AN ABSTRACT OF THE THESIS OF

Amelia Chloe Simpson for the degree of Master of Science in Kinesiology presented on June 7, 2018.

Title: Parental Perceptions of Child’s Experiences Participating in a Family Dog Assisted Physical Activity Program for their Children with Developmental Disabilities

Abstract approved:

______________________________________________________
Megan MacDonald

Introduction: Parents provide an in-depth and unique perspective on their children with developmental disabilities (DDs) experiences and involvement in physical activity. Furthermore, family pets promote physical activity and quality of life in children with DDs. An imitation based physical activity program for children with DD and their family dog took place in the Summer of 2017 and in the Winter of 2018 and focused on teaching children with DD ages 8 to 17 years old to become the primary trainer of their family dog. Components of this program were strongly focused on joint (child-dog) physical activity. The purpose of this study was to examine the impact of the imitation based physical activity program on children with DD. Method: A qualitative study was conducted by interviewing the parent(s) of 4 child participants. Parent interviews were conducted using a phenomenological approach, including open-ended questions based on their child’s experience in the imitation based physical activity program. Transcripts were analyzed using interpretative phenomenological analysis to identify reoccurring themes and patterns among participant responses (Smith, 2009). Results: Themes revealed that positive
experiences and skill acquisition in the program led to increased physical activity, increased confidence, ownership, independence, social interaction and child-dog bond. Five superordinate themes emerged including: comfort in an animal companion, interactions with dogs opens the door to interacting with the world, ownership and skill acquisition transferability, physical activity, and positive program experiences. Conclusion: Interviews with parent proxies revealed that the four-child participant’s positive intervention experiences aided in their development of dog ownership and the skills necessary to interact with their dog companion which led to further social interactions. The benefit of building a child-dog relationship was seen in child participant’s desire to care for their dog leading to their increased physical activity, responsibility and ownership. The positive results lead to a promising future for physical activity interventions involvement of family dogs.
Parental Perceptions of Child’s Experiences Participating in a Family Dog Assisted Physical Activity Program for their Children with Developmental Disabilities

by
Amelia Chloe Simpson

A THESIS

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Master of Science

Presented June 7, 2018
Commencement June 2019
Master of Science thesis of Amelia Chloe Simpson presented on June 7, 2018

APPROVED:

Major Professor, representing Kinesiology

Head of the School of Biological and Population Health Sciences

Dean of the Graduate School

I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Amelia Chloe Simpson, Author
ACKNOWLEDGEMENTS

This project would not have been possible without the amazing opportunity to work for the Summer 2017 Do As I Do program. So firstly, thank you to my major advisor, Dr. Megan MacDonald, for the opportunity and for having faith in my abilities, not only during the summer camp, but throughout my entire master’s journey. My tremendous personal and academic growth over the past two years was possible because of the experiences and opportunities provided here at Oregon State University. I will be forever thankful for this.

The execution and completion of this project would have been impossible without the support and feedback from my committee. Thank you, Kristen Macuga, for serving as my Graduate School Representative. I appreciated your flexibility and support even when on maternity leave.

Thank you Dr. JoonKoo (JK) Yun for helping me to harness my academic worries in a way that drove me to work harder and ultimately read more. Thank you for never simply handing me the answer to your questions/significant points and always providing a process-led, Socratic learning opportunity that aided in my academic growth and strengthened my perseverance.

Thank you, Dr. Jennifer Beamer, for your positive and reassuring attitude during committee meetings. Your ability to establish calm during overwhelming moments was greatly appreciated. Since my pre-admission visit to OSU, you have offered honest and meaningful advice often paired with encouragement for my future steps. Thank you for investing in me and my future.

Thank you to the Children and Youth with Disabilities Lab (Jodi Stinson, Byung Mo Ku, Kathy McCarty, Amanda Martinez) for your constant, unwavering belief in my ability to finish this project. All your time spent editing, providing feedback, and listening with open ears during “Chloe’s Corner” led to the completion of this project.

Finally, and most importantly, a huge thank you to all my friends and family who supported me throughout this journey. Your never-ending love and encouragement will be forever cherished.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Chapter 2: Literature Review</td>
<td>4</td>
</tr>
<tr>
<td>Chapter 3: Context, Method, &amp; Analysis</td>
<td>19</td>
</tr>
<tr>
<td>Chapter 4: Results &amp; Findings</td>
<td>26</td>
</tr>
<tr>
<td>Chapter 5: Discussion</td>
<td>48</td>
</tr>
<tr>
<td>Chapter 6: Conclusion</td>
<td>40</td>
</tr>
<tr>
<td>Bibliography</td>
<td>61</td>
</tr>
<tr>
<td>Appendix</td>
<td>72</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dog Training Skills Taught on 9 days of DAID Program</td>
<td>19</td>
</tr>
<tr>
<td>2.</td>
<td>Phases of DAID Training</td>
<td>21</td>
</tr>
<tr>
<td>3.</td>
<td>Overview data for each child, associated dog, and parents</td>
<td>26</td>
</tr>
<tr>
<td>4.</td>
<td>Interview 1 – Cyrus: Code Distribution</td>
<td>28</td>
</tr>
<tr>
<td>5.</td>
<td>Interview 2 – Jason: Code Distribution</td>
<td>29</td>
</tr>
<tr>
<td>6.</td>
<td>Interview 3 – Alexa: Code Distribution</td>
<td>31</td>
</tr>
<tr>
<td>7.</td>
<td>Interview 4 – Landon: Code Distribution</td>
<td>32</td>
</tr>
<tr>
<td>8.</td>
<td>Comfort in an Animal Companion as seen in Interviews 1, 2, &amp; 4</td>
<td>33</td>
</tr>
<tr>
<td>9.</td>
<td>Interactions with Dogs Opens the Door to Interacting with the World</td>
<td>34</td>
</tr>
<tr>
<td>10.</td>
<td>Ownership and Skill Acquisition Transferability</td>
<td>35-36</td>
</tr>
<tr>
<td>11.</td>
<td>Physical Activity</td>
<td>37</td>
</tr>
<tr>
<td>12.</td>
<td>Positive Program Experience</td>
<td>38</td>
</tr>
</tbody>
</table>
CHAPTER I – INTRODUCTION

The importance of physical activity (PA) is well known and has been shown to improve overall health and longevity according to the Center for Disease Control and Prevention (CDC) (CDC, 2018). PA has been shown to be effective in the prevention of premature death and chronic diseases such as cardiovascular disease, diabetes, cancer, hypertension, obesity, and depression (Warburton, Nicol, & Bredin, 2006). The U.S. Department of Health and Human Services recommends children ages 6 to 17 engage in 60 minutes of moderate to vigorous physical activity (MVPA) per day (U.S. Department of Health and Human Services, 2008). These recommendations apply to all children, including children with disabilities. According to the CDC, developmental disabilities (DDs) are a group of conditions that impair an individual’s physical, learning, language, and behavioral development (CDC, 2015). One in six children ages three to seventeen have a DD (CDC, 2015). A major concern regarding children with disabilities are their increased levels of inactivity or sedentary behavior (Hinckson & Curtis, 2013; Pan, Liu, Chung, & Hsu, 2015).

Research has shown that children with disabilities are less physically active and engage in more sedentary behavior than their typically developing peers (Pitetti, Baynard, & Agiovlasitis, 2013; Ryan, Forde, Hussey, & Gormley, 2015). Given the known benefits of PA such as improving cardiorespiratory health, muscular fitness, bone health, aiding in weight loss, and aiding in the reduction of anxiety and depression, low levels of MVPA and higher levels of physical inactivity put children with disabilities at risk (U.S. Department of Health and Human Services, 2008). Several interventions have demonstrated that improved PA behaviors have benefits to other domains of life for children with DD, including children with intellectual disability (ID), attention deficit hyperactivity disorder (ADHD), autism spectrum disorder
(ASD), Down syndrome (DS), and cerebral palsy (CP) (Azrin, Ehle, & Beaumont, 2006; Medina et al., 2010; Pontifex, Fine, da Cruz, Parks, & Smith, 2014; Verret, Guay, Berthiaume, Gardiner, & Béliveau, 2012; Lang et al., 2010; Yilmaz, Yanardag, Birkan, & Bumin, 2004; Chen, Ringenbach, Crews, Kulinna, & Amazeen, 2015; Ulrich, Burghardt, Lloyd, Tiernan, & Hornyak, 2011 & Lewis, Krägeloh, & Shepherd, 2009).

Further, PA interventions involving dogs have led to decreased sedentary behavior and increased MVPA among the participants. Motor skills, PA, QoL, and human-animal interactions were examined in a case-study involving a 10-year-old male diagnosed with CP through an animal-assisted adapted PA program (Tepfer, Ross, MacDonald, Udell, Ruaux, & Baltzer, 2017). Results of this study showed that the participant’s sedentary behavior decreased by 38%, while his MVPA increased by 300%, following participation in the intervention. In addition to improvements in PA, the child’s attachment to the dog became stronger over the course of the intervention. The participant demonstrated improvements in each measured component of the study, including motor skills, social skills, emotional well-being, PA, self-reported quality of life, and dog attachment styles (Tepfer et al., 2017). The positive results of this study indicate a promising place for dogs in PA interventions for children with disabilities.

