number, and digitized for analysis. There were 47 cases. The variable of gender was used in the analysis. Analyses of the data were done with the McNemar test for binary data and paired sample t-tests for all scale and subscale data.

jTLC™ AOS descriptive statistics. Pre and post AOS surveys were administered to the jTLC™ program participants. There were 53 jTLC™ surveys. Six of the surveys had pretests with no accompanying posttests due to attrition from the program. This left 47 paired cases for analysis. Gender was a variable for all 47 cases,

and was evenly distributed with 23 female and 24 male participants. Descriptive statistics for jTLC™ participants and variables can be found in Table 4.56

Table 4.56

Descriptive Statistics for jTLC™ Cases by Gender

Gender	Frequency	Percent
Female	23	48.9%
Male	24	51.1%
Total	47	100.00%

Analysis of jTLC™ knowledge scale and subscales. The AOS for JTLC™ had 15 questions and the total score was the number of correct answers. A paired samples t-test was conducted for the total scale to compare pretest and posttest scores for all cases (N = 47) and by gender, with females (n = 23) and males (n = 24). The average pretest score for all cases was 11.23 out of 15, and the average posttest score for all cases was 13.48. The paired samples t-test indicated that the increase between pre (M = 11.23) and post (M = 13.48) tests for all jTLC cases was statistically significant, with t(46) = 7.97, p =.000 (see Table 4.57 and Table 4.58).

Table 4.57

Paired Sample Statistics for jTLC™ 15 True/False Knowledge Questions

Cases	Pre and Post Scores	Mean	Std. Deviation
All Cases (N = 47)	15 q T/F Pre Scores	11.23	2.33
	15 q T/F Post Scores	13.48	1.34
Female (n = 23)	15 q T/F Pre Scores	10.56	2.65
	15 q T/F Post Scores	13.65	1.02
Male (n = 24)	15 q T/F Pre Scores	11.87	1.80
	15 q T/F Post Scores	13.33	1.60

Females showed an increase in total score from the pretest (M = 10.56) to the posttest (M = 13.65) and this change was statistically significant, with t(22) = 6.18, p = .000. Males had an increase between pretest (M = 11.87) and posttest (M = 13.33) scores, and this change was statistically significant, with t(23) = 5.56, p = .000 (see Table 4.57 and Table 4.58).

Table 4.58

Paired Sample T-Test Results for jTLC™ 15 True/False Knowledge Questions

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	p
			Lower	Upper		
All Cases (N = 47)	2.25	1.93	1.68	2.82	7.97	.000
Female (n = 23)	3.08	2.17	2.14	4.02	6.81	.000
Male (n = 24)	1.44	1.28	.91	2.00	5.56	.000

Analysis of jTLC™ "hard facts" knowledge subscale. The *hard facts* subscale had 7 true/false questions and the score was the number of correct answers. A paired samples t-test was run for all cases, and by gender. The average pretest score for all cases was 4.80 out of 7, and the average posttest score for all cases was 5.87. The paired

sample t-test for the subscale of *hard facts* showed the increase from the pretest (M = 4.80) to the posttest (M = 4.89) mean score was statistically significant, with t(46) = 5.87, p = .000 (see Table 4.59 and Table 4.60).

Table 4.59

Paired Sample Statistics for jTLC™ True/False "Hard Facts" Knowledge Subscale

Cases	Pre and Post Scores	Mean	Std. Deviation
All Cases	Hard Facts Pre Scores	4.81	1.20
(N = 47)	Hard Facts Post Scores	5.87	.81
Female	Hard Facts Pre Scores	4.56	1.30
(n = 23)	Hard Facts Post Scores	6.00	.73
Male	Hard Facts Pre Scores	5.04	1.81
(n = 24)	Hard Facts Post Scores	5.75	.98

Females increased from pretest (M = 4.56) to posttest (M = 6.00) mean scores and the difference was statistically significant, with t(46) = 5.56, p = .000. Males also showed improvement between the pretest (M = 5.04) and posttest (M = 5.75) scores, and the difference was statistically significant, with t(45) = 2.99, $p < .01$ (see Table 4.59 and Table 4.60).

Table 4.60

Paired Sample T-Test Results for jTLC™ True/False "Hard Facts" Knowledge Subscale

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
All Cases (N = 47)	1.06	1.24	.69	1.42	5.87	.000
Female (n = 23)	.14	1.23	.89	1.96	5.56	.000
Male (n = 24)	.70	1.16	.21	1.19	2.99	.007

Analysis of jTLC™ "soft facts" knowledge subscale. The *soft facts* subscale had 8 statements and the score was the number of correct answers. A paired samples t-test was run on the subscale for all cases, and by gender. The average pretest score for all cases was 6.42 out of 8, and the average posttest score for all cases was 7.61. The paired sample t-test indicated a statistically significant increase from pretest (M = 6.42) to posttest (M = 7.61) scores, with t(46) = 5.56, p = .000 (see Table 4.61 and Table 4.62).

Table 4.61

Paired Sample Statistics for jTLC™ True/False "Soft Facts" Knowledge Subscale

		Mean	Std. Deviation
All Cases (N = 47)	Soft Facts Pre Scores	6.42	1.58
	Soft Facts Post Scores	7.61	.64
Female (n = 23)	Soft Facts Pre Scores	6.00	1.83
	Soft Facts Post Scores	7.65	.48
Male (n = 24)	Soft Facts Pre Scores	6.83	1.20
	Soft Facts Post Scores	7.58	.77

Females mean scores increased between the pretest (M = 6.00) and posttest (M = 7.65) and the difference was statistically significant, with t(46) = 4.67, p = .000. Males had started with higher mean scores than females, but still showed improvement

from pretest (M = 6.83) to posttest (M = 7.58) mean scores, with t(45) = 3.42, $p < .01$ (see Table 4.61 and Table 4.62).

Table 4.62

Paired Sample T-Test Results for jTLC™ "Soft Facts" Knowledge Subscale

	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
All Cases (N = 47)	1.19	1.46	.76	1.62	5.56	.000
Female (N = 23)	1.65	1.69	.91	2.38	4.67	.000
Male (N = 24)	.75	1.07	0.29	1.20	3.42	.002

Analysis of jTLC™ "knowledge of animals" subscale. The *knowledge of animals* subscale had 10 questions and the total score was the number of correct answers. A paired samples t-test was run on the subscale, and then by gender. The average pretest score for all cases was 6.91 out of 10, and the average posttest score for all cases was 8.65. The paired samples t-test analysis indicated a significant increase in mean scores between pretest (M = 6.91) and posttest (M = 8.65), with t(46) = 8.24, p = .000 (see Table 4.63 and Table 4.64).

Table 4.63

Paired Sample Statistics for jTLC™ True/False "Knowledge of Animals" Subscale

Cases	Pre and Post Surveys	Mean	Std. Deviation
All Cases (N = 47)	Knowledge of Animals Pre	6.91	1.59
	Knowledge of Animals Post	8.65	1.17
Female (n = 23)	Knowledge of Animals Pre	6.52	1.87
	Knowledge of Animals Post	8.73	1.00
Male (n = 24)	Knowledge of Animals Pre	7.29	1.19
	Knowledge of Animals Post	8.58	1.28

Females increased their average number of correct responses between pretest (M = 6.52) and posttest (M = 8.73) and the difference was statistically significant, with t(22) = 7.06, p = .000. Males, similar to the results for the *soft fact* subscale, had a higher pretest mean score than females and increased their average number of correct responses from pretest (M = 7.29) to posttest (M = 8.58). The difference was statistically significant, with t(23) = 4.99, p = .000 (see Table 4.63 and Table 4.64).

Table 4.64

Paired Sample t-test Results for jTLC™ True/False "Knowledge of Animals" Subscale

	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	p
			Lower	Upper		
All Cases (N = 47)	1.74	1.45	1.31	2.17	8.24	.000
Female (n = 23)	2.21	1.50	1.56	2.86	7.06	.000
Male (n = 24)	1.29	1.26	.75	1.82	4.49	.000

Analysis of jTLC™ "knowledge of others" subscale. The *knowledge of others* subscale had 7 questions and the total score was the number of correct answers. A paired

samples t-test was run on the subscale for all cases and by gender. The average pretest score for all cases was 6.21 out of 7, and the average posttest score for all cases was 6.82. The results of the paired t-test showed that the increase from student pretest to posttest was statistically significant, with t(46) = 3.50, p = .001 (see Table 4.65 and Table 4.66).

Table 4.65

Paired Sample Statistics for jTLC™ True/False "Knowledge of Others" Subscale

Cases	Pre and Post Scores	Mean	Std. Deviation
All Cases (N = 47)	Knowledge of Others Pre	6.19	1.24
	Knowledge of Others Post	6.82	.43
Female (n = 23)	Knowledge of Others Pre	5.82	1.43
	Knowledge of Others Post	6.91	.28
Male (n = 24)	Knowledge of Others Pre	6.54	.93
	Knowledge of Others Post	6.75	.53

Female respondents increased their average scores between pre (M = 5.86) and post (M = 6.91) tests and the difference was statistically significant, with t(22) = 3.58, p = .002. Congruent with the results for the other subscales, males continue to have higher pretest scores than females. In this case, males also showed a potential ceiling effect, meaning there was not much room for improvement (see Table 4.65 and Table 4.66).

Table 4.66

Paired Sample T-Test Results for jTLC™ True/False "Knowledge of Others" Subscale

	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
All Cases (N = 47)	.63	1.22	.27	.99	3.57	.001
Female (n = 23)	1.08	1.41	.47	1.69	3.69	.002
Male (n = 24)	.20	.83	.14	.56	1.22	.233

Analysis of jTLC™ "empathy for animals" subscale. The *empathy for animals* subscale had 5 questions and total score was the number of correct answers. A paired samples t-test was run on the overall subscale, and split by gender. The average pretest score for all cases was 4.00 out of 5, and the average posttest score for all cases was 4.53. The paired sample t-test indicated the increase from the pretest to posttest was statistically significant, with t(46) = 4.538, p = .000 (see Table 4.67 and Table 4.68).

Table 4.67

Paired Sample Statistics for jTLC™ True/False "Empathy for Animals" Knowledge *Subscale*

Cases	Pre and Post Scores	Mean	Std. Deviation
All Cases (N = 47)	Empathy for Animals Pre	4.00	.85
	Empathy for Animals Post	4.53	.68
Female (n = 23)	Empathy for Animals Pre	4.08	.94
	Empathy for Animals Post	4.56	.66
Male (n = 24)	Empathy for Animals Pre	3.91	.15
	Empathy for Animals Post	4.50	.14

Females showed a statistically significant increase in correct responses from pretest (M = 4.08) to posttest (M = 4.56), with t(22) = -3.34, p = .002. Average correct

responses for males increased from pretest (*M* = 3.91*)* to posttest *(M* = 4.50) and the difference was statistically significant, with t(23) = 3.0, *p* = *.005.* Males had a lower pretest mean score than females (see Table 4.67 and Table 4.68).