The positive results demonstrated by Tepfer and colleagues (2017) study have supported the development of other dog-assisted programs for children and adolescents with DDs. The Children and Youth with Disabilities Lab and the Human-Animal Interaction Lab at Oregon State University collaborated to develop a family dog-assisted PA intervention for individuals with DDs ages 8 to 17 years old called, *Do As I Do* (DAID) (Hayes & Hayes, 1952; Topál, Byrne, Miklósi, & Csányi, 2006). DAID teaches participants about dog body language, providing owner approved reinforcement (treats) and how to train their dog to mimic their
behavior on the command, “do it.” The main aims of this program were to improve child participant’s PA and evaluate the programs impact on participant’s QoL, social wellbeing, and child-dog relationship as measured through quantitative methodology. The first DAID program was ran during the summer of 2017 with a total of four participants completing the DAID protocol. During the program parent’s provided examples of how their children developed skills in ownership and the growth they saw in their child’s relationship to their dog. Thus, parental feedback about their child’s experiences sparked the purpose of this study to qualitatively examine the child participant experiences in the DAID program through semi-structured interviews with their parent.
CHAPTER 2 – LITERATURE REVIEW

Developmental disabilities (DD) encompass a wide range of disabilities such as intellectual disability (ID), attention deficit hyperactivity disorder (ADHD), autism spectrum disorder (ASD), cerebral palsy (CP), and Down syndrome (DS). Individuals with DD have deficits that impair their development in various domains (CDC, 2015). Concerns about individuals with DD’s physical activity (PA) levels have risen as literature indicating disparities among this population grows (Faison-Hodge & Porretta, 2004; Foley & McCubbin, 2009; Phillips & Holland, 2011). Researchers have conducted numerous studies investigating the impacts of animal-assisted interventions and animal-assisted activities on individuals with DDs. PA interventions involving animal-assisted interventions and animal-assisted activity have shown promise in reducing sedentary time and increasing PA and QoL in individuals with DD (Chen et al., 2015; Linder et al., 2018; O’Haire, 2013; Ulrich et al., 2011).

Developmental Disabilities

According to the CDC (2015), DD are a group of conditions that impair the development in physical, learning, language, or behavioral domains. One in every six children between the ages of three and seventeen has a DD (CDC, 2015). A growing concern for this population has emerged because of their increased obesity and sedentary lifestyles. The prevalence of obesity among individuals with DD has increased from 13.87% between the years of 1997 and 2006 to 17.1% between the years of 2006 and 2008 (CDC, 2015). Children with disabilities are less active when compared to children without disabilities. Multiple research studies have shown that children with disabilities do not reach the recommended 60 minutes a day of moderate to vigorous physical activity (MVPA) (Faison-Hodge & Porretta, 2004; Foley & McCubbin, 2009; Phillips & Holland, 2011; Shields, Dodd, & Abblitt, 2009). Meeting the recommended
guidelines leads to improvements in children’s cardiorespiratory and muscular fitness, bone health, reduction in symptoms of anxiety and depression, and weight management (U.S. Department of Health and Human Services, 2008).

**Developmental Disabilities and Physical Activity**

PA contributes to an individual’s ability to control body weight, reduce risk of chronic disease, strengthen bones and muscles, and improves mental health and mood (CDC, 2018). PA has also shown benefits to individuals with DD including improvements in physical fitness and cognition (Pontifex, Fine, da Cruz, Parks, & Smith, 2014). A review of the most prevalent disabilities reveals the significant role PA can play in improving individual’s quality of life, physical fitness, and cognition.

Intellectual disabilities (ID) manifest during an individual’s development, typically before or soon after birth. Individuals with ID have impaired cognitive, language, motor, and social abilities (CDC, 2018). The prevalence of youth with IDs was found to be 1.04% in a 2011 meta-analysis of 52 population-based studies involving children and adolescents with IDs (Maulik, Mascarenhas, Mathers, Dua, & Saxena, 2011). Individuals with ID often have comorbid disabilities such as attention deficit hyperactivity disorder (ADHD), autism spectrum disorder (ASD), Down syndrome (DS), and cerebral palsy (CP) (Oguni, 2013).

Levels of PA observed in youth with ID are significantly lower than those of their age-matched peers without disabilities (Einarsson, Jóhannsson, Daly, & Arngrímsson, 2016; Lin et al., 2010; Pan, Liu, Chung, & Hsu, 2015). Lower levels of PA in children and adolescents with ID are not fully a result of the disability itself, but can be attributed to other barriers such as financial limitations, lack of motivation, lack of social support, and low levels of awareness and self-efficacy (Bossink, van der Putten, & Vlaskamp, 2017). Since children with ID often have
dual diagnosis, PA interventions for individuals with ID typically focus on comorbid diagnoses such as ADHD, ASD, DS, and CP.

ADHD is classified as a chronic neurobehavioral developmental disorder where individuals struggle with maintaining attention, hyperactivity, distractibility, and impulsiveness (American Psychiatric Association, 2013). According to the National Health Interview Survey (NHIS), 11% of children aged 4 to 17 years old were diagnosed with ADHD between the years of 2011 and 2012 (CDC, 2017). In studies involving children with ADHD, PA has shown to improve children’s alertness and decrease hyperactive behavior (Pontifex et al., 2014). A case-study involving a 4-year-old with ADHD and ASD used physical exercise as a reinforcement to encourage calmness (Azrin, Ehle, & Beaumont, 2006). The child was rewarded with vigorous aerobic PA when he was attentive and still for the duration of the trial. The PA contingency appeared to have a positive influence on the child’s attentiveness and calmness in the classroom setting.

Similarly, 25 boys diagnosed with ADHD displayed less impulsive behavior and were observed having increased sustained attention when provided 30-minutes of high-intensity aerobic exercise on a treadmill in a lab setting. Attention was measured through Connor’s Continuous Performance Test-II (Medina et al., 2010). Other PA interventions have shown to improve students’ functioning throughout the school day in a study that evaluated the effects of PA on ADHD behavior observed in children aged 7 to 12 years old (Verret, Guay, Berthiaume, Gardiner, & Béliveau, 2012). The participants were divided into two groups: a control group (no intervention) and an intervention group. Children in the control group did not receive the 10-week intervention. The intervention group was provided a 45-minute PA program, 3 days per week, for 10 weeks. During their lunch period, participants completed sessions of moderate to
vigorous exercise including progressive aerobics, muscular strength training, and motor skills exercises. The children in the intervention group showed improvement in information processing, visual search, and sustained attention, and a reduction in social, thought, and attention problems in post-tests conducted 1 week after the 10 weeks of intervention (Verret et al., 2012).

Individuals with ASD are classified as having social deficits, communication impairments, and repetitive and restrictive behaviors (American Psychiatric Association, 2013). According to the CDC (2017), 1 in 68 children are diagnosed with ASD. Lang and colleagues (2010) conducted a systematic review of 18 articles in which individuals with ASD were provided interventions designed to increase exercise behavior. Results from this systematic review indicated a reduction in autism symptomology including stereotypy, aggression, and self-injurious behavior following the PA intervention (Lang et al., 2010).

In addition to a reduction in undesired behaviors, some studies found an improvement in physical fitness (Pontifex et al., 2014). A case-study designed to integrate PA in an aquatic setting found improvements in flexibility, strength, and balance, in addition to decreased stereotypy following swim sessions with a 9-year-old child with ASD (Yilmaz, Yanardag, Birkan, & Bumin, 2004). In an exercise program offered to five teenagers with ASD, researchers found an improvement in exercise capacity, body mass index (BMI) scores, and caloric expenditure (Pitetti, Rendoff, Grover, & Beets, 2007). As demonstrated in these studies, PA interventions provide a wide array of benefits to individuals with ASD including reduction in the disorder’s symptomology and an increase in physical fitness.

DS is a developmental disability caused by a full or partial copy of chromosome 21, known as trisomy 21 (CDC, 2016). DS is associated with mild to moderate intellectual
impairment and low muscle tone that can impact intellectual and motor milestones (CDC, 2016). According to the CDC (2017), 1 in 700 babies in the United States are born with DS. Individuals with DS have been found to have impaired executive function when compared with their chronologically age-matched peers (Rowe, Lavender, & Turk, 2006). This impairment in executive functioning has been found to impact working memory (i.e. the ability to keep and manage temporary information), inhibition (i.e. the ability to focus without being distracted by outside stimulus), and attention shifting (i.e. the ability to shift focus from one task to another) (Lanfranchi, Jerman, Dal Pont, Alberti, & Vianello, 2010). The combination of low muscle tone and delays in executive functioning limit access to PA opportunities for individuals with DS (Cowley et al., 2010; Rihtman et al., 2010).

Children with DS have been found to have low cardiovascular and muscular fitness capacity, a higher prevalence of obesity, declining levels PA throughout childhood, and fail to meet daily PA recommendations (Pitetti, Baynard, & Agiovlasitis, 2013). PA interventions for children with DS have been shown to stimulate executive functioning, specifically enhancing their cognitive inhibition (i.e. the ability to ignore irrelevant stimuli). Researchers found improvement in inhibition during a study examining the impacts of 20 minutes of treadmill walking on executive functioning in people with DS (Chen, Ringenbach, Crews, Kulinna, & Amazeen, 2015). Another PA intervention taught children with DS between the ages of 8 and 15 how to ride a bike for five days. Children who learned how to ride a bike from the camp were found to spend significantly less time engaging in sedentary activity at their 12-month post-assessment (Ulrich, Burghardt, Lloyd, Tiernan, & Hornyak, 2011). Benefits of PA in children with DS range from increasing physical fitness to improvements in cognition.
CP is a group of neurodevelopmental disabilities caused by damage to the brain during prenatal development or soon after birth (CDC, 2017). CP impacts an individual’s motor control, balance, and posture. ID, seizures, problems with vision, hearing, speaking, and joint problems are common developmental disabilities associated with CP (CDC, 2017). According to the CDC (2017), 1 in 323 children have been diagnosed with CP. A cross-sectional study examining PA and sedentary behaviors in 33 individuals with CP and their age-matched peers without disabilities revealed that children with CP were less physically active and spent more time engaging in sedentary behavior (Ryan & Deci, 2000). Although individuals with CP spend more time engaging in sedentary behaviors, PA interventions have shown to have many benefits improving quality of life.

In a phenomenological study that examined a winter sports camp for children with CP, findings revealed that participants developed increased confidence in their abilities and appearance, developed social relationships that made them feel less self-conscious, and had the opportunity to better understand and accept their personal abilities (Aggerholm & Møller Moltke Martiny, 2017). In a case-study involving a 10-year-old male diagnosed with CP researchers examined motor skills, PA, quality of life, and human-animal interactions through an animal assisted adapted PA program (Tepfer et al., 2017). Results of this study indicated that the participant’s sedentary behavior decreased by 38% while his MVPA increased by 300%. Changes were seen between the dog’s attachment to his participant before and after the intervention. The participant’s dog transitioned from an insecure-avoidance attachment pattern to a secure attachment style. This means the dog started with independent behavior and grew to seek physical contact and proximity to their partner. The participant demonstrated improvements
in each measured component of the study, indicating a promising place for dogs in PA interventions (Tepfer et al., 2017).

The encouraging role a dog can play in PA interventions also transfers to life at home for dog owners. Owning a dog comes with many responsibilities, including preparing meals, providing exercise opportunities, grooming and cleaning up, and watching out for the dog’s overall wellness. The obligations associated with dog ownership act as prompts that ultimately increase PA in dog owners. Returning home from work to a dog needing to be walked creates habitual PA engagement daily, possibly several times a day.

**Benefits of a Family Dog**

Dog ownership is associated with higher levels of PA, which is associated with positive health outcomes (Cutt, Giles-Corti, Knuiman, Timperio, & Bull, 2008; Owen et al., 2010). Dog owners have been found to take 25% more steps than non-dog owners (Cutt et al., 2008). In this longitudinal study, dog ownership, PA, and dog walking behaviors were measured in 804 dog owners and 1009 non-dog owners ages 19 to 78 years old sampled from 74 housing estates in Perth, Australia. Over the course of the study, individuals who did not own a dog, but adopted a dog during the 12-month period following the first assessment increased their walking by an additional 48 minutes per week when compared to their PA levels before ownership (Cutt et al., 2008). Like the new dog owners, senior citizens who walked their dogs were found to be more physically active (Cutt et al., 2008).

In a study of 2,533 community-dwelling senior citizens, 395 were dog owners. Researchers measured walking behavior and gait speed in all participants and found that dog owners who walked their dogs were more likely to reach 150 minutes of walking per week and had faster gait speeds than non-dog owners and walkers (Thorpe et al., 2006). This means the
Dog walkers were more likely to reach the recommended 150 minutes of MVPA when compared to the non-dog walkers (U.S. Department of Health and Human Services, 2008). A cross-sectional study of 276 dog owners used a survey to examine factors that influenced the owners’ dog walking frequency. The study revealed that the type of relationship owners had with their dog influenced their time spent dog walking. Dog owners who owned their dog as a hobby were more likely to walk when compared to non-dog owners. Additionally, owners who allowed their dogs to lay on furniture were found to walk their dogs more frequently, suggesting that the closer the companionship between the owner and dog, the more frequent the dog walks occurred (Westgarth, Christian, & Christley, 2015).

Relationships between PA and family dog ownership have also been observed. A study conducted by surveying 1,220 adults on dog ownership, walking behavior, and family involvement found that two thirds of families who own dogs walked their dog as a family at least once per month. Younger girls, mothers of young boys, and mothers of older girls who owned a family dog were found to have higher levels of PA (Salmon et al., 2010). Another study measured PA, dog walking, and dog play activity in 1,097 primary school and 657 secondary school-aged children. It was found that one third of primary school and one quarter of secondary school students walked their dogs at least once a week. In both primary and secondary school-aged girls, pet play was the most common play activity reported, and second and third most common in primary and secondary school-aged boys. Reaching national PA recommendations was significantly more likely in secondary school students who walked their dog or engaged in pet play an average of 1 hour per week (Martin, Wood, Christian, & Trapp, 2015).

Dogs not only serve as the owner’s best friend, they play the role of stimulating PA. Understanding the role dogs play in an owner’s life at home is important, but further exploration
needs to be done on the role dogs can play in PA interventions. Quantitative research has been conducted on the impacts dogs can make in PA interventions for children with developmental disabilities. This was demonstrated in the case study analyzing a child with CP and their family dog yielding positive results in reducing sedentary lifestyle and increasing overall PA levels (Tepfer et al., 2017). Though this study showed positive results, it did not provide an in-depth understanding of the individual’s experiences working with their dog. To better understand the influential role dogs can have in PA interventions, more qualitative research needs to be conducted. Phenomenology methodology can be used to further explore these benefits of dog-human PA interventions.

**Parent Proxy**

Parents can serve as suitable proxies and provide information on their child’s experiences (Sherifali & Pinelli, 2007). When seeking a holistic view and better understanding of a condition or phenomena involving their child who live with communicative or social deficits, parent proxies can help measure the child’s experiences. The use of parent proxies was seen when measuring QoL of people with profound multiple intellectual and physical disabilities, a study by Petry and colleagues (2004) used parents and support staff as proxies. Proxies were used because the group targeted in the study did not have the verbal skills to express their experiences (Petry, Maes, & Vlaskamp, 2004). Difficulty in children self-reporting might occur due to an individual’s impairment or unwillingness to participate. Examining the use of parent proxies in a series of health-related QoL studies, Eiser and Morse (2001) discussed how in both research and clinical settings, children have been found to have unreliable responses, lacking the reading, verbal, and reasoning skills to understand and accurately respond to questionnaires (Eiser & Morse, 2001). Though results from this cross-sectional study examination supported
gathering information from both parents and children when possible, current literature supports that parent proxies can serve to relay information regarding their children and provide a unique longitudinal insight on their children’s life experiences.

The use of proxies was also seen in MVPA measurements in 36 six-year-old children. In this study children wore activity monitors and teacher proxies were used to account for in school activity time while parents were used to account for leisure activity completed outside of school for 2 weeks. Parent proxy’s report of MVPA strongly correlated to the activity monitors reports indicating the positive use of parent proxies (Manios, Kafatos, & Markakis, 1998).

**Phenomenological Analysis**

The use of phenomenology in adapted physical activity assists in informing practitioners’ understanding of movement experiences in individuals with disabilities. In her chapter on the voices of students with disabilities in *Disability and Youth Sport*, Goodwin (2009) criticizes researchers’ disregard for children’s underrepresented voice in adapted physical activity research. Goodwin stresses the importance of understanding participant experiences to better create environments for all. To better understand the outcomes of animal-assisted PA programs and participant experience, more research should consider an approach that considers participant experiences (Fitzgerald, 2009). One such way is through qualitative analysis studying in-depth experiences of individuals, called phenomenology.

Phenomenology arose in the field of Adapted Physical Activity (APA) in 1994 when Maureen Connolly wanted to better understand the practicum experiences through journal writing in pre-service physical educators. Since this, further qualitative phenomenological studies have been conducted within the field of adapted physical activity. Investigations into the experiences of varying groups of people within the physical education (PE) setting have been
conducted. In one study, mothers’ perceptions of their children with spina bifida and their experiences in PE were evaluated using semi-structured interviews. The findings revealed that mothers valued their children’s participation and allowed the mothers to provide instructional support to their child’s PE teacher and assistants (An & Goodwin, 2007).

Other studies have analyzed the impacts that summer camps have made on children with disabilities. Goodwin and colleagues (2011) investigated the experiences of 13 adolescents ages 9 through 15 years old with visual impairments at a 1-week residential summer sports camp. Their study found three major themes among all participants: connected, reaching out, and resisting and acquiescing. The values these campers expressed gave investigators a better understanding of their experiences at the sports camp which informed camp leaders how to support and assist future campers (Goodwin, Lieberman, Johnston, & Leo, 2011).