Table 4.68

Paired Sample T-Test Results for jTLC™ True/False "Empathy for Animals" Knowledge Subscale

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two-tailed)	*p*
			Lower	Upper		
All Cases (N = 47)	.53	.80	.29	.76	4.53	.000
Female (n = 23)	.47	.66	.19	.76	3.44	.002
Male (n = 24)	.58	.92	.19	.97	3.07	.005

Analysis of jTLC™ "empathy for others" subscale. The *empathy for others* subscale had 5 questions and the total score was the number of correct answers. A paired samples t-test was run for the subscale, and split by gender. The average pretest score for all cases was 4.51 out of 5, and the average posttest score for all cases was 4.85. The paired t-test analysis indicated a statistically significant increase in responses from pretest to posttest, with t(46) = 2.48, $p < .01$ (see Table 4.69 and Table 4.70).

Table 4.69

Paired Sample Statistics for jTLC™ True/False "Empathy for Others" Knowledge Subscale

Cases	Pre and Post Scores	Mean	Std. Deviation
All Cases (N = 47)	Empathy for Others Pre	4.51	.90
	Empathy for Others Post	4.85	.41
Female (n = 23)	Empathy for Others Pre	4.39	.89
	Empathy for Others Post	4.91	.28
Male (n = 24)	Empathy for Others Pre	4.62	.92
	Empathy for Others Post	4.79	.50

The t-test results also indicated that there was a statistically significant increase between females' pretest (M = 4.39) and posttest (M = 4.91) average scores and the difference was statistically significant, with t(22) = 2.78, $p < .01$. Males had a ceiling effect in their responses; with a pretest mean score of 4.62 out of 5 (see Table 4.69 and Table 4.70).

Table 4.70

Paired Sample T-Test Results for jTLC™ True/False "Empathy for Others" Knowledge Subscale

Cases	Difference Between Means	Std. Deviation	95% Confidence Interval		t	$p < .05$ (two tailed)
			Lower	Upper		
All Cases (N = 47)	.34	.93	.06	.61	2.48	.017
Female (n = 23)	.52	.89	.13	.91	2.78	.011
Male (n = 24)	.16	.96	.24	.57	.848	.405

The overall and subscale scores based on the 15-question true/false (right/wrong) knowledge questions responded to by the jTLC participants had significant pretest to posttest difference in correct responses for all cases and for both the middle and high

school grade level. Effect sizes for the significant differences ranged from small (.20 - .49) to large (.80 – 1.00), with most in the medium (.50 - .79) and large range. Figure 4.8 illustrates the significance found on the overall and subscale scores, including middle school and high school, and effect size.

	All cases	Female	Male
Overall score knowledge questions	✔ Lg	✔ Lg	✔ Lg
Hard fact subscale	✔ Lg	✔	✔ Md
Soft fact subscale	✔ Lg	✔ Lg	✔ Lg
Knowledge of animals subscale	✔ Lg	✔ Lg	✔ Lg
Knowledge of others subscale	✔ Md	✔ Md	
Empathy toward animals knowledge subscale	✔ Md	✔ Md	✔ Md
Empathy toward others knowledge subscale	✔ Sm	✔ Md	

Figure 4.8. This figure represents the significant findings at the p<.05 level or better for the 15 question knowledge overall score and subscales, by all cases and school level. ✔= Significant increase between pretest and posttest means at $p < .05$ or better Effect size: Sm. = (.20 - .49) Md. = (.50 - .79) Lg. = (.80 – 1.00).

Analysis of jTLC™ 15 individual true false knowledge questions. The McNemar test was run on all 15 individual true/false (right and wrong answer) knowledge questions. Seven had significant increases in correct responses from the pretest to the posttest.

Six of the eight non-significant questions (q1, q12, q14, q15, q17, q19) reflected that the majority of the students knew the correct answers on both the pretest and posttest. There was also no negative change for the jTLC participants on these questions. Question 1 on the jTLC™ AOS survey was "Animals and people have similar basic needs and can both feel pain." All 47 participants had the correct answer between the

pretest and posttest. Question 4 stated, "It is best to wait until your pet has had one litter before you spay or neuter." Only 24% of responses changed from wrong to correct from pretest to posttest for this question. Question 12 was "Many times conflict can be resolved by talking." Nine out of 10 respondents knew the correct answer on the pretest and posttest for this question. Question 14 was "It is better to abandon a pet in the street then bring him or her to the animal shelter where he/she might be euthanized." A little more than three quarters of respondents answered this question correctly on the pretest. Question 15 states "It's okay for a parent to hit a child if they're angry." The results show that 9 out of 10 respondents knew the correct answer on the pretest and posttest for this question. Question 17 stated, "It's okay to train animals to fight as long as people enjoy watching the fight." Almost all participants (98%) selected the correct response on the pretest and posttest for this question. Question 19 was "It's OK for me to hit another person if I am angry." Results show that the majority (90%) knew the correct answer on both the pre and post survey for this question. Question 20 stated, "Cats that are allowed to live outside tend to live a longer, healthier life." Result show that 40% of the respondents knew the correct answer on both the pretest and posttest for this question.

Seven individual questions showed statistically significant changes in mean scores for number of correct responses from the pretest to the posttest. Question 3 asked "Getting an animal spayed or neutered will reduce the number of homeless animals. " Results show that 17 more of the 47 participants answered the question correctly on the posttest than did on the pretest. This was statistically significant, at the $p < .001$ level for all cases and for females at the $p < .01$ level. Results were not significant for males (see Table 4.71).

Table 4.71

Crosstabulation of jTLC™ *True/False Question #3 "Getting an animal spayed or neutered will reduce the number of homeless animals."*

Cases	Pretest	Posttest		Total	
		Wrong	Correct		
All Cases	Wrong	5	18	23	
(N = 47)	Correct	1	23	24	
	Total	6	41	47	***
Female	Wrong	1	13	14	
(n = 23)	Correct	1	8	9	
	Total	2	21	23	**
Male	Wrong	4	5	9	
(n = 24)	Correct	0	15	15	
	Total	4	20	24	

**$p < .01$ and ***$p < .001$

Question 7 was "There is a law that says pets must have food, water, and medical care." Almost one third of the students (14 of 47) showed an increase from the incorrect pretest response to the correct posttest response. The results were statistically significant at the $p < .001$ level for all cases, and for males, at the $p < .05$ level (see Table 4.72).

Table 4.72

Crosstabulation of jTLC™ *True/False Question #7 "There is a law that says pets must have food, water, and medical care.*"

Cases	Pretest	Posttest		Total	
		Wrong	Correct		
All Cases	Wrong	1	14	15	
(N = 47)	Correct	0	32	32	
	Total	1	46	47	***
Female	Wrong	0	8	8	
(n = 23)	Correct	0	15	15	
	Total	0	23	23	
Male	Wrong	1	6	7	
(n = 24)	Correct	0	17	17	
	Total	1	23	24	*

***p < .001 and *p < .05

Question 8 was, "It's okay to hit a dog when you are training if he/she goes to the bathroom in the house." The results of this question are meaningful because many of the program participants were arrested for cruelty towards animals. Results show that 14 of 47 students increased in the correct responses from pretest to posttest. The increase was statistically significant at the $p < .001$ level for all cases and for both genders at $p < .01$ level (see Table 4.73).

Table 4.73

Crosstabulation of jTLC™ *True/False Question #8 "It's okay to hit a dog when you are training is he/she goes to the bathroom in the house.*"

Cases	Pretest	Posttest		Total	
		Wrong	Correct		
All Cases	Wrong	0	14	14	
(N = 47)	Correct	0	33	33	
	Total	0	47	47	***
Female	Wrong	0	6	6	
(n = 23)	Correct	0	17	17	
	Total	0	23	23	**
Male	Wrong	0	8	8	
(n = 24)	Correct	0	16	16	
	Total	0	24	24	**

**$p < .01$ and ***$p < .001$

Question 9 stated, "There will always be enough homes for all of the cats and dogs that are born." The results indicated that the increase from 28 correct pretest responses to 41 correct posttest responses was significant at the $p < .001$ level. The increase was statistically significant at the $p < .01$ level for females. Males did not have a significant increase because the males tended to know the correct answer on the pretest (see Table 4.74).

Table 4.74

Crosstabulation of jTLC™ *True/False Question #9 "There will always be enough homes for all of the cats and dogs that are born."*

Cases	Pretest	Posttest		Total	
		Wrong	Correct		
All Cases	Wrong	5	14	19	
(N = 47)	Correct	1	27	28	
	Total	6	41	47	***
Female	Wrong	4	10	14	
(n = 23)	Correct	0	9	9	
	Total	4	19	23	**
Male	Wrong	1	4	5	
(n = 24)	Correct	1	18	19	
	Total	2	22	24	

**$p < .01$ and ***$p < .001$

Question 10 stated, "It is best to be violent when someone is threatening you with violence." Thirty-six participants had the question right on the pretest and 44 had it correct on the posttest. This positive change was significant at the $p < .05$ level for all cases. The difference was not significant by gender. Interestingly, all of the program participants are mandated to attend this program for their violent acts. This suggests that either the students "knew" the answer to select or that there is a distinct difference between the students' knowing what is right and behaving correctly (see table 4.75).

Table 4.75

Crosstabulation of jTLC™ *True/False Question #10 "It is best to be violent when someone is threatening you with violence."*

Cases	Pretest	Posttest		Total	
		Wrong	Correct		
All Cases	Wrong	1	10	11	
(N = 47)	Correct	2	34	36	
	Total	3	44	47	*
Female	Wrong	0	7	7	
(n = 23)	Correct	1	15	16	
	Total	1	22	23	
Male	Wrong	1	3	4	
(n = 24)	Correct	1	19	20	
	Total	2	22	24	

*$p < .05$

Question 11 states, "There are laws that protect children and animals from neglect and abuse, and there are officers of the law that investigate cruelty and neglect of animals." Five participants had it wrong on the pretest and no students had the answer wrong on the posttest. This change was statistically significant at the $p < .05$ level for all cases. There was a ceiling effect for males, with 23 out of 24 students' knowing the correct answer on the pretest (see Table 4.76).

Table 4.76

Crosstabulation of jTLC™ *True/False Question #11"There are laws that protect children and animals from neglect and abuse and there are officers of the law that investigate cruelty and neglect of animals."*

Cases	Pretest	Posttest		Total	
		Wrong	Correct		
All Cases	Wrong	0	5	5	
(N = 47)	Correct	0	42	42	
	Total	0	47	47	*
Female	Wrong	0	4	4	
(n = 23)	Correct	0	19	19	
	Total	0	23	23	
Male	Wrong	0	1	1	
(n = 24)	Correct	0	23	23	
	Total	0	24	24	

*$p < .05$

Question 13 stated, "I know of places I can go or call for help if I or anyone else I know is ever abused or is a victim of violence." Based on all cases, a few (9) students had the question wrong on the pretest. In the posttest all but one student gave the correct answer. The results were significant at the $p < .05$ level for all cases (see Table 4.77).

Table 4.77

Crosstabulation of jTLC™ *True/False Question #13 I know of places I can go or call for help if I or anyone else I know is ever abused or is a victim of violence"*

Cases	Pretest	Posttest		Total	
		Wrong	Correct		
All Cases	Wrong	0	9	9	
(N = 47)	Correct	1	37	38	
	Total	1	46	47	*
Female	Wrong	0	8	8	
(n = 23)	Correct	0	15	15	
	Total	0	23	23	
Male	Wrong	0	1	1	
(n = 24)	Correct	1	22	23	
	Total	0	24	24	

*$p < .05$

The McNemar test indicated that 7 of the 15 individual knowledge questions showed a significant increase between correct pretest and posttest responses, for all cases. Significance varied by gender. For the non-significant questions, the majority (85%) of the students knew the correct response for the pretest and posttest. Figure 4.9 illustrates the individual questions that had significant increases in correct responses, for all cases and gender.

		All Cases	Females	Males
q1	Animals and People have similar needs and can feel pain.	✚	✚	✚
q3	Getting an animal spayed or neutered will reduce the number of homeless animals.	✔	✔	
q4	It's best to wait until your pet has had one litter before you spay or neuter them.	✚		
q7	There is a law that says pets must have food, water, and medical care.	✔		✔
q8	It's okay to hit a dog when training if he/she went to the bathroom in the house.	✔	✔	✔
q9	There will always be enough homes for the cats and dogs that are born.	✔	✔	
q10	It's best to be violent if someone is threatening you with violence.	✔		✚
q11	There are laws that protect children and animals from neglect and abuse there are officer who investigate cruelty and neglect of animals.	✔		✚
q12	Many times conflict can be resolved by talking.	✚	✚	✚
q13	I know of place that I can go or call for help if anyone or I know is ever abused or a victim of violence.	✔		✚
q14	It's better to abandon an animal in the street than to bring him/her to a shelter where he/she might be euthanized.	✚	✚	✚
q15	It's okay for a parent to hit a child or another if they're angry.	✚	✚	✚
q17	It's okay to train animals to fight as long as people enjoy watching the fight.	✚	✚	✚
q19	It is okay for me to hit another person if I am angry.	✚	✚	✚
q20	Cats that are allowed to live outside tend to live a longer, healthier life.			

Figure 4.9. This Figure illustrates the individual questions that had statistically significant difference at the $p < .05$ level or better from pretest to posttest, by all cases and gender. *Note.* ✔Significant increase in correct answers, ✚ knew the correct answers on the pretest and posttest.

jTLC™ AOS Attitudes Data Analysis

Analysis of jTLC™ attitude overall scale. The overall scale was an average of all AOS attitude question responses. A paired sample t-test was run on the 10-item attitude survey, then split by gender. The average pretest score for all cases was 3.17 out

of 4, and the average posttest score for all cases at 3.30. A paired sample t-test was completed on all 10 items and showed a significant increase between pretest (M = 3.17) and posttest (M = 3.30) scores, with t(46) = 2.85, p = .006. The pretest to posttest results for the overall attitude scale for jTLC™ differed greatly from the overall TLC™ attitude scale results. It is possible that jTLC™ students, due to the nature of why they are in the program, have more impetus for being open to changing their attitudes or the more intense program brings a stronger message and effect (see Table 4.78).

Table 4.78

Paired Sample Statistics for jTLC™ 10 Item Overall Attitude Scale

Cases	Subscales	Mean	Std. Deviation
All Cases	10 Items Overall Pre	3.17	.42
(N = 47)	10 Items Overall Post	3.30	.41
Female	10 Items Overall Pre	3.30	.39
(n = 23)	10 Items Overall Post	3.35	.39
Male	10 Items Overall Pre	3.04	.43
(n = 24)	10 Items Overall Post	3.25	.42

The female mean attitude pretest scores started out very high (3.3 out of 4), which would make it difficult to have a significant increase. Males showed a significant increase between pretest (M = 3.04) and posttest overall scores (M = 3.25), with t(24) = 3.75, p = .001 (see Table 4.78 and Table 4.79).

Table 4.79

Paired Sample T-Test Results for jTLC™ Attitudes Scale

Cases	Subscales	Difference Between Means	Std. Deviation	95% Confidence Interval		t	$p < .05$ (two tailed)
				Lower	Upper		
All Cases (N = 47)	Entire Scores	.12	.31	.03	22	2.85	.006
Female (n = 23)	Entire Scores	.04	.32	.09	.18	.63	.531
Male (n = 24)	Entire Scores	.21	.27	.09	.32	3.75	.001

Analysis of jTLC™ attitude subscales. A paired sample t-test was run on the three *attitude* subscales of *attitudes towards animals, attitudes towards others, and attitudes about self*, for all cases and by gender. The subscale scores were computed as the average score across all items in each of the subscales. The average pretest score for *attitudes towards animals* subscale was 3.44 out of 4, and the average posttest score was 3.70. The t-test indicated that the increase from pretest scores ($M = 3.44$) to posttest scores ($M = 3.70$) was significant, with $t(46) = 3.44$, $p = .001$. The average pretest score for *attitudes towards others* subscale was 3.32 out of 4, and the average posttest score was 3.43. The results showed a significant increase between the pretest ($M = 3.32$) and the posttest ($M = 3.43$) mean, with $t(46) = 2.02$, $p = .049$. The average pretest score for *attitudes towards self* subscale was 2.96 out of 4, and the average posttest score was 3.07. The increase between pretest ($M = 2.96$) and posttest ($M = 3.07$) mean score was statistically significant, with $t(46) = 2.10$, $p = .041$ (see Tables 4.80 and 4.81).

Table 4.80

Paired Sample Statistics for jTLC™ Attitude Subscales

Cases	Subscales	Mean	Std. Deviation
All Cases (N = 47)	Attitudes towards Animals Pre	3.44	.54
	Attitudes toward Animals Post	3.70	.49
	Attitudes towards Others Pre	3.32	.50
	Attitudes towards Other Post	3.43	.40
	Attitudes towards Self Pre	2.96	.47
	Attitudes towards Self Post	3.07	.53
Female (n = 23)	Attitudes towards Animals Pre	3.56	.48
	Attitudes toward Animals Post	3.82	.44
	Attitudes towards Others Pre	3.43	.44
	Attitudes towards Other Post	3.47	.34
	Attitudes towards Self Pre	3.09	.45
	Attitudes towards Self Post	3.11	.53
Male (n = 24)	Attitudes towards Animals Pre	3.33	.58
	Attitudes toward Animals Post	3.58	.52
	Attitudes towards Others Pre	3.21	.54
	Attitudes towards Other Post	3.39	.45
	Attitudes towards Self Pre	2.84	.46
	Attitudes towards Self Post	3.04	.54

The paired sample t-test indicated a statistically significant increase on the *attitudes towards animals* subscale for females, with $t(23) = 2.15$, $p = .043$ and for males, with $t(24) = 2.93$, $p = .007$.

Males showed a significant increase on the *attitudes towards others* subscale between pretest ($M = 3.31$) and posttest ($M = 3.39$) scores, with $t(24) = 2.02$, $p = .039$. Males also showed a significant increase on the *attitudes towards self* subscale between

the pretest (M = 2.84) and the posttest (M = 3.04) scores, with t(24) = 3.32, p = .003 (see Table 4.80 and Table 4.81). The change for females was not significant on these two subscales.

Table 4.81

Paired Sample T-Test Results for jTLC™ Attitude Subscales

Cases	Subscales	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two tailed)	*p*
				Lower	Upper		
All Cases (N = 47)	Attitudes towards Animals	.25	.49	.10	.40	3.51	.001
	Attitudes towards Others	.11	.37	.00	.22	2.02	.049
	Attitudes towards Self	.11	.36	.00	.21	2.10	.041
Female (n = 23)	Attitudes towards Animals	.26	.58	.00	.51	2.15	.043
	Attitudes towards Others	.04	.35	.10	.19	.59	.559
	Attitudes towards Self	.01	.40	.15	.19	.20	.838
Male (n = 24)	Attitudes towards Animals	.25	.41	.07	.42	2.93	.007
	Attitudes towards Others	.17	.39	.00	.34	2.18	.039
	Attitudes towards Self	.20	.29	.07	.32	3.32	.003

Analysis of jTLC™ 10 individual attitude items. A paired sample t-test was run on the individual *attitude* items, and then split by gender. Paired sample t-tests were run for each individual item and the results showed that 8 of the 10 items had an increase in mean scores and statistically significant differences for 4 of the 8 items.

Item 2, which states "I respect all living things," had a significant increase between pre (M = 3.38) and post (M = 3.61) test mean scores, with t(46) = 2.20, p = .033. Item 6, "I feel sad when I see an animal suffering," showed a significant increase between pretest (M = 3.51) and posttest (M = 3.78) mean scores, with t(46) = 3.08, p = .003. This item is particularly important since some of the students in jTLC™ were participants because of animal cruelty. Item 7, "I feel confident speaking in front of other people," increased in mean scores from pretest (M = 2.68) to posttest (M = 3.02) and the change was statistically significant, with t(46) = 2.54, p = .014. Finally, item 10, "I feel sad when I see a person suffering," increased between pretest (M = 3.21) and posttest (M = 3.46) mean scores and the difference was statistically significant, with t(46) = 2.06, p = .044. This item is important too since those students in jTLC™ who did not commit animal abuse did commit a violent act towards another person.

There were very few significant differences found when split by gender. Males showed an improvement on one question, "I feel sad when I see an animal suffer," between the pretest mean (M = 3.41) and the posttest mean (M = 3.71), with t(24) = 2.59, p < .01 (see Table 4.82 and Table 4.83).

Table 4.82

Paired Sample Statistics for jTLC™ Individual Attitudes Items – All Cases

Items		Mean	Std. Deviation
"I feel good about myself"	Item 1 Pre	3.08	.80
	Item 1 Post	3.23	.78
"I respect living things"	Item 2 Pre	3.38	.70
	Item 2 Post	3.61	.64
"I can control my anger"	Item 3 Pre	2.82	.89
	Item 3 Post	2.85	.80
"I get along with others"	Item 4 Pre	3.42	.68
	Item 4 Post	3.44	.68
"I get to know someone first"	Item Pre	3.23	.75
	Item 5 Post	3.31	.69
"I feel sad when an animal suffers"	Item 6 Pre	3.51	.71
	Item 6 Post	3.78	.54
"I feel confident public speaking"	Item 7 Pre	2.68	1.00
	Item 7 Post	3.02	.89
"I look forward to school"	Item 8 Pre	3.00	.90
	Item 8 Post	2.97	.90
"I have friends and peer support"	Item 9 Pre	3.36	.67
	Item 9 Post	3.31	.78
"I feel sad when a person suffers"	Item 10 Pre	3.21	.88
	Item 10 Post	3.46	.71

Table 4.83

Paired Sample t-test Results for jTLC™ Individual Attitudes Items – All Cases

All Cases (N = 47)	Difference Between Means	Std. Deviation	95% Confidence Interval		t (two tailed)	*p*
			Lower	Upper		
Item 1: Feel good about myself"	.14	.85	10	.40	1.18	.241
Item 2 "I respect living things"	.23	.72	-.02	.44	2.20	.033
Item 3 "I can control my anger"	.02	.67	.17	.21	.21	.830
Item 4 "I get along with others"	.02	.76	.20	.24	.19	.850
Item 5 "I get to know someone first"	.08	.68	.11	.28	.85	.400
Item 6 "I feel sad if animal suffers"	.27	.61	.09	.45	3.08	.003
Item 7 "I feel good public speaking"	.34	.91	.07	.60	2.54	.014
Item 8 "I look forward to school"	-.04	.62	-.22	.14	-.46	.642
Item 9 "I have friends and peers"	-.04	.80	-.27	.19	-.36	.719
Item 10 "I feel sad if person suffers"	.25	.84	.00	.50	2.06	.044

The analyses of the 10-item overall attitude scale and the three subscales showed that there were significant pretest to posttest mean score increases for all cases and males. The effect sizes were significant at the small (.02 - .49) and medium (.05 - .79) levels for all three subscales and the overall attitude scale. Females did not show significant increases in mean scores. The individual item analyses showed that 4 of the 10 items had a significant increase between means. No significant difference was seen when split by gender. Figure 4.10 illustrates the level of statistical significance and effect size for differences between means for the 10-item overall attitude scale and the three subscales for all cases and by gender.