Phenomenology was used to understand the play experiences of daughters of mothers with multiple sclerosis (MS). Semi-structured interviews were conducted with four women ages 19 through 26 years old to investigate their experiences of play with a mother with MS. Themes revealed participants strived to be a good daughter, felt they had blurred relationship boundaries, and had restricted play due to their mother’s condition (Jonzon & Goodwin, 2012). Like the other studies involving phenomenological analysis, the study yielded results that cannot be captured using quantitative analysis. Understanding the unique experiences and perceptions of different groups of people is vital to holistically understanding factors that impact an individual’s wellbeing and life.

One qualitative approach is Interpretative Phenomenological Analysis (IPA), in which individuals’ phenomena (experiences) are interpreted through personal interactions leading to significant statements and reoccurring themes. IPA involves phenomenology, hermeneutics, and
idiographic components (Smith, Flowers, & Larkin, 2009). Phenomenology is the study of experiences with the goal of understanding an individual’s consciousness. Hermeneutics involves the theory and methodology of interpretation. Finally, idiographic components refer to dealing with something concrete, individual, or unique. IPA’s roots trace back to the philosopher and mathematician Edmund Husserl, who was interested in how an individual might come to actually know their own experiences of a given phenomenon. In 1900, Husserl developed the idea of phenomenology in his publication, *Logical Investigations*. In this work he focused on how to study the structure of consciousness, which he concluded must be distinguished from the phenomena it is directed towards (Smith et al., 2009).

The study of phenomena has developed over the years into the field of IPA. Information provided by participants is examined to depict how something is understood in a specific context. Participants are selected based on their ability to provide meaningful insight to the topic being researched. The examination of their personal lived experience allows researchers to more holistically understand desired outcomes. Due to the nature of IPA, researchers must ensure an ethical practice by offering anonymity and not confidentiality. Participants can be offered a time-limited right to withdraw their statements up until analysis has begun or until publication. This might also be supported by allowing opportunities to review the transcript for accuracy (Smith et al., 2009).

IPA purposively samples small homogenous groups who have shared a similar experience or phenomenon. Data collection involves collecting perspective and insight from participants through interviews, journals, and focus groups. Semi-structured, one-on-one interviews have been found to be preferred for data collection (Reid, Flowers, & Larkin, 2005). These collection methods provide respondents with flexible open-ended prompts that allow the
researcher to follow up on important points that arise during the interview. Interviews and focus
groups are prepared for by developing a set of flexible questions targeted at prompting a
response that will add meaning to the phenomenon aimed at being understood (Smith, 2004).

The questions provided should aim to be open and expansive and delivered in such a way
that the interviewee does not feel judged or coerced into a response. The interview should consist
of 6 to 10 open ended questions and should take 45 to 90 minutes. In absences of conversation
the interviewer should allow periods of silence to allow the interviewee to start their thought
again. Interviews and focus groups are either audio or video recorded to allow for later
transcription (Smith et al., 2009). Analysis of the data takes place by first transcribing the
interview, journal, or focus group discussions.

After transcription takes place, the investigator acknowledges preconceptions about data
and works to remove them from further analysis. The transcription is then further reviewed line-
by-line while taking note of patterns, themes, and deeper understanding in the margins. The
process of understanding the individual’s reflection of their phenomena is called meaning-
making (Larkin, Watts, & Clifton, 2006). These insights are then coded, reflecting patterns seen
in the data. Often these themes note something of meaning or something that matters to the
participant. Common themes are then grouped together in subordinate themes (Smith et al.,
2009).

These themes are then used to develop a transcript that conveys both phenomenological
description and meaningful interpretation, which are supported by the participant’s direct.accounts and making sense of experiences. Through the discussion in these transcripts,
researchers are able to convey examination of complex, ambiguous, and emotionally impacted
topics (Smith & Osborn, 2015). The unique ability to depict outcomes not represented in
statistical analysis makes IPA an ideal study design to examine the intended and unintended outcomes of a PA interventions for children with DD.

**Trustworthiness and Triangulation**

Trustworthiness in qualitative research has been understood as a way to provide validity and reliability (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014). Demonstrating rigor in qualitative methodology has been largely criticized due to lack of justification and transparency in methodology (Noble & Smith, 2015). Though these criticisms exist, finding agreement in literature on criteria used to establish rigor varies (Rolfe, 2006). The use of the terms ‘validity’ and ‘reliability’ from the quantitative field to describe trustworthiness have been considered inappropriate in the field of qualitative (Noble & Smith, 2015). A frequently utilized set of criteria for evaluating trustworthiness is qualitative research was suggested by Lincoln and Guba (1985) who proposed four criteria to evaluate trustworthiness: confirmability, credibility, dependability, and transferability.

Confirmability is the ability to show that results are not influenced by the researchers bias an represent respondents actual meanings. Credibility, or the ‘believability’ the ability to assure truth in findings. Dependability demonstrates that findings could be replicated and are consistent. Transferability is the ability to demonstrate significance and usability of findings in other contexts (Lincoln & Guba, 1985). Trustworthiness can be established by addressing these four criteria using triangulation and member checking (respondent validation). To help establish trustworthiness in quality qualitative research, triangulation is the used by providing multiple data sources to find understanding of a phenomena (Flick, Kardoff, & Steinke, 2004).

Denzin (2006) and Patton (1990) classified four types of triangulation: methodological, theory, data (also known as source), and investigator (also known as analytic). In methodological
triangulation, a multimethod approach is used to investigate consistency of findings, often qualitative and quantitative approaches are used together. Theory (also known as perspective) triangulation involves the use of theories or to aid in interpreting the data. Source, or data triangulation reviews multiple sources of data using the same method, such multiple accounts of shared experiences. Finally, analyst triangulation supports qualitative research’s efforts to gain in depth understanding involves multiple reviewers attempting to understand various ways in interpreting data, not finding consensus (Denzin, 2006; Patton, 1990)

After analysis of qualitative data takes place, ensuring accurate interpretation of individual’s meaning is important. To do so, qualitative researchers, use the process of member checking, also known as informant feedback or respondent validation, to ensure credibility of findings (Birt, Scott, Cavers, Campbell, & Walter, 2016). Member checking provides researchers the ability to ensure their interpretation is what the participant intended. Through sound qualitative researcher in dept understanding can reasonably be sought for individual experiences and phenomena.

More research to understand the experience and benefits of participants in PA interventions should be conducted to develop a more complete view of the program impact. A qualitative phenomenological analysis was used to further understand the experiences of four participants with DD who participated in Oregon State University’s Do As I Do (DAID) family-dog assisted PA intervention. The purpose of this study was to qualitatively examine the child participant experiences in the DAID program through semi-structured interviews with their parent.
CHAPTER 3: CONTEXT, METHOD, ANALYSIS

Context

The Do As I Do (DAID) dog-assisted physical activity program consisted of a 1-hour program lasting 9-days over the summer of 2017 (Hayes & Hayes, 1952; Topál et al., 2006). During the camp, children and adolescents ages 8 through 17 years old with DDs and their family dogs were taught the imitative "Do As I Do" dog training protocol. During camp, participants were taught to recognize basic behavioral signals and to understand their dog’s body language. Over the course of the first six days, participants learned to teach their dogs 6 to 10 behaviors using verbal or physical cues (Table 1).

Table 1. Dog Training Skills Taught on 9 days of DAID Program

<table>
<thead>
<tr>
<th>Day</th>
<th>Skills Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dog body language, rewarding dog, heel, watch me</td>
</tr>
<tr>
<td>2</td>
<td>Sit-stay, spin</td>
</tr>
<tr>
<td>3</td>
<td>Shake, paw target</td>
</tr>
<tr>
<td>4</td>
<td>Up on platform</td>
</tr>
<tr>
<td>5</td>
<td>Down, around cone</td>
</tr>
<tr>
<td>6</td>
<td>Jump</td>
</tr>
<tr>
<td>7</td>
<td>DAID Phase 1: Introduction</td>
</tr>
<tr>
<td>8</td>
<td>DAID Phase 2: Generalization</td>
</tr>
<tr>
<td>9</td>
<td>DAID Phase 3: Test</td>
</tr>
</tbody>
</table>

These initial behaviors were then transferred and used to learn the DAID dog training protocol. DAID dog training uses operant conditioning to train dogs to copy their owner's behavior when given the verbal cue "do it." A positive reinforcement given immediately after the
dog completes a desired behavior serves to shape the animal’s behavior (Skinner, 1951). In this context, edible reinforcements in the form of owner-approved dog treats and baby food in squeeze pouches were used to motivate the dog’s behavior.

Participants used the 6 to 10 previously learned behaviors to begin the introduction phase of DAID (Table 2). During the introduction phase, participants started by commanding their dog to sit and stay, followed by modeling the behavior, and then returning to their dog and saying, “do it” followed by the behavior’s cue phrase. For example, if the desired behavior was walking around a cone, the participant would first deliver the command “sit-stay” to their dog, then would walk around a cone approximately 5 feet away, return to their dog and say, “do it, cone”. Then, if the dog copied their behavior, the participant would immediately give them a treat, reinforcing the mimicked behavior.