Attitude Survey	All Cases	Female*	Male
Overall Attitude Scale	✔ Sm		✔ Md
Attitude about animals	✔ Md		✔ Md
Attitude about others	✔ Sm		✔ Sm
Attitude about Self	✔ Sm		✔ Md
Item 1: I feel good about myself			
Item 2: I respect living things	✔		
Item 3: I can control my anger			
Item 4: I get along with other people in the group			
Item 5: I get to know someone before I decided if I like them or not			
Item 6: I feel sad when I see an animal suffering	✔		✔
Item 7: I feel confident speaking in front of other people	✔		
Item 8: I look forward coming to school every day			
Item 9: I feel I have friends and peer support at school			
Item 10: I feel sad when I see a person suffering	✔		

Figure 4.10. This Figure illustrates the scales and individual items with a statistically significant difference at the p<.05 level or better for all cases and by gender. ✔ Significant increase between pretest and posttest means at $p < .05$ or better. Effect size: Sm. = (.20 - .49), Md. = (.50 - .79).

TLC™ and jTLC™ BEI Data Preparation

The third focus of this research was on the data collected from the before and after BEI survey that was administered to TLC™ and jTLC™ students. The BEI measures the change in empathic responses, specifically for adolescents. Research questions 4, 4a, and 4b are addressed in this section.

BEI items and subscales. The BEI survey includes 22 statements that are items for the scale. Each item had a 6-point Likert response scale including, *1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=somewhat agree, 5=agree, and 6=strong agree.* The BEI has 11 items that are reverse scored, meaning that they have the opposite sense from the other 11 items. For analysis, it was necessary to have all of the items scored in the same direction. The negatively worded, or reverse scored, items were recoded to have the same meaning as the positive items. The BEI contains three subscales: *Understanding Feelings, Feelings of Sadness,* and *Tearful Reaction*. The *Understanding Feelings* subscale contains 9 items, *Feeling of Sadness* has 6, and *Tearful Reactions* has 7.

TLC™ BEI Analysis

The BEI is a 22-item survey that measures change in empathy attitudes. The analysis was based on 46 TLC™ cases, split by gender. The analysis was completed using paired sample t-tests on the overall average for the total index and for the three previously validated subscales of *Understanding Feelings, Feelings of Sadness,* and *Tearful Reaction.*

TLC™ descriptive statistics. Students who participated in the BEI survey are those who attended the TLC™ program from September 2013–March 2014. There were 46 paired surveys for analysis. When split by gender, there was an equal distribution of males (23) and females (23). See Table 4.84 for the gender frequency distribution.

Table 4.84

Frequency Distribution of Gender in TLC™ *From September 2013—March 2014.*

Gender	Frequency	Percent
Male	23	50.0%
Female	23	50.0%
Total	46	100.0%

TLC™ student responses were also broken down by grade level. The distribution of grade was uneven and, because of the small N, there were too few cases for further analysis by grade level (see Table 4.85).

Table 4.85

Frequency Distribution of Grade Level in TLC™ *From September 2013—March 2014.*

Grade	Frequency	Percent
5th	1	2.2%
6th	15	32.6%
7th	10	21.7%
8th	19	41.3%
9th	1	2.2%
Total	46	100.0%

Paired sample t-tests for TLC™ BEI survey. A paired sample t-test was used to analyze pretest to posttest changes for all cases and by gender for the overall index and the three subscales. Results showed that the average score for the overall BEI was 3.11 out of 6 for the pretest and 3.75 for the posttest for all cases. The t-test results indicated that this increase was statistically significant, with $t(45)=4.749$, $p=.000$. For all cases, the *Understanding Feelings* subscale had an average pretest score of 3.90 and an average posttest score of 4.27. The scores on the *Understanding Feelings* subscale increased from pretest ($M = 3.91$) to posttest ($M = 4.27$) and the difference was statistically

significant, with t(45) = 4.29, p = .005. Also for all cases, the *Tearful Reactions* subscale had an average pretest score of 3.39 and average posttest score of 3.80 and the difference was statistically significant, with t(45) = 3.51, $p < .001$. Scores for the *Feeling Sadness* subscale showed no significant change (see Table 4.86 and Table 4.87). All significant subscales had an effect size ranging from small (.20 - .49), medium (.50 - .79) to large (.80 - .1.00) (see Figure 4.12).

Table 4.86

Paired Sample Statistics for TLC™ BEI Subscales – All Cases and by Gender

Cases	Pre and Post Surveys	Mean	Std. Deviation
All Cases	BEI Overall Pre	3.11	.51
(N = 46)	BEI Overall Post	3.75	.77
	Understanding Feelings Pre	3.90	.65
	Understanding Feelings Post	4.27	.65
	Feelings of Sadness Pre	4.78	.85
	Feelings of Sadness Post	4.77	.96
	Tearful Reactions Pre	3.39	1.00
	Tearful Reactions Post	3.80	.88
Female	BEI Overall Pre	2.92	.44
(n = 23)	BEI Overall Post	3.82	.88
	Understanding Feelings Pre	4.08	.65
	Understanding Feelings Post	4.50	.58
	Feelings of Sadness Pre	5.18	.67
	Feelings of Sadness Post	5.17	.80
	Tearful Reactions Pre	3.98	.69
	Tearful Reactions Post	4.37	.72
Male	BEI Overall Pre	3.30	.50
(n = 23)	BEI Overall Post	3.67	.65
	Understanding Feelings Pre	3.72	.61
	Understanding Feelings Post	4.03	.64
	Feelings of Sadness Pre	4.38	.81
	Feelings of Sadness Post	4.36	.95
	Tearful Reactions Pre	2.79	.93
	Tearful Reactions Post	3.23	.61

Females had a significant change from their 22 item overall BEI pretest (2.92) to their posttest (3.82) mean score, and the difference was statistically significant, with t(22)=4.78, $p < .001$. Males also showed a statistically significant increase on the overall BEI from pretest (3.30) to posttest (3.67) mean scores, with t(22)=2.07, $p < .05$ (see Table 4.86 and Table 4.87).

Table 4.87

Paired Sample T-Test Results for TLC™ BEI Subscales - All Cases and by Gender

Cases	Survey and Subscales	Difference Between Means	Std. Deviation	95% Confidence Interval Lower	95% Confidence Interval Upper	t (two-tailed)	*p*
All Cases (N = 46)	BEI Overall	.63	.91	-.90	.13	4.75	.000
	Understanding Feelings	.36	.57	.19	.54	4.29	.005
	Feelings of Sadness	-.01	.79	-.25	.22	-.124	.902
	Tearful Reactions	.41	.79	.17	.65	3.51	.001
Female (n = 23)	BEI Overall	.91	.91	-.51	1.30	4.78	.000
	Understanding Feelings	.42	.51	.19	.64	3.94	.001
	Feelings of Sadness	.00	.55	-.24	23	-.062	.951
	Tearful Reactions	.39	.88	.00	.76	2.08	.049
Male (n = 23)	BEI Overall	.36	.84	.00	.72	2.07	.050
	Understanding Feelings	.31	.64	.03	.58	2.31	.030
	Feelings of Sadness	-.02	.98	-.44	.40	.105	.917
	Tearful Reactions	.44	.72	.13	.75	2.94	.008

jTLC™ BEI Analysis

The BEI is a 22-item survey that measures change in empathy attitudes. The analysis was based on 25 jTLC™ cases. The analysis was completed using paired sample t-tests for the overall index and for the three previously validated subscales of *Understanding Feelings, Feelings of Sadness,* and *Tearful Reaction.*

Descriptive statistics. Students who participated in the BEI survey attended the jTLC™ program from September 2013 to March 2014. There were 25 paired surveys for

analysis. When split by gender, there was an unequal distribution of males (18) and females (7). Due to the inequality of the distribution and the limited sample size, gender was not used as variable for additional analysis. See Table 4.88 for the gender frequency distribution.

Table 4.88

*Frequency Distribution of Gender in j*TLC™ *From September 2013—March 2014.*

Gender	Frequency	Percent
Male	18	72.0%
Female	7	28.0%
Total	25	100.0%

jTLC™ student responses were also categorized by age. The distribution of age was equal but there were too few cases to consider age as a variable for additional analysis. See Table 4.89 for the frequency distribution of age for the *j*TLC™ students.

Table 4.89

*Frequency Distribution of Student Age in j*TLC™ *From September 2013—March 2014.*

Grade	Frequency	Percent
12 years	4	16.0%
13 years	3	12.0%
14 years	4	16.0%
15 years	4	16.0%
16 years	4	16.0%
17 years	5	20.0%
18 years	1	4.0%
Total	25	100.0%

Paired sample t-tests for jTLC™ BEI survey. Paired sample t-tests were run on the BEI's overall index and three subscales. Results showed that the average score for the overall BEI pretest was 3.86 and 4.09 for the posttest. The t-test results indicated the

increase between the overall BEI pretest (*M*=3.86) and the posttest (*M*=4.09) was statistically significant, with t(24)=3.255, *p*=.003. The *Understanding Feelings* subscale had an average pretest score of 4.11 and an average posttest score of 4.35 and the difference was statistically significant, with t(24) = 2.17, *p* = .040. For the *Feeling Sadness* subscale participants had an average pretest score of 4.40 and posttest mean score of 4.76 and the difference was statistically significant, with, t(24) = 3.18, *p* = .004 (see Table 4.90 and Table 4.91).