In the second stage, the generalization phase, participants commanded a sit-stay, modeled the desired behavior, returned to their dog and said, “do it,” leaving out the cue phrase from the command. In the third stage, the test phase, the child commanded a sit-stay, modeled an unknown behavior to the dog, returned and said, “do it.” If successful, the dog then copied the behavior and earned a treat. If unsuccessful, the dog and participant returned to the generalization phase to continue practicing with the 6 to 10 previously learned behaviors. During the 9 days of camp, participants were sent home with the daily homework of walking their dog for 30 minutes and practicing their dog training skills for 10 minutes. Attendance, homework, and daily progress were noted by each child participant’s paired program staff on a daily progress tracker.
Table 2. Phases of Do As I Do Training

<table>
<thead>
<tr>
<th>Phase</th>
<th>Participant Models Behavior</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Familiar behavior</td>
<td>Do it, [cue phrase]</td>
</tr>
<tr>
<td>Generalization</td>
<td>Familiar behavior</td>
<td>Do it</td>
</tr>
<tr>
<td>Test</td>
<td>Unfamiliar behavior</td>
<td>Do it</td>
</tr>
</tbody>
</table>

Method

Research Design

A qualitative phenomenological descriptive design was used for this study to describe the impacts and experiences of child participants during and after the DAID program as perceived by their parent. As with other hermeneutic phenomenological studies, in-person semi-structured interviews were conducted to further understand child participants’ lived experiences during and after DAID. These interviews were completed using an open-ended script (examples shown in appendix A to facilitate parents’ insight on the impact the DAID program had on their child).

To address the primary purpose of examining the child participant’s experiences in the DAID program through parent proxies, the semi-structured interviews where analyzed by applying the 6 stages of IPA (Smith et al. 2009). First, during the attunement stage, researchers listened, watched, transcribed, and re-read the transcriptions, enabling them to gain a comprehensive understanding of the parent proxy perceptions of their child’s experiences in the DAID program. During the second stage of immersion and initial noting, researchers highlighted and made notes of significant points, keywords, and phrases. These notes were then utilized in the third stage, when researchers cross-referenced notes and identified reoccurring themes, called subordinate (main) themes. During the fourth stage, researchers searched data for connections across emerging themes which led to the start of superordinate themes that are supported by
commonalities found in the subordinate themes. These first four steps were followed for each case study in the fifth stage. Lastly, during the sixth stage, patterns and trends among all cases were reviewed, leading to and reaffirming the superordinate themes encompassing the subordinate themes identified in each case study. The application of the 6 stages of IPA enabled researchers to evaluate trends and patterns in the collected data and to understand the participant experience in the summer 2017 DAID program. To avoid presumptions prior to the interview, a hypothesis was not developed following the suggestions of qualitative IPA (Jeong & Othman, 2016).

**Participants**

The study used purposeful sampling to recruit parents of child participants who completed the 2017 DAID program. Child participants all had a diagnosis of a developmental disability, per parental report. Parent proxies (n=5 [in one interview both parents, mothers and father, participated] M age = 49.6 years, SD = 7.7, Range = 45.0-62.0 years) of four child participants (n=4, M age=14.0 years, SD = 2.94, Range = 10.0-17.0 years) were contacted via email and invited to participate in a face-to-face semi-structured interview consisting of eleven open-ended questions in a quiet location at Oregon State University (OSU) in April of 2018. On arrival, parents were asked to provide their informed consent before the interview was conducted. Pseudonyms, as seen in table 3, were used for child, parent, and dog participants allowing responses to be in their own words while providing confidentiality.

**Trustworthiness and Triangulation**

To develop trustworthiness in the study, two reviewers coded and analyzed data independently. The multiple observations two reviewers brought both alternative inferences and confirmation on similar inferences made in coding (Carter et al., 2014). Trustworthiness was
evaluated by applying the four criteria outlined by Lincoln and Guba (1985): confirmability, credibility, dependability, and transferability. The use of two reviewers of the transcripts increased confirmability, or the neutrality of inferences. One of the reviewers was not involved in either the interview process or the summer 2017 DAID program, which limited the reviewer’s presumptions about the program’s potential impacts. Credibility, the ability to ensure truth in inferences made from parent interviews was ensured by using verbatim transcripts and member checks (respondent validation. Member checks enabled parent proxies to provide feedback and validation on interpreted statements and significant points, which ensured the accuracy and credibility of the results (Birt et al., 2016). Dependability was established by providing detailed steps for each step in the methodology. From data collection and interview prompts (see Appendix A) to quality descriptions of how themes were formed and evaluated, each process was carefully outlined, ensuring consistency and enabling future replication. Transferability was established as results from this study support the potential significance of the DAID program’s impact on child. This study might also inform future studies, based on the methods and analytics used, and the information gained from the results.

Trustworthiness was established using three methods of triangulation: data, investigator, and theory (Denzin, 2006; Patton, 1990). Data, or source triangulation was applied as four interviews were collected using the same interview scripts, which resulted in four data sets on child participant’s experience in the DAID program. Analyst triangulation was used as two researchers reviewed transcripts to attempt to better understand and interpret the data. The two reviewers served to understand the data cohesively, providing further interpretations and insight, not aiming to find consensus. Theory, or perspective triangulation provided insight for best-use
practices and provided further perspective in interpreting the results in both agreement and disagreement.

**Data Collection**

The four interviews took place between April 14, 2018 and April 28, 2018 and were digitally recorded. One child participant was represented by both her mother and father, two child participants were represented by their mothers, and one was represented by his father. The interviews ranged from 23 to 57 minutes. During the interviews, open-ended questions were used to elicit elaboration on responses to questions regarding child participants’ experiences in DAID (e.g., Can you describe your child’s relationship with their dog before DAID?). Questions were followed by open-ended prompts used to probe further explanation and further discussion on topics and statements that could be expanded on (e.g., How so? Tell me more about ‘X’? [see in Appendix A]).

**Analysis**

IPA was used to code and analyze the interviews with parents about their child’s experiences in the DAID program. The primary reviewer used the digital audio recordings to transcribe the interviews word by word into Microsoft Word documents. Following transcription, both reviewers used these transcripts to complete the six stages of analysis to gain insight into child participants’ experiences in the DAID program (Smith et al., 2009).

During the first stage of analysis, the attunement stage, the reviewers listened to the interview and reread the transcriptions to gain a comprehensive understanding of the participant’s perceptions of their child’s experiences in the DAID program. In the second stage, initial noting took place as the transcriptions were imported into a table including a left-hand column for noting emerging main themes, a center column containing the transcriptions, and a
right-hand column for reviewer’s notes on significant points, words, and phrases. Using this table, reviewers highlighted significant points and noted inferences in the right-hand column. In the third stage, the commentary in the right-hand column was used to identify emerging themes. In the fourth stage, reviewers searched for connections across emerging themes within the transcript. In the fifth stage, the identical process of the four previous stages was completed by both reviewers for the remaining three individual case studies. Lastly, in the sixth stage, the reviewers looked for patterns in emerging themes across all case studies (Smith, Flowers, & Larkin, 2009).

After each reviewer completed their coding, the inferences made regarding each significant point were then coded with the emerging 16 subordinate and 5 superordinate themes in a database created in Excel. The database contained columns for interview identification, coded theme, associated subordinate theme, associated superordinate theme, associated interview question number, and relevant text from transcript with associated line numbers. The database contained 252 records of codes for all four interviews based on the two reviewers’ code consensus.
CHAPTER 4: RESULTS AND FINDINGS

The purpose of this study was to examine the child participant experiences in the DAID program through semi-structured interviews with their parent. Table 3 displays data on each of the four program participants, their associated dog, and their parent(s) that participated in this study. Results and findings are presented using thematic categorization for each of the individual case studies, key excerpts from interview transcripts relating back to superordinate themes, and an overall analysis of the coded themes.

Table 3. Overview Data for each Child, Associated Dog, and Parents.

<table>
<thead>
<tr>
<th>Interview</th>
<th>Child</th>
<th>Child Age (years)</th>
<th>Child Dx</th>
<th>Dog</th>
<th>Dog Breed</th>
<th>Dog Age</th>
<th>Parent (relation)</th>
<th>Parent Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cyrus</td>
<td>10</td>
<td>ADHD, ODD</td>
<td>Cole</td>
<td>Whippet Mix</td>
<td>10 years</td>
<td>Catie (mother)</td>
<td>42</td>
</tr>
<tr>
<td>2</td>
<td>Jason</td>
<td>15</td>
<td>ASD</td>
<td>Jet</td>
<td>Golden Retriever</td>
<td>8 years</td>
<td>Julia (mother)</td>
<td>45</td>
</tr>
<tr>
<td>3</td>
<td>Alexa</td>
<td>17</td>
<td>ID</td>
<td>Addy</td>
<td>Chocolate lab &amp; pointer mix</td>
<td>5 years</td>
<td>Angela (mother)</td>
<td>51</td>
</tr>
<tr>
<td>4</td>
<td>Landon</td>
<td>14</td>
<td>ASD</td>
<td>Lily</td>
<td>Havapoo</td>
<td>5 months</td>
<td>Andy (father)</td>
<td>62</td>
</tr>
</tbody>
</table>

Individual Case Study Findings

Interview 1 - Cyrus, Catie, and Cole:

Catie is the mother of Cyrus, her 10-year-old son with ADHD and oppositional defiant disorder (ODD). Cyrus completed the program with their family dog, Cole, a 10-year old Whippet mix. During the program Cyrus attended all 9 sessions and successfully mastered the training skills heel, watch me, sit-stay, spin, get in box or on platform, wave, around cone, and jump by day 7 of the program. During the 7th session, Cyrus began the DAID protocol and
progressed through the second generalization phase by the 9th and final day of camp. As reported in his assigned staff member’s daily notes, Cyrus completed the training homework 7 times and the dog walk homework for 5 out of the 8 days.