Table 4.90

Paired Sample Statistics for jTLC™ BEI Subscales

Cases	Pre and Post Surveys	Mean	Std. Deviation
All Cases	BEI Entire Pre	3.86	.54
(N = 46)	BEI Entire Post	4.09	.49
	Understanding Feelings Pre	4.11	.57
	Understanding Feelings Post	4.35	.59
	Feelings of Sadness Pre	4.40	.94
	Feelings of Sadness Post	4.76	.90
	Tearful Reactions Pre	3.06	.73
	Tearful Reactions Post	3.19	.67

All paired sample t-test results for the subscales can be found in table 4.91

Table 4.91

Paired Sample T-Test Results for jTLC™ BEI Subscales

Cases	Survey and Subscales	Difference Between Means	Std. Deviation	95% Confidence Interval Lower	95% Confidence Interval Upper	t (two-tailed)	*p*
All	BEI Entire	.23	.35	.08	.38	3.25	.003
Cases	Understanding Feelings	.24	.55	.01	.46	2.17	.040
(N = 25)	Feelings of Sadness	.35	.55	.12	.58	3.18	.004
	Tearful Reactions	.12	.68	.16	.40	.883	.386

The overall score and the three subscales showed a pretest to posttest increase in mean scores for the *Understanding Feelings* and *Feelings of Sadness* for jTLC™ and

Understanding Feelings and *Tearful reactions* for TLC™. Females and males in TLC™ showed a statistically significant increase in mean scores at the $p <= .05$ for the *Understanding Feelings* and *Tearful Reactions* subscale. The overall BEI and all significant subscales had an effect size ranging from small (.20 - .49) to medium (.50 - .79) (see Figure 4.11).

	All Cases	Females	Males
BEI Overall TLC™	✔ **Sm**	✔ **Md**	✔ **Sm**
Understanding Feelings TLC™	✔ **Md**	✔ **Lg**	✔ **Sm**
Feelings of Sadness TLC™			
Tearful Reactions TLC™	✔ **Md**	✔ **Sm**	✔ **Md**
BEI Overall jTLC™	✔ **Sm**		
Understanding Feelings jTLC™	✔ **Sm**		
Feelings of Sadness jTLC™	✔ **Md**		
Tearful Reactions jTLC™			

Figure 4.11. This Figure illustrates the BEI scales and subscales with a statistically significant difference at the p<.05 level or higher for TLC™ and jTLC™ ✓= Significant increase between pretest and posttest means at $p < .05$ or better. Effect size: Sm. = .20 - ,49, Md. = .50 - .79, Lg. =.80 – 1.00

jTLC™ Recidivism Rates

jTLC™ participants are selected through the J.O.I.N. program in Los Angeles, California. As per the J.O.I.N hearing officers, J.O.I.N's standard recidivism rate is 15%. A list of jTLC™ student program graduates (N = 78) was sent to a hearing officer to cross-reference the names. Students who graduated between May 2010 and December 2013 (n = 60) were run through the system to determine a rate of re-offense (recidivism).

Students who participated in jTLC™ between January 2014 and —March 2014 (n = 18) were not included because they have not finished their mandatory time in the J.O.I.N program. Of the 60 reviewed graduates, 5% (3) could not be tracked in the database. These three students were removed from the total to determine the rate of recidivism. This left 57 available students for cross-referencing. Of the 57 students, 7% (4 students) have reoffended.

Humane Educator Observations

Humane educators who led the TLC™ and jTLC™ programs were asked to keep daily journals regarding their observations and experiences with each individual student through the course of the program. The only direction given the educators was to write their observations (in any form, from one word to paragraphs) directly after the program each day, and to not go back and review what they wrote previously before writing any other daily entry. Observations varied in length and description with some very simple and consistent, such as "[The student] was very helpful/patient today" to more elaborate details expressing feelings (elation or concern) or commenting on an experience. TLC™ and jTLC™ more notable observations are in the following sections.

TLC™ humane educator observations. TLC™ observations happened each day, for each student over the course of each TLC™ class. Some of the most relevant observations noted by educators include:

- "[The student] really appeared to start to enjoy being in the program. To start with, he did not want to be in it. He was a student that the teachers and staff made come to TLC. After he interacted with the dogs he said we was looking forward to it. He went right to his mom and had her finish filling out the paperwork and his family was even interested in possibly adopting a TLC dog."

- [The student} was disappointed to not have [the pit bull] as his dog, however he really warmed up to the [Manchester terrier]… He has been doing a wonderful job with his [Manchester terrier], he says she is a warrior."

- "He really loves his dog. He seeks attention by making sure everyone knows he got his check mark for dog training for the day, and that his dog is able to do the tricks the best. He has been slowly starting to participate more and more."

- "[The student] did really well with petting [the dog in the room]. He randomly opened up and shared how he hates cops and white people because white people are cops and cops killed his dad."

- "[The student] was much more focused today. She was able to relate to [her TLC dog], she said [her TLC dog] has a hard time with some tricks, but once she gets it she does well. She related that to herself and math."

- "[The student] showed much more self-control today. He described how he felt empathy for [his TLC dog] because she is in a kennel at the shelter, and he could relate because he was in jail for a month, so 'he knows how it feels being locked up."

- He loves his dog so much. He was sick today. I could really tell his was not feeling well. He described how he is showing compassion for his dog because he is staying to train, even when he is sick. He said he knows what it is like to be in jail and not have someone come on visiting day, he does not want [his TLC dog] to feel that way."

- "[Other educators] and I all shared times where we have played a different role, I feel this really helped [the student] share her stories. She shared how there were times when her parents were drunk at parties and her boyfriend had to drive the family home. She shared how she felt that her parents walked out on her."

- "[The student] gave a wonderful answer to show that he feels empathy for [his TLC dog]. He said she struggles with being active and gets really distracted, and so does he. It was perfect and so true.

- Today [the student] had the most to say about the shooting across the street from the school. She was at school early so she was able to witness a lot of what happened. She said she felt scared, and nervous. She also said she had an opportunity to go home but wanted to stay for TLC."

- "[One team member] really wanted [their dog] to wear her dress. [The other partner] was happier with [their dog] in a bandana. They finally came to an agreement that [their TLC dog] would wear her pink dress so she could look

her best during graduation in the hopes that someone from the audience would adopt her."

jTLC™ humane educator observations. Each day, after jTLC, humane educators in charge of the program wrote observations regarding the students' behavior, attitude, and/or overall demeanor. Some of the most poignant written feedback received regarding jTLC students include:

- "All the boys were very hesitant to show affection towards their dogs at first. They did not want to make 'kissy' noises or talk softly. By the end of the day they were putty in their dogs' paws. Even with the kittens. At the start of the day when we visited the cats the boys had very little interest in cats and kittens, by the end of the day they were holding, loving and playing with them.

- "[The student] shared mostly about school. He appeared very proud during graduation. He was able to really express himself and show patience while working with his dog."

- "[The student] thoroughly engaged in all activities, and even when energies started to feel heavy towards the end of the day on Sunday, she never became unwilling to participate. Some subject matter visibly affected her, particularly when discussing the cycle of violence and the "roles we play" discussion. Not only did she NOT shut down or refuse to engage, but also she would verbalize the fact that she was having trouble with a particular topic. She would share when something was difficult for her to think about, but she also expressed gratitude for being given the space to process feelings and talk to the group about it. She worked with a young spaniel mix that she immediately gravitated to and loved. She always looked like she was having a great time with him, and she was very encouraging of him when he would struggle with something."

- "[The student] came in with a closed off air about him, and I suspected he would have an apathetic attitude throughout the program. When he would share or speak up, however, it was on point and showed a significant level of understanding. He's a smart boy who knows the "right answers" but, as he said himself, is caught up in what he's doing with his friends. He also admitted to using peer pressure to get his friends to do things. On an intellectual level, I think he's very aware. He's just young and susceptible to doing silly things that get him in trouble. He worked with a shy Chihuahua that isn't always the easiest to work with, but he did a great job with her. He asked for her, which was surprising in itself, but he also did a good job remaining patient throughout training."

- "[The student] was very open and honest, he was able to really share and analyze what it was he did to get into JTLC. He was very creative when training Newt, who was a little shy and not as food motivated - he had to be gentle and patient with his dog."

These observations serve as a window into the students who were the "data points" in the quantitative data.

Conclusion

This descriptive and comparative study examined the current landscape of humane education program evaluation and data analysis through a survey of humane educators across the country. This study also examined the potential effects of humane education violence prevention and intervention programs on youth from at-risk environments. Middle to high school age students participated in the violence prevention and intervention programs, TLC™ or jTLC™, and took pretests and posttests that identify their attitudes towards animals, others, and self (AOS), as well as empathy (BEI). Archived paired survey AOS data for 339 TLC™ and 47 jTLC™ students were analyzed. Seventy-one BEI surveys, 46 TLC™ and 25 jTLC™, were included in the analysis. Data were analyzed using the McNemar test and paired sample t-tests.

Results show that data collection and evaluations in humane education programs are occurring and some organizations are conducting program evaluations, but the evaluation activities are often informal and anecdotal. Responses indicated that empathy is a main focus of program development but empathy is less frequently the subject of study with less data collection and evaluation. When asked about empathy development, 98% of respondents agreed that empathy development is a critical component of their organization's program goals. About 50% of the survey respondents' organizations

collected data on empathy and only half of those evaluated the data. Survey respondents indicated that they want more rigorous humane education evaluation practices.

Mean scores for knowledge scales and questions increased significantly for all cases in TLC™ or jTLC™ and by school level for TLC™ and by gender for jTLC™. Significant positive changes in attitudes varied by program, gender, and school level. jTLC™ students had the most prominent increase in positive attitudes, possibly due to their lower pretest means. The research found significant increases in empathy based on the BEI sub scales for all participants in both the TLC™ and jTLC™ programs and for females in TLC.

The J.O.I.N recidivism rates indicate that jTLC™ could be affecting behavior change, as the pseudo-control group has a reoffending rate of 15% and jTLC™ students have a reoffending rate of 7%.

The humane educator narrative corroborated the data that students are developing new knowledge about animals, self, and others as well as changing empathic views. Their journal entries suggest that student attitudes are changed during the TLC™ and jTLC™, at least for the short term.

Chapter V: Discussion

Humane education is a vast and diverse movement. Supporting this movement are professionals who struggle with new and creative ways to teach complex ideas. At the heart of humane education practice is the desire to improve the world through creating more empathic and compassionate communities. This research was designed to learn directly from educators in the humane education profession about what the current state of humane education is, and what it might be in need of to remain sustainable. This focus included capturing the opinions of professional humane educators about the type of data collection and evaluation methods that are currently being used in the field. The second focus looked at the effect two humane education violence prevention and intervention programs had on knowledge, attitudes, and empathy for youth from at-risk environments. The two programs studied, TLC™ and jTLC™, are well-developed violence prevention and intervention programs, with specific criteria and goals for implementation. Both of these programs have a structured curriculum but also have the leeway to change materials and lesson plans, as needed over time. Both programs use a hands-on with animals model. Studies have shown this hands-on approach as an effective method for relationship building with youth (Gullone, 2000; Nebbe, 1991; Serpell, 1999; Wilson, 1984). Narrative feedback from humane educators involved helped tell the story of the findings.

Findings

This research study explored the current state of humane education, as told by the respondents through a humane education survey. Data from two different humane education programs, the violence prevention TLC™ program and the violence

intervention jTLC™ program, were analyzed to identify any changes in knowledge, attitudes, or empathy using the AOS and BEI surveys.