Catie’s interview was conducted on April 17, 2018 and lasted 23 minutes. Results of the coding analysis are displayed in Table 4. These results show a total of 54 subordinate codes supporting all 5 superordinate codes, the majority of which (n=16) pertained to the superordinate theme interaction with a dog opens the door to interaction with the world. Within this superordinate theme, the subordinate theme confidence/pride emerged most frequently (n=8), followed by socialization (n=5), friendship (n=2) and family interaction (n=1). The superordinate theme ownership and skill acquisition transferability accounted for 14 of the subordinate codes. Of those subordinate codes skill acquisition (n=4) and responsibility (n=4) occurred most, followed by independence (n=3), ownership (n=2), and transferable skills (n=1).

The superordinate theme positive program experience was coded with a total of 12 subordinate themes. The subordinate theme positive program experience was coded 8 times and enjoyment was coded 4 times. The superordinate theme comfort in an animal companion emerged accounted for 8 subordinate codes. Of those subordinate themes, child-dog relationship (n=4) and coping (n=4) occurred equally. The final superordinate theme, physical activity accounted for 4 of the total subordinate codes.
Table 4. Interview 1 – Cyrus: Code Distribution

<table>
<thead>
<tr>
<th>Superordinate Theme</th>
<th>Occurrence of Superordinate Theme (Total = 54)</th>
<th>Subordinate Theme</th>
<th>Occurrence of Subordinate Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort in an Animal Companion</td>
<td>8 (15%)</td>
<td>Child-Dog Bond</td>
<td>4 (50%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coping</td>
<td>4 (50%)</td>
</tr>
<tr>
<td>Interactions with Dogs Opens the Door to Interacting with the World</td>
<td>16 (30%)</td>
<td>Confidence/Pride</td>
<td>8 (50%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family Interaction</td>
<td>1 (6%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Friendship</td>
<td>2 (13%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Socialization</td>
<td>5 (31%)</td>
</tr>
<tr>
<td>Ownership and Skill Acquisition Transferability</td>
<td>14 (26%)</td>
<td>Independence</td>
<td>3 (21%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ownership</td>
<td>2 (14%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibility</td>
<td>4 (29%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skill Acquisition</td>
<td>4 (29%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transferable Skills</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>4 (7%)</td>
<td>Dog-related Activity</td>
<td>4 (100%)</td>
</tr>
<tr>
<td>Positive Program Experience</td>
<td>12 (22%)</td>
<td>Enjoyment</td>
<td>4 (33%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positive Program Experience</td>
<td>8 (67%)</td>
</tr>
</tbody>
</table>

**Interview 2 - Jason, Julie, and Jet:**

Julie is the mother of Jason, her 15-year-old son with ASD, and his Autism Service Dog of America, an 8-year-old golden retriever named Jet. During the program Jason attended all 9 sessions and successfully mastered the training skills heel, watch me, sit-stay, spin, nose target platform, get in box, and around the cone by day 7 of the program. On day 7, he began the DAID protocol and mastered phase 1, the introduction phase, by the final 9th day of the program. As reported by his assigned staff member’s daily notes, he completed all dog walks for the 8 days of homework and did 7 days of skills training. As shared in the interview, prior to and during the program in August 2017, Jet, the service dog, was being treated with chemo for existing cancer. In February 2018 Jet’s health declined in and he retired as a service dog. Jason is now supported by an Autism Service Dog of America named Jay.

Julie’s interview was held on April 21, 2018 and lasted 58 minutes. Analysis of her interview resulted in a total of 37 subordinate codes supporting all 5 superordinate codes (Table
5), the majority of which (n=16) pertained to the superordinate theme ownership and skill acquisition transferability. Within this superordinate theme, the subordinate theme transferable skills was coded most (n=6), followed by skill acquisition (n=5), ownership (n=4), and responsibility (n=1). The superordinate theme positive program experience was coded a total of 13 times with positive program experience emerging 8 times and enjoyment 5 times.

The superordinate theme interactions with dogs opens the door to interaction with the world was coded a total of four times with the subordinate themes family interaction and socialization emerging twice each. The superordinate theme “comfort in an animal companion” was coded three times supported with the subordinate theme child-dog bond (n=3). The superordinate theme physical activity was coded once as the subordinate code dog-related physical activity.

Table 5. Interview 2 – Jason: Code Distribution

<table>
<thead>
<tr>
<th>Superordinate Theme</th>
<th>Occurrence of Superordinate Theme (Total = 37)</th>
<th>Subordinate Theme</th>
<th>Occurrence of Subordinate Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort in an Animal Companion</td>
<td>3 (8%)</td>
<td>Child-Dog Bond</td>
<td>3(100%)</td>
</tr>
<tr>
<td>Interactions with Dogs Opens the Door to Interacting with the World</td>
<td>4 (11%)</td>
<td>Family Interaction</td>
<td>2 (50%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Socialization</td>
<td>2 (50%)</td>
</tr>
<tr>
<td>Ownership and Skill Acquisition Transferability</td>
<td>16 (43%)</td>
<td>Ownership</td>
<td>4 (25%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibility</td>
<td>1 (6%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skill Acquisition</td>
<td>5 (31%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transferable Skills</td>
<td>6 (38%)</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>1 (3%)</td>
<td>Dog-related Activity</td>
<td>1 (100%)</td>
</tr>
<tr>
<td>Positive Program Experience</td>
<td>13 (35%)</td>
<td>Enjoyment</td>
<td>5 (38%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positive Program Experience</td>
<td>8 (62%)</td>
</tr>
</tbody>
</table>
Interview 3 - Alexa, Angela, Andy, and Addy:

Andy and Angela’s daughter, Alexa, is 17-years-old and is diagnosed with an intellectual disability (ID), per parent report. She participated in the summer 2017 program with their family dog Addy, a 5-year-old Chocolate Lab and Pointer mix. During the program Alexa missed day 4 and 5 but was present for 7 days and successfully mastered the training skills heel, watch me, sit-stay, spin, nose, get on platform, down, around cone, shake, and jump by the 9th day. Alexa began the DAID protocol on the 8th day of the program and mastered the introduction phase on the 9th day. As reported by her assigned staff member’s daily notes, she completed the training and dog walking homework on 4 of the program days.

Andy and Angela’s interview was held on April 27, 2018 and lasted 28 minutes. As shown in Table 6, the superordinate theme ownership and skill acquisition transferability was the most frequently coded (n=51) with the subordinate themes responsibility (n=12), independence (n=11), skill acquisition (n=11), control (n=9), transferrable skills (n=6), and ownership (n=2). The superordinate theme interactions with dogs opens the door to interactions with the world emerged 23 times supported by the subordinate themes confidence/pride (n=16), socialization (n=5), family interaction (n=1), and friendship (n=1). The superordinate theme physical activity was coded 17 times and supported with the subordinate codes, dog-related activity (n=10) and physical activity (n=7). Finally, the superordinate theme positive program experience emerged through the subordinate theme positive program experience 5 times.
Table 6. Interview 3 – Alexa: Code Distribution

<table>
<thead>
<tr>
<th>Superordinate Theme</th>
<th>Occurrence of Superordinate Theme (Total = 96)</th>
<th>Subordinate Theme</th>
<th>Occurrence of Subordinate Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactions with Dogs Opens the Door to Interacting with the World</td>
<td>23 (24%)</td>
<td>Confidence/Pride</td>
<td>16 (70%)</td>
</tr>
<tr>
<td>Operations and Skill Acquisition Transferability</td>
<td>51 (55%)</td>
<td>Family Interaction</td>
<td>1 (4%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Friendship</td>
<td>1 (4%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Socialization</td>
<td>5 (22%)</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>17 (18%)</td>
<td>Control</td>
<td>9 (18%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Independence</td>
<td>11 (22%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ownership</td>
<td>2 (4%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibility</td>
<td>12 (24%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skill Acquisition</td>
<td>11 (22%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transferable Skills</td>
<td>6 (12%)</td>
</tr>
<tr>
<td>Positive Program Experience</td>
<td>5 (5%)</td>
<td>Dog-related Activity</td>
<td>10 (59%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physical Activity</td>
<td>7 (41%)</td>
</tr>
</tbody>
</table>

Interview 4 - Landon, Lonnie, and Lily:

Lonnie is the father of Landon, a 14-year-old with ASD. Landon completed the summer 2017 program with his family dog, Lily, a 5-month-old Havapoo who had been adopted a few weeks before the start of camp. Landon attended all 9 sessions and successfully mastered the training skills watch me, sit-stay, spin, paw target, get on platform, down, around cone, and jump by the 8th session. Landon began the DAID protocol on the 8th day of the program and mastered the introduction phase on the 9th day. As reported by his assigned staff member’s daily notes, he completed his dog walking homework 8 times, and his training homework 7 of the program days.