Humane educator survey. The Humane Educator Survey addressed two important questions about the field of humane education. First, "what are the types of programs offered by humane education organizations and what is the current state of data collection and evaluation of these humane education programs?" Second, "what is the current state of humane education practices?" with respect to its purpose and focus, including social justice and leadership.

The Humane Educator Survey responders identified a variety of program offerings within their organization, primarily in the format of classroom presentation, violence prevention and intervention and community programs. They responded that data are collected and some evaluations are conducted for all of these major types of programs. Responses about data collection and evaluation show that about three-fourths of the respondents collect data for the types of programs they offer. Most frequently used for data collection in all program types are surveys, with written and oral feedback sharing equal weight as a second choice. Most organizations evaluated the programs either formally or informally, with a much smaller percent conducting formal evaluations.

Responses also show that empathy development is one of the primary goals of humane education programs, but while it is a focus there is less data collection and evaluation related to empathy than to other program aspects. When asked about empathy development, 98% of respondents agreed that empathy development is a component of their organization's program goals. Data collection and evaluation related to empathy

development was less frequent. Only about 50% collected data and only half of those evaluated the empathy data. For those not collecting or evaluating data, "time constraints," "financial limitations," don't know where to start," and "not prepared to analyze" were among the most commonly chosen reasons.

For the question, "How do you feel about the current state of humane education?" a high percent of respondents agreed on some level that "it is a field that serves an important role in fostering empathy development." Respondents also agreed with the statement, "It is a field in need of leadership."

In response to their opinions about data collection and evaluation most Humane Education survey respondents agreed that "more program evaluations are needed in the field." Survey respondents were also in agreement with the statement, "a higher quality of evaluations are need in the field."

TLC™ and jTLC™ programs. The TLC™ and jTLC™ program archived data were collected via two surveys, the AOS and the modified BEI. The AOS survey measured knowledge and attitudes about animals, others, and self, and the BEI measured empathic attitudes. The variables of school level (AOS) and gender (BEI) were used in the analysis. The McNemar test was used to analyze all true/false (right/wrong answer) questions. Paired sample t-tests were used to analyze the attitude and empathy scale data, and all researcher-defined subscales.

AOS survey. The AOS archived surveys had 339 TLC and 47 jTLC cases for analysis. The TLC™ AOS included 18 knowledge questions in a binominal true/false (right/wrong answer) format. Due to missing data, the jTLC™ AOS included 15 questions. The knowledge questions were split into 6 researcher-defined subscales of

hard fact, soft fact, knowledge of animals, knowledge of others, empathy for animals, and empathy for others. There were also 10 attitude items with a 4-point Likert response scale format. The attitude items were split into 3 researcher-defined subscales of *attitudes about animals, attitudes about others,* and *attitudes towards self.*

For both the TLC and the jTLC programs, there was a positive pretest to posttest change on the knowledge questions for all cases and for the TLC middle school groups and the jTLC gender variable. The *hard fact, soft fact, knowledge of animals, knowledge of others, empathy for animals,* and *empathy for others* subscales all had a significant positive change from pretest to posttest mean correct answer scores for TLC™ and jTLC™, as well as when split by school level and gender. There was a significant increase in correct answers between the pretest and posttest for 13 of the 18 TLC™ questions and 7 of the 15 jTLC™ questions. Where the difference was not significant, it was primarily because students knew the correct answer on both tests. This suggests that the programs are potentially successful in creating new knowledge and that teaching knowledge may be the easiest component to develop and measure in students.

There were no statistically significant changes from pretest to posttest for the 10-item overall attitude scale or for the three attitude subscales of *attitude towards animals, attitudes towards others, and attitudes towards self.*

In contrast to the TLC results, the pretest to posttest analysis of the 10-item overall attitude scale for jTLC™ showed a significant increase in mean scores for all cases for the overall scale and the three subscales of attitudes *about animals, attitudes about others,* and *attitudes towards self.*

BEI survey. There were 46 (TLC™) and 25 (jTLC™) cases for analysis with BEI data. The cases were split by gender for TLC™. The BEI consisted of a 22 item overall index, modified for this study to have a 6-point Likert response scale that included: *strongly disagree, disagree, somewhat disagree, somewhat agree, agree,* and *strongly agree* as response options. The BEI also has a previously validated set of subscales that include *Understanding Feelings, Feeling of Sadness, and Tearful Reaction.* The overall BEI index and subscales were analyzed using paired sample t-tests. Analysis showed a significant increase for the overall index and for two of the three subscales: *Understanding Feelings and Tearful Reactions* for TLC™ and *Understanding Feelings and Feelings of Sadness* for jTLC™.

J.O.I.N. recidivism rates. jTLC™ students are selected to attend through a juvenile offender network, J.O.I.N. Recidivism rates of 57 jTLC™ students were compared against the reported J.O.I.N recidivism rate of 15%. Results indicated that only 7% of jTLC™ student graduates reoffended.

Educator narrative. Humane educator class leaders kept a journal of student observations in TLC™ and jTLC™. Observations happened each day, and for each student, over the course of the classes. The most notable themes found in the TLC™ observations were: students were reluctant to begin the program but showed a genuine affinity for the program as time went on; students grew a deep rooted affection for their dogs; and there was a positive correlation between the relationship with their dog and their willingness to open up in conversation. The most notable themes found in the jTLC™ observations include: students' growing from their initial resistance of showing

their dog affection to genuinely exhibiting attachment; student willingness to express themselves after a short period of time; students' patience with their dog.

Discussion and Recommendations

This research produced interesting results from both the humane educator respondents and the program analyses of TLC™ and jTLC™ knowledge, attitudes and empathy scales.

State of the humane education profession. Survey responses from humane educators painted a picture of humane education's current state of data collection, evaluation efforts, and program modalities, as well as individual perceptions of the field. Some of the responses supported already known themes in the field, while others shed light on new developments. Overall, there were four themes that emerged from the survey responses. First, the profession is in need of a more structured programmatic framework. Second, professionals are in agreement that data collection and informal evaluations are already happening but it still needs a more focused and rigorous approach. Third, almost unanimously, empathy was reported as a program goal priority. Yet, data collection and evaluation of empathy development is more limited than what exists for programs in general, and the issue of empathy must be further explored. Fourth, humane education is in need of more leadership.

Developing program criteria. There are varying definitions of humane education (Faver, 2010, Milburn, 1989; Weil, 2004.) At first glance, the diverse overarching definitions could be perceived as a lack of cohesiveness within the profession. Humane educator responses indicated a different problem. Educators in the field are mostly in agreement that the ultimate goal of humane education is: developing a sense of

interconnectedness with all living beings, as well promoting positive and healthy communities through the teachings of empathy, compassion, and respect.

One problematic gap that emerged from the survey is a disconnect between educators, specifically in program development. Educators are developing and implementing a variety of programs. Many of these program designs are hinged on demographics, community needs, and educator abilities. Even with a common empathy goal, humane education programs do not have a concrete framework. For example, "camps" might be considered an outreach for some educators, but a community program for others. Violence prevention programs can be broadly defined and encompass most programs types. So much so, that a pet care presentation in a high dog fighting demographic might be considered a violence prevention program, where as in some communities it is considered a classroom presentation. Humane educators have operated in this fluid framework for a long time and, in some sense, it works. Educators often have the freedom to design and implement programs as they see fit for their community's needs.

As Aguierre & Orihuela, (2010) suggest, there are numerous modes of humane education including, but not limited to: media, presentations, printed materials, hands-on with animals, games, etc. The Humane Educator Survey supported this notion; many respondents wrote about the same programs in different sections of the survey, which suggests that educators do not necessarily operate cohesively in program development. Similar to the TLC™ manual, individually developed humane education programs could fall broadly into categories, which have clearly defined sets of criteria or goals, and educators could retain professional freedom within program development. For example,

in measuring the archival data of the TLC™ program, it was beneficial to use the manual as a guide for understanding the goals of the program, even though individual TLC™ lessons change in every class. Without the structured framework, it would have been difficult to know if the actual goals of the program were being measured and met. The TLC™ manual allowed the researcher to understand that increasing knowledge about animals and others, promoting positive attitudes, and developing empathy were primary goals of the program and were part of the stated curriculum. The broader field of humane education research and evaluation could thrive on increased program structure; thus removing some extraneous variables in developing programs and future evaluations.

Additionally, the humane education movement might be rooted in broader social justice concepts but the humane education profession is still struggling to find its footing in a broader social context. This is difficult because obtaining that footing means finding a balance of: individual interpersonal relationships, using the human-animal bond in programs, but also expanding curriculum to identify broader social issues in a meaningful way. Some humane education programs already focus on character education in their curriculum (C. Thompson, 2001; Weil, 1999). It is possible for humane education to play a larger role in the social justice field by using attitudes towards animals and the animal-human bond to educate about larger scale social issues, which could ultimately effect systems such as policy change or animal law (Ascione & Shapiro, 2009). Although humane education and social justice are often on opposing ends of the spectrum (individual change vs. systemic change) they have similar goals. To move forward, it will be important for future humane education programs to identify and include systemic social movement concepts in their curriculum and long-term program goals.

Data collection and evaluation. Survey respondent feedback suggested that more rigorous data collection and evaluation are needed in the field of humane education. This may not come as a surprise to most humane educators. Evaluating humane education programs has been an on-going topic of discussion in the field (Aguierre & Orihuela, 2010; Arbour et al., 2009; Fawcett & Gullone, 2001; Nicoll et al., 2008; Ratham, 1999; Zasioff et al., 2003). Interestingly, the majority of responsents indicated that these efforts are happening. The disconnect here is that informal research is the most frequent way data is being collected and evaluated, whereas educators want to see more rigorous and higher quality efforts being made. The predominant roadblocks to this, as described by the survey respondents, are a lack of time, money, and know-how. Most humane educators are aware that "more evaluations are needed," as it is a constant topic thread throughout the profession. Moving forward, there are relevant questions that need to be asked. Before the humane education field continues to develop programs that will also continue to be un- or under-evaluated, there are questions that must be asked. Questions such as: "how can meaning be made from the current data," and "who can help look at that data with the proper tools and a rigorous eye?" would be a good place to start. Another question must be, "how can future programs be developed/changed in such a way that they are both criteria focused, goal oriented, and easily evaluated?" Humane educators carry heavy burdens in their work; evaluation goals should be part of every initial conversation that involves program development. The analysis of the two programs in this study with archived data and the high percentage of survey respondents indicating that their organizations collect data, but don't use it for evaluations, points to

the potential for adding to the body of knowledge in the field from untapped already existing data.

Empathy development. Empathy development is the underlying goal of all humane education practice. And, with good reason too. Increased empathic abilities improve intellectual and social development, pro-social behavior, interpersonal relationships, self-esteem, and overall mental health (Barnett, 1987; Eisenberg & Strayer, 1987; Gullone, 2000; Hastings et al., 2000; Zahn-Waxler & Radke-Yarro, 1990). Conversely, lack of empathy has been repeatedly linked to the desensitization of violence and violent acts, including animal cruelty and all forms of interpersonal violence (Ascione, 1997, 2005; Ascione & Weber, 1996; Ascione & Arkow, 1999; Faver, 2010). In addition, developing a positive relationship with animals in childhood has been reported to increase empathy levels, which is linked to the development of positive interpersonal relationships in adulthood (Ascione & Arkow, 1999; Gullone, 2000; Nebbe, 1991; Poresky, 1990; Serpell, 1999). There is very little debate that humane education programs should focus on empathy development as a primary goal. So, why is the data collection and evaluation of it limited? Limitations related to measuring empathy share the same roadblocks of all evaluations; time, financial resources, and know-how. In addition, because empathy is a multifaceted and complex concept, empathic change is difficult to effectively capture and measure (Zhou et al., 2003). Several studies have used already created, valid, and reliable empathy scales for measuring effect. Instead of reinventing the wheel, humane educators should identify which of the empathy measurements best fit their programs' needs, as a starting point for measuring change in empathic responses. It is essential, with empathy development as the backbone for all

humane education programs, that this essential outcome is captured and measured. From there humane educators can have a grasp on what programs are clearly working and which ones are in need of revamping.

Leadership. Responses to the statements "it [humane education] is a field in need of leadership" and "it is a field in need of a clear direction" showed that 71% selected *somewhat agree, agree, and strongly agree.* One question that comes to mind is "what exactly does 'leadership' mean?" Leadership is a broad topic and difficult to define. In the general sense, it could suggest that humane educators feel as though they are floating around, with little guidance, hoping things "work." As one educator mentioned, "it's a bit like acting on faith [that] they [programs] will make a difference" Other educators voiced similar concerns. It is possible, since the survey focused on data collection and evaluations that the "leadership response" was in regards to that specific subject.

Program evaluation is not for everyone, and many survey respondents would agree. One comment mentioned, "[I] hate paperwork, and would prefer to be doing field work" and another reported, "I don't feel as though I have the skills to create an evaluation tool to use." But, humane educators are not just humane educators. They are scientists, researchers, administrator, lawyers, teachers, environmentalists, doctors, dog trainers, artists; the list goes on and on. Amidst the variety, there are sure to be those who understand and *enjoy* program evaluation.

One way to address this issue is to develop a committee, with a national humane education organization, of professionals who are skilled in program evaluation. Humane educators could submit their current data for program evaluation and review or have a source of guidance on how to do evaluations with their own data. This would allow for

individual humane educators to have a better grasp on the effectiveness of their programs while also contributing to the bigger picture, which would be to develop more concrete sets of program criteria.

Knowledge, attitudes, and behavior implications from program analyses. The analyses on the violence prevention program, TLC™ and the violence intervention program, jTLC™ provided interesting results. Some of these results speak to the structure and criteria-defined goals of the programs, while other results leave room for further exploration. Overall, both programs demonstrated a significant positive change on the topics of: knowledge, attitudes, and empathy.

Teaching knowledge. The first set of AOS survey questions, captured a student's change in knowledge. A review of the individual question analysis, as well as the subscales reflected that students did increase their knowledge about: hard facts, soft facts, animals, and others. Students from both TLC™ and jTLC™ had improved scores in all areas but showed the most gain for the k*nowledge of animals* and *hard facts*. jTLC™ students also had a notable increase in the *soft facts* subscale. Both programs seem to be consistently teaching new knowledge. Since knowledge is not necessarily a predictor of behavior change, how does increasing knowledge via humane education programs benefit students? Knowledge does not guarantee attitude or behavior change, but it is a necessary factor in change (Fishbein & Ajzen, 2009). Engaging students in meaningful conversation that increases their understanding of the particular topics is to their benefit. One theory posits that it is the extent of how much "the content of knowledge, on which the attitude is based, is directly relevant to the goal of the behavior." (Millar & Tesser, 1989). This suggests that there is a relationship between knowledge impacting the

behavior, if there is a direct behavior linked to that knowledge. For example, as one humane educator explained, a student was particularly hardheaded about the benefits of pet sterilization, claiming that it would take away the dog's "manhood." It is important to note that this student loved his pet dog, and did not want anything to "hurt" him. At this point, the student's family dog already had consistently fathered puppies that were not properly taken care of. Part of the discussion on neutering mentioned that the majority of deceased dogs on the side of road are unneutered male dogs. Later on, the student mentioned that his dog had run across the street (as it had done many times before) and all he could think of was how his dog might live longer if he was neutered. He convinced his parents and the dog was neutered within a week. The knowledge on its own is not what changed the student's attitude and/or behavior but the knowledge was necessary to allow that change to happen and then directly influenced the behavior.

Since knowledge is one of the easier characteristics to capture and measure, humane educators could initially focus on their program's ability to create new knowledge. Knowledge evaluations may not predict an ultimate behavior change but humane educators should take heed that positive shifts in behavior usually do not occur until the new knowledge exists.

Changing attitudes. The TLC™ students did not show any significant changes in attitudes as measured by the AOS survey data or the researcher-developed subscales. And, in the individual attitude questions, there were more significant decreases than increases in attitudes. In contrast, jTLC™ students had a positive change in attitudes for the overall 10 item scale, for all subscales, and on four of the ten individual questions.

At first glance, seeing overall TLC™ student means decrease on questions such as: “I feel I control my anger” or “I get along with others in a group” was disheartening. Especially since many of the students were in the program for participating in fights, gang activity, or being quick tempered. Upon reflection, humane educators spend an entire month with TLC™ students working with them to be self-aware and to reflect on how they chose to exist in the world, including many lessons on the effects of an individual’s actions. One lesson that occurs, and is thread through the entire program, focuses on “roles played.” Students are asked to face some difficult questions about themselves, the environment they come from, and how that individually affects them. One humane educator noted about a student who was initially reluctant to share eventually opened up to explain that “there were times when her parents were drunk at parties and her boyfriend had to drive the family home. She shared how she felt that her parents walked out on her.” One possibility is that the students selected the answer they thought was the “right” one on the pretest but answered more honestly on the posttest. It is also possible that the post surveys reflected a more honest and self-aware response, either because they trust the educators after building a relationship with them or have benefitted from the series of self-reflection lessons.

jTLC™ students have a different experience in the program. Educators have two days to get students to be engaged and feel empowered. The focus in jTLC™ is a bit more honed in on issues of accountability and choices. In addition, jTLC™ students range from 12-17 years old and TLC™ students range from 11-13 with about 50% of the participants in jTLC™ being older than TLC™ students. jTLC™ students are also facing possible jail time if they do not change their ways. Educators can use this as an impetus

to engage students, as well as to involve them in conceptualizing and practicing new attitudes. The focus in jTLC™, ultimately, is to immerse students in attitude shifting lessons.

Humane educators' feedback confirms that many students use their relationship with their dog to metaphorically explain their own actions and attitudes about themselves. One educator noted that, "[The student] did really well with petting [the dog] it appeared to help him focus when he was able to pet him. He randomly opened up and shared how he hates cops and white people because white people are cops and cops killed his dad." Another student, per an educator's journal, "gave a wonderful answer to show that he feels empathy for [his TLC dog]. He said she [the dog] struggles with being active and gets really distracted, and so does he. It was perfect and so true." For many students, changing attitudes has to start with acknowledging there is even a problem in the first place.

Similar to increasing knowledge, increasing attitudes is not necessarily a guarantee to a positive shift in behavior. However, similar to knowledge, attitudes are one component necessary for changing behavior (Fishbein & Ajzen, 2009). One theory suggests that changing affective attitudes is closely linked with direct, as opposed to indirect, experience (Millar & Millar, 1996). This could be justification for humane education programs to use live animals as part of lesson plans. That is, the direct experience of building a positive relationship with an animal could potentially shift a student's attitude.

Teaching empathy. Empathy development plays an important role in humane education program criteria development and goal setting. Yet, seemingly, data about

changes in empathy are infrequently captured or measured. The purpose of inserting the BEI into the TLC™ and jTLC™ program for analysis was to evaluate if the main goal of the programs was actually occurring. The results indicate that TLC™ and jTLC™ students had a significant increase in empathic attitudes. The BEI produced overall improvement in empathy, for the full overall scale as well as for two of the three subscales. It is not surprising that the third subscale, *Tearful Reactions,* only had a small increased change for jTLC™ students. The somewhat older jTLC™ students are not comfortable with showing emotion. Especially since many of the students equate the reaction of crying with weakness. Measuring increased empathic change has much implication for all humane education programs. Past humane education studies (Arbour et al., 2009; Ascione & Weber, 1996; Sprinkle, 2008) have used the BEI to measure student empathy, and it has been one of the "go-to" surveys for educators who are new to data collection and evaluation. While validated in previous studies, there is also a need for further development and validation with youth populations enrolled in violence prevention and intervention programs. There are also other tools designed to measure empathy such as Hogan's Empathy (EM) scale, Mehrabian and Epstein's Questionnaire Measure of Emotional Empathy (QMEE), and Davis's Interpersonal Reactivity Index (IRI) (Davis, 1980, 1983, 1994; Hogan, 1969; Mehrebian & Epstein, 1972).

Second, multiple studies (Ascione, 2001; Ascione & Arkow, 1999; Currie, 2006; Gullone, 2000; Nebbe, 1991; Poresky, 1990; Serpell, 1999; Simmons & Lehmann, 2007; Wilson, 1984) have noted the importance of empathy development in youth, especially in conjunction with building a positive relationship with animals. Although the presence of increased empathic attitudes is not an absolute predictor of change, studies have shown

that empathy is correlated with having increased pro-social behavior and with having healthy interpersonal relationships into adulthood (Barnett, 1987; Eisenberg & Strayer, 1987; Hastings et al., 2000). Data collection and evaluation of empathy development should be a staple in all humane education programs where empathy is the ultimate program goal.

Changing behavior. Measuring behavior change is one of the biggest challenges that humane educators face. The ultimate goal of humane education programs is to positively shape the way people behave towards each other and all living beings. Frustratingly, just the investigation into understanding the complexities, resources, time, and meticulous, rigorous structure needed to produce documented valid results on behavior, is immense. But it is not impossible.

Theories about behavior change show that the best predictor of change is a person's *intent* to do so (Fishbein & Ajzen, 2009; Millar & Millar, 1996). This research did not have the ability to measure intent, at this point. In the future, measuring intent to change would strengthen the argument for programs such as TLC™ and jTLC™, as well as other humane education programs.

Most educators lack the resources and time to develop a true experimental or longitudinal study necessary to fully capture the desired data. That does not mean there are no data available to work with. Clearly, the available, yet previously unanalyzed data from the TLC™ and jTLC™ programs demonstrates the potential for adding to the body of knowledge in the field with existing information. Also, for example, the jTLC™ program had a built in pseudo-control group. This allowed for looking at potential effects of the program on behavior change. Results, although the program is still

relatively new and has a small sample size, show that the recidivism rates between two groups with very little variation except the jTLC™ program, are 50% lower. It is possible that similar "controls" are already in place for many humane education programs but have not been identified as potential populations for comparative research.

Changing student behavior is a combination of creating knew knowledge, offering direct experience to positively shape attitudes, providing an environment to *practice* empathy, as well as capturing a student's intent to change.