Lonnie’s interview was held on April 28, 2018 and lasted 27 minutes. As shown in Table 7, the superordinate theme interactions with dogs opens the door to interactions with the world was the most frequently coded (n=27) with the subordinate themes family interaction (n=11),
socialization (n=11), and confidence/pride (n=5). The superordinate theme ownership and skill transferability represented 24 codes supported by the subordinate codes ownership (n=8), responsibility (n=7), control (n=4), independence (n=2), transferrable skills (n=2), and skill acquisition (n=1). The superordinate theme comfort in an animal companion emerged 6 times through child-dog bond (n=6) and coping (n=1). The superordinate theme physical activity emerged a total of 6 times with the subordinate codes dog-related activity (n=4) and physical activity (n=2). Lastly, the superordinate theme positive program experience was represented through the subordinate theme positive program experience (n=2).

Table 7. Interview 4 – Landon: Code Distribution

<table>
<thead>
<tr>
<th>Superordinate Theme</th>
<th>Occurrence of Super Ordinate Theme (Total = 54)</th>
<th>Subordinate Theme</th>
<th>Occurrence of Subordinate Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort in an Animal Companion</td>
<td>6 (9%)</td>
<td>Child-Dog Bond</td>
<td>5 (83%)</td>
</tr>
<tr>
<td>Interactions with Dogs Opens the Door to Interacting with the World</td>
<td>27 (42%)</td>
<td>Confidence/Pride</td>
<td>5 (18%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family Interaction</td>
<td>11 (41%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Socialization</td>
<td>11 (41%)</td>
</tr>
<tr>
<td>Ownership and Skill Acquisition Transferability</td>
<td>24 (37%)</td>
<td>Control</td>
<td>4 (17%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Independence</td>
<td>2 (8%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ownership</td>
<td>8 (33%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibility</td>
<td>7 (29%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skill Acquisition</td>
<td>1 (5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transferable Skills</td>
<td>2 (8%)</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>6 (9%)</td>
<td>Dog-related Activity</td>
<td>4 (67%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physical Activity</td>
<td>2 (33%)</td>
</tr>
<tr>
<td>Positive Program Experience</td>
<td>2 (3%)</td>
<td>Positive Program Experience</td>
<td>2 (100%)</td>
</tr>
</tbody>
</table>
Thematic Categorization Findings

Comfort in an Animal Companion:

The two subordinate themes, child-dog bond and coping, supporting the superordinate theme comfort in an animal companion arose within three of the four interviews. Child-dog bond was found in all four interviews while coping was found in interview one, Cyrus, and interview four, Landon. Table 8 contains excerpts of parents recounting the moments where their child’s relationship with their dog facilitated coping and well-being within their child.

*I=Interview

<table>
<thead>
<tr>
<th>Subordinate Theme</th>
<th>Significant statements related to theme</th>
</tr>
</thead>
</table>
| Child-Dog Relationship           | 12. “I’m picturing that one picture from the demonstration where Jason is holding the treat up to his face and Jet is looking at me. That’s my heart melt out of the pictures from all of that. You can see that connection, that total connection, Jason isn’t just doing it to do it…the two of them are connecting and maybe more happened there than I was really able to perceive.”  
14. “I think the relationship’s a little stronger (between Landon and Lily) because they did this and they have this bonding and he feels more ownership.” |
| Coping                           | 11. “But when he’s (Cyrus) having a rough morning, he has a lot of rough mornings. I’ll say, if you can get yourself together and start brushing your teeth, or whatever you need to do, and Cole can ride in the car with us to do drop off at school. It helps a lot of the time. A lot of the time he wants Cole to be able to ride in the car with us.”  
14. Yeah, when he’s (Landon) have [a challenging moment], he’ll either want to get lost playing a video game or he’ll go play with the dog. |

Interaction with Dogs Opens the Door to Interacting with the World:

The four subordinate themes confidence/pride, family interaction, friendship, and socialization appeared in all four interviews. Confidence emerged in interview one, Cyrus, interview three, Alexa, and interview four, Landon. Family interactions arose in all four interviews. Friendship emerged in interview one, Cyrus, and interview three, Alexa while
socialization emerged in all four interviews. Parent proxies describe their child’s improved confidence and pride which led to further socialization through family and friend interactions (Table 9).

Table 9. Interaction with Dogs Opens the Door to Interacting with the World as Seen in all Interviews

<table>
<thead>
<tr>
<th>Subordinate Theme</th>
<th>Significant statements related to theme</th>
</tr>
</thead>
</table>
| Confidence/Pride  | I1. “Cyrus felt pride because of course if he was messing around and not doing what he was supposed to be doing then Cole wouldn’t be able to do the tricks.”  
I3. “I’m hearing more of, ‘I don’t want to do that, I don’t like that.’ That’s what every young girl needs, to be able to say and feel confident in that.”  
I4. “When his (Landon) sister’s friends are over he’ll try to be the responsible adult to Lily. She’ll still nip at new people. So he tries to stand in the way and I don’t know if it’s showing off or if it’s confidence.” |
| Family Interaction| I1. “He went home and told his brothers everything that went on. They really wanted to do the tricks that Cyrus had taught Cole to do too.”  
I2. “I think his (Jason’s) sister did. Because she likes to get in the middle of stuff.”  
I3. “Every once in a while, you know with the nice weather, we’ll hear Alexa go, ‘I did duh, duh, duh (DAID skills).’ She’ll be like Addy come here and we will say show us again.”  
I4. “He’s (Landon) actually interacted with his sister more because of this.” |
| Friendship        | I1. “He’ll (Cyrus) take him (Cole) to go visit his friends in the neighborhood.”  
I3. “I saw her (Alexa) talking to her friend about that [DAID program].” |
| Socialization     | I1. “His (Cyrus) little buddies, they don’t have a dog, they live about half mile from our house. He would walk Cole to their house and hang out.”  
I2. “At that moment more than they would have. They get along pretty decent.” (About Jason’s sister practicing DAID skills)  
I3. “Sometimes she’d (Alexa) take her (Addy) to the high school track, if there are boys out on the field doing something.”  
I4. “They’ve (Landon and sister) spent more time with the dogs than they would normally other things...there would be nothing to tie them together. He’s not an outside person and she is always outside. So this got them to walk the dogs.” |
Ownership and Skill Acquisition Transferability:

The six subordinate themes supporting the superordinate theme ownership and skill acquisition transferability emerged in all four interviews. Control emerged in interview three, Anna, and in interview four Landon. Independence emerged in interview one, Cyrus, interview three, Alexa, and interview four, Landon. Ownership, responsibility, skill acquisition, and transferable skills were seen in all four interviews. Table 10 contains descriptions given by the parents relating to how learning skills, gaining control, independence, and responsibility transferred into skills in other instances.

Table 10. Ownership and Skill Acquisition Transferability as Seen in all Interviews.

<table>
<thead>
<tr>
<th>Subordinate Theme</th>
<th>Significant statements related to theme</th>
</tr>
</thead>
</table>
| Control           | I3. “It wasn’t too long into the program where we both went, “she’s (Alexa) hearing her own voice.” She’s noticing she can command our family pet and it’s okay to command the family pet that it doesn’t hurt her.”  
I4. “Him (Landon) and his younger sister, they have a competition. So he felt like this was his dog and he got to do it. When he got home he would practice… in front of his sister to show off that he was in control of the dog.” |
| Independence      | I1. “On the weekends he (Cyrus) would take him (Cole). Or if it’s a nice day he would take him down to the school and walk around with him.”  
I3. “Now when she’s (Alexa) home she’ll initiate taking Addy on a walk after school.”  
I4. “Landon will actually do it [walk Lily] in the rain, he’ll put on a jacket.” |
| Ownership         | I1. “He (Cyrus) has been doing better about, he supposed to make sure that Cole has water. He does a pretty good job.”  
I2. “…pretty much just feed him.” (Jason caring for Jet)  
I3. “They (Alexa and sister) are more aware of things that have to happen, like water.”  
I4. “I think we’d still walk the dogs but since he (Landon) went to the camp he feels that it’s kind of his responsibility and his chore to do. So he’s taken ownership.” |
| Responsibility    | I1. “Cyrus will go feed him sometimes. He doesn’t usually volunteer to do chores. He’s definitely more willing to do stuff for Cole that he would be to go do the dishes or his homework.” |
12. “So I would have Jason’s personal support worker, and I would tell him, Jason is supposed to take him for a walk, so go take them on a walk. He (Jason) would do it without fussing.”

13. “Just being responsible too for Addy and Annie (family cat). Making sure they’re getting fed and stuff has been good.”

14. “I would say he (Landon) does probably 80 percent of feeding the dogs...he does the 5 and 8 almost every night.”