One student's story, shared from a TLC™ leader's experience, shows how this process has potential to be effective. This student, as told by the educator, was apathetic towards animals. As part of the class, a humane officer came and spoke with the students about the importance of reporting animal cruelty. This guest speaker was in conjunction with a lesson on empathy for animals and understanding where acts of cruelty come from. Simultaneously, this young man, who was reluctant to be in the program at first, developed a wonderful relationship with his shelter dog over the month long class. Weeks later, after the program was finished, this same young man placed a phone call to the humane officers to report animal cruelty. It was a legitimate report and the officers removed the dog from the property. This student had seen this same dog for a long time. It wasn't until he attended TLC™ that he changed how he perceived this. Humane educators have noted other similar occurrences with student graduates. This is not necessarily indicative of every student graduate, or a result of every program but an example corroborating the data that these positive changes can impact a child's perception of the world and their role in it.

If positive changes resonate in students over the long-term, humane education programs will have an even greater effect on broader social change. If that one child, who made a choice to directly act in favor of aiding a suffering animal, changes their behavior, who is to say that empathy and compassion won't extend to others? Humane education may fall short in being able to prove a direct correlation between what is learned in programs and long term change, but the research on empathy development suggests differently. The research suggests that healthy empathy development as a child will increase pro-social adulthood behaviors, including building positive relationships with others (Ascione, 2001; Ascione & Arkow, 1999; Currie, 2006; Gullone, 2000; Nebbe, 1991; Poresky, 1990; Serpell, 1999; Simmons & Lehmann, 2007; Wilson, 1984). This research showed that empathy development is a possible outcome of humane education programs. The base assumption could be that if humane education allows children the space to *practice* empathy, there is an excellent chance that they will practice behaving differently. They may grow up to become ambassadors for the broader social justice issues or, on a smaller scale, positively affect their community through practicing skills of respect, kindness, compassion and advocacy, for animals and people.

Future Research

Suggestions for future development of this research study include: continuing to use and expand upon the humane educator survey, modify existing or develop appropriate scales for measuring expected change from humane education programs, and conducting follow-up research with participants.

Humane educator survey. This survey produced a wealth of useful information, all from the hearts of those working directly in the field. Continuing to poll humane

educators, annually and over the course of many years, would shed light on emerging patterns, areas in need of improvement, and about the collective sense of the profession.

Modify or develop humane education measurement tools. For the AOS survey, I developed 6 new subscales. In the future, the 20 true/false questions need review against what is being taught in the program. The original AOS was designed specifically for the TLC™ program and, because of its availability, was being temporarily used in jTLC™. A few of the true/false questions do not address topics discussed in the jTLC™ classes. The 20 true false questions will need modification. In addition, the 4-point Likert response scale attitude items will be adjusted to be a 6 point Likert scale. The 4-point Likert scale with its limited variability reduced the ability to analyze the effect of change in attitude. Once the AOS has been modified to more closely reflect current program goals and meet the programs' needs and new data have been collected, an exploratory factor analysis could be completed to see if the researcher-defined subscales can be validated and established as reliable measure of humane education attitudes. Although the BEI has been used in multiple studies, other instruments exist, and modifications and further validation may be necessary for continued use with populations such as those served by the two violence prevention and intervention programs in this study.

Follow-ups. A follow-up study that includes the participants from the TLC™ and jTLC™ programs would be useful in understanding the role that these programs might have played in the students' lives. Follow-ups could include the use of self-reporting methods, interviews, and/or parent and teacher observations. Also, continuing prevention or intervention classes with the same set of student graduates from TLC™ or

jTLC™ could provide useful follow-up measurements of long-term changes in knowledge, attitude, or empathy. This research serves as a template and impetus for the other program administrators to put their archived data to use to help inform the profession. In addition, the TLC™ manual has been sold to numerous other humane education departments. Future follow up research with those organizations would assist in understanding if TLC™ is effective outside of the spcaLA. In addition, similar programs could be reviewed for similar effects to show possible generalizability.

Leadership. Before jumping to the conclusion that ALL of humane education is in need of leadership, educators should be polled again and interviewed. A future research objective could include the development of a leadership survey to concretely grasp what is meant, collectively, by "it is a field in need of leadership." The focus of the Humane Educator survey on program modalities and efforts in data collection and evaluation showed that there are options for new leadership to arise. If the evaluation of programs shifts from the "it should be happening more" conversation to a "we can do it!" focus, there is much room for emerging leadership.

Limitations of the Research

This research has limitations that include, only identifying short-term results, difficult generalizability, and possible observer effects. In addition, the reach of the humane education survey only included the people who work in the field of humane education. The practice of humane education is quite vast so it is possible that there are unrepresented or non-represented groups who did not have access to the survey. This could limit the reach of the respondents' opinions to only represent the direct humane education field, and not necessarily the broader movement.

Short-term results. This research study only captures short-term increases in knowledge, attitudes, and empathy toward animals, others, and self. This study is only a foundational study to be used as a launch pad for future research. This research offers only very limited comparative cause and effect implications.

Generalizability. Due to the nature of the programs and their specificity in design, it cannot be assumed that these results are generalizable. The results may only be applicable to the spcaLA's TLC™ and jTLC™ programs. On the other hand, at minimum, the TLC manual and program guide is followed by other humane education organizations. Thus, it can be assumed that similar results are possible in other programs.

Observer effects. It is probable, and hoped, that the TLC™ leaders behaved in such a way that they influenced the students in some positive manner. Educators are asking the students to alter they way they think and those same educators serve as genuine role models for behavior. It could be argued that this crossing of roles brings to the research an observer effect. On the other hand, it could also be argued that this dual role strengthens the intervention being studied. Similarly, it is possible that students shifted their knowledge and attitude answers because they knew the leaders' expectations. Again, it could be argued that students are practicing empathy under the expectation that it should be practiced, may not necessarily be a negative factor although it could affect the true results.

Attrition. In TLC™ there is approximately a 10% attrition rate. This equates to one student per class (with 10-12 students in each class.) The small number of students who leave the program without finishing could have contributed to a different, possibly more negative, set of responses or results. There was no attrition rate in jTLC™

Pretest effects. It is possible that students in both TLC™ and jTLC™ remembered the pretest and were already sensitized to the posttest answers. It could be argued that the students in jTLC™ had higher pretest effects than TLC™ because the jTLC™ program is only a weekend long, versus one month. It could also be argued that, if pretest effects were present, there would have been higher rates of attitude changes in either program. Attitude change was limited in both programs, suggesting that if students knew what to select they would select a positive response in both tests.

Subject effects. Many of the high school students in TLC™ had higher levels of correct pretest answers, especially on the individual true/false questions. High school student responses could have occurred through subject effects, with the older students "knowing" the right answer, or knowing what answer the leaders "want" to see.

Instrumentation. The AOS survey has not been validated; it is a self-created survey that has been used for over a decade. The construct validity of the AOS is at risk and it is not known if this survey is actually measuring what it is intended to. In addition, the subscales on the AOS are researcher developed and while they have not been formally validated as measures of the researcher-defined subscale constructs, the subscales do have face validity.

The results indicate that the survey does, to some degree, have construct validity. This is because many of the responses, especially in the true/false questions, reflect the lesson plans of the individual programs. For example, the 2-week program for high school students omits certain topics and the changes in data were not significant for those questions, at the high school level. In addition, in jTLC™ some topics cannot be

addressed in the same fashion (i.e.: overpopulation) as in TLC™ because of time constraints and the results indicate a distinct difference in responses by program.

Despite the possible instrumentation limitations the AOS survey represents an important aspect of humane education as a whole. Results from the Humane Educator Survey show that it is highly likely that humane educators currently use self-developed surveys and, in the current profession with very little formal evaluation being done, analyzing these surveys is a critical first step. The AOS survey was used to tell over a decade of stories about a violence prevention program and was used to capture information about a violence intervention initiative. Although not ideal, much of future humane education research can begin by analyzing unexplored self-created survey data.

Conclusion

Humane educators have a rewarding and difficult profession. All of the aspects that make humane education practices so valuable towards the betterment of the world are the same characteristics that make them so hard to concretely evaluate. This double-edged sword has been a constant struggle and theme. Yet, humane education continues to grow, and as the movement progresses so will the need for change. It may be difficult to evaluate ultimate behavior change in humane education programs but this study shows that strong prevention and intervention programs are necessary, and beneficial, for increasing changes in knowledge, attitudes, and empathy. Although not a predictor of students' changing their behavior in the long-term, the short-term increases in knowledge, attitudes, and empathy, are the first layers needed for students' to even contemplate making future change.

Couto (2002) said, “I began with the belief that social change leadership comes from the acts of ordinary people taking extraordinary action” (p. xii). It is a great reminder that to be a humane educator is to be a leader. Humane educators can begin looking for leadership from within by forming cross-state and cross institution collaborative efforts to meet the needs of an ever-changing field. Developing programmatic structures with definable goals, where knowledge, attitudes, empathy, and behavior can be measured and evaluated, will set future humane education practices apart from the past.

Appendix

Appendix A

spcaLA letter of agreement to use the TLC™ and jTLC™ data in this dissertation.

September 14th, 2013

Dear Madeline Bernstein,

I am writing to request the usage of the Teaching Love and Compassion™ (TLC™) and Teaching Love and Compassion for juvenile offenders™ (jTLC™) survey data for the purpose of my dissertation.

My dissertation will focus on the current state of humane education programs and the lack of research, data collection and data analysis in the field, as well as the importance of changing this state for the future development of successful humane education programs. The reason for using the TLC™ and jTLC™ data is to have a current idea of the effects of both programs.

I understand the data is the property of spcaLA and that I am simply borrowing it for the purpose of looking at the effectiveness of specific humane education programs. At no point will the data be used in a negative or compromising way, and the details of the data (i.e.: access to full data sets) will not be shared with any other organization or persons (except my Dissertation Chair Person, who is not involved in humane education in any way.)

In addition, I would like to temporarily remove the surveys that are used and replace them with an valid empathy scale known as the Bryant Empathy Index for Children and Adolescents (BEI). I would like to use the BEI in lieu of the current surveys because the length of time it takes for students to complete spcaLA's (already lengthy) survey along with an additional empathy survey does not play to the favor of accurate data collection (and might cause more stress on the students than needed.) Currently, spcaLA does not measure empathic responses in the students of TLC™ or jTLC™ and I would like to begin doing so with a reliable, preexisting scale.

All of the data, on the paper surveys dating back to 2001, will be inputted into Survey Monkey and then analyzed in SPSS (Statistical Package for the Social Sciences.) In order to protect confidentiality of the past participants, no identifying information will be distinguishable on any of the data. All surveys are assigned an identification number that matches both the pre and post survey. Currently, there are approximately 300 TLC™ surveys and 50 jTLC™ surveys.

All processes of data collection and analysis will be approved, prior to usage, through the IRB (Institutional Review Board) of Antioch University to ensure that all ethical considerations are met and followed.

Upon the completion of my dissertation, spcaLA will be given credit and recognized for its contribution to the field.

If you have any questions, changes or concerns, please do not hesitate to contact me.

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