<table>
<thead>
<tr>
<th>Skill Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>I1. “It was nice for us to have a nice activity that he (Cyrus) enjoyed and felt that he was learning from.”</td>
</tr>
<tr>
<td>I2. “He (Jason) got better over time [in giving commands]...he used to shout or mumble or say them in different orders. Or make up his own.”</td>
</tr>
<tr>
<td>I3. “Giving her (Alexa) the opportunity to practice and the instruction to know what the animal is expecting and to know that it is not going to harm the animal.”</td>
</tr>
<tr>
<td>I4. “In doing this training [it] got him (Landon) more confident because it got him doing more things with people he wouldn’t have. He does not like the outside world.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transferable Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>I1. “Sometimes he’ll (Cyrus) tell us things that he learned about dogs. Like if we’re at the dog park or when a dog is walking he’ll be like, oh, when a dog is wagging its tail it doesn’t mean it’s happy.”</td>
</tr>
<tr>
<td>I2. “Having that practice helped him (Jason) be a better handler for Jay (new Autism Service dog of America).”</td>
</tr>
<tr>
<td>I3. “She’s (Alexa) showing confidence with our ther pet, too.”</td>
</tr>
<tr>
<td>I4. “So he was trying to be protective of the other people. He would stand in their way and hold her back.” (Landon apply understanding of dog body language)</td>
</tr>
</tbody>
</table>

**Physical Activity:**

The two subordinate themes dog related activity and physical activity, supporting the superordinate theme physical activity, emerged in all four interviews. Dog-related activity was found in all interviews while physical activity was found in interview three, Alexa, and interview four, Landon. Table 11 contains excerpts of how parent proxies described their child’s physical activity shared with their dog and other physical activity.
Table 11. Physical Activity as Seen in all Interviews

<table>
<thead>
<tr>
<th>Subordinate Theme</th>
<th>Significant statements related to theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog Related Activity</td>
<td></td>
</tr>
<tr>
<td>11. “He (Cyrus) did (walk) him when it was nicer.”</td>
<td></td>
</tr>
<tr>
<td>12. “We made him (Jason) take Jet for a walk and he didn’t complain about it.”</td>
<td></td>
</tr>
<tr>
<td>13. She (Alexa) certainly does say, “I’d like to take Addy for a walk, I’m going to take Addy for a walk, can I take Addy for a walk?” We’re hearing that a lot more.”</td>
<td></td>
</tr>
<tr>
<td>14. “So I’d say [Landon walks Lily] 80 percent more than he normally would have.”</td>
<td></td>
</tr>
<tr>
<td>Physical Activity</td>
<td></td>
</tr>
<tr>
<td>13. “The program last summer was certainly a stepping stone in her (Alexa) awareness of her physical activity.”</td>
<td></td>
</tr>
<tr>
<td>14. “He does PE, he’ll (Landon) do just what he needs to do. We have a treadmill and I’ve always said you need to work out. He’ll do that to appease me to do something other than sit”</td>
<td></td>
</tr>
</tbody>
</table>

**Positive Program Experience:**

The two subordinate themes positive program experience and enjoyment, supporting the superordinate theme positive program experience, emerged in all four interviews. As shown in Table 12, parent proxies described children’s enjoyment and experiences that led to a positive program experience.
Table 12. Positive Program Experience as seen in all Interviews

<table>
<thead>
<tr>
<th>Subordinate Theme</th>
<th>Significant statements related to theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Program Experience</td>
<td>11. “He (Cyrus) didn’t complain about going beforehand which sometimes he’ll complain about going to go do things even if he wants to do them.”</td>
</tr>
<tr>
<td></td>
<td>12. “He (Jason) really liked it, he really wanted to go every day. He was willing to practice at home.”</td>
</tr>
<tr>
<td></td>
<td>13. “Her (Alexa) ambition is really there. I think the encouragement she received in the summer program, it was a stepping stone for her.”</td>
</tr>
<tr>
<td></td>
<td>14. “He was excited.”</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>11. “He (Cyrus) really enjoyed it. He looked forward to going.”</td>
</tr>
<tr>
<td></td>
<td>12. “I said it was a research project and a study. So the whole wearing the belt thing, he (Jason) really got into that.”</td>
</tr>
<tr>
<td></td>
<td>13. “Well Alexa always looked forward to going...it [DAID program] was really positive.”</td>
</tr>
<tr>
<td></td>
<td>14. “He (Landon) did enjoy interacting with the dog and he felt like the dog was more or less his.”</td>
</tr>
</tbody>
</table>

**Overall Thematic Characterization Findings**

The analysis of the four interviews resulted in a total of 252 codes. As previously mentioned, the superordinate themes of interactions with dogs opens the door to interacting with the world, ownership and skill acquisition transferability, physical activity, and positive program experience occurred in all four interviews. Of those four superordinate themes, ownership and skill acquisition transferability occurred most frequently (n=105), and was followed by interactions with dogs opens the door to interacting with the world occurred (n=70). Comfort in an animal companion was coded in two interviews (1 and 4) and occurred the least frequently overall (n=17).

The subordinate themes confidence/pride, family interaction, socialization, ownership, responsibility, skills acquisition, transferable skills, dog-related activity, and positive program experience occurred in all four interviews. Of those, confidence/pride occurred most frequently (n=29), followed closely by responsibility (n=24), socialization (n=23), and positive program
experience (n=23). The least coded subordinate themes were friendship (n=3) and coping (n=5), though all subordinate themes occurred in at least two of the interviews.
CHAPTER 5 – DISCUSSION

The purpose of this study was to examine the child participant experiences in the DAID program through semi-structured interviews with their parent. Findings indicated 17 subordinate themes, ultimately resulting in five superordinate themes: a) comfort in an animal companion, b) interactions with dogs opens the door to interacting with the world, c) ownership and skill acquisition transferability, d) physical activity, and e) positive program experience. The emerging five superordinate themes describing child participants’ experiences related to the DAID program suggest its potential positive impact on participants.

These themes provide a broader perspective on commonalities and differences emerging between parent interviews. As with the enrollment criteria, all participants share the similar experience of participating in the 2017 summer DAID program. Concurrently, the theme that most strongly connects all participants is their positive program experience, which led to positive outcomes specific to their experience. Through the reported positive program experiences, all interviews with child participants’ parents suggested the program increased family interaction, socialization, ownership, responsibility, physical activity, and learned skills that were transferrable to experiences outside of dog training. Though similarities between participants were found, each participant’s experience was unique and as reported by parents, improved their wellbeing.

To examine the outcome of these interviews, we first examined the individual themes and the unique ways participant’s experiences relate to them. Once understanding of emerging themes was made, comparisons were made to further understand the impact the DAID program made on participant. Finally, the use of parent proxies was examined in this discussion.
Emerging Superordinate Themes:

The five emerging superordinate themes: a) comfort in an animal companion, b) interactions with dogs opens the door to interacting with the world, c) ownership and skill acquisition transferability, d) physical activity, and e) positive program experience intertwine throughout all parent interviews. Though these themes cannot be arranged in a chronological or numerical order, they can be composed to understand the DAID program’s impacts on child participant. Each participant’s positive program experience further led to ownership, social interactions, and physical activity.

Positive Program Experience

Positive experiences create reason for participants to engage and show compliance in programs. In order to achieve intended impacts of interventions, activities, and programs, facilitators must create engagement and enjoyment through positive experiences leading to participant investment. In a study measuring growth experiences at week-long camps, over 2,000 parents were surveyed, revealing that due to the children’s growth experiences at camp, there were statistically significant impacts including gained independence, socialization, and positive self-identities (Henderson, Whitaker, Bialeschki, Scanlin, & Thurber, 2007). Results were similar in a national study, which looked at American Camp Association accredited camps, using information gathered by camp attendees, camp directors, and trained staff detailing which program components related to camp environments that positively impacted youth development. Camp attendees and staff agreed that positive personal development in the camp attendees occurred as a result of improved positive identity, social skills, and personal values that were impacted by their experiences at camp (Henderson, 2007).
Consistent with these findings, DAID participant’s positive experiences in camp led to improved outcomes. Cyrus’ mother explained her observations on her son’s participation in camp, “He didn’t complain about going beforehand, which sometimes he’ll complain about going to go do things even if he wants to do them. That was a really positive experience. He liked showing his friends Cole’s tricks.” For Jason, his enjoyment of camp led to increased compliance in completing the camp homework of walking and training his dog as seen by his mother, Julia, “…he really liked it, he really wanted to go every day. He was willing to practice it at home.” Similarly, Alexa’s parents shared observations about her positive experience in camp, Andy said, “Well, Alexa looked forward to coming” and Angela added, “…it was really positive.” Landon’s motivation may have led more so in his excitement about participating with his new dog, Lily. His father, Lonnie said, “Yeah, he was excited because it was a new puppy. We didn’t know if we were going to do Lily or [our older dog] and he was happy he got to choose the new puppy.” Landon’s bond with his dog may have further motivated his positive program experiences.

The DAID participants positive program experience further led to their development of skills in ownership and aided in further development of child-dog bond. These developments in ownership stimulated further social interactions between participants and their family and friends. From the parental interviews, it can be understood that their child’s positive program experiences benefitted program outcomes. These findings are further corroborated in an evaluation of the impacts of a therapeutic camp for children with learning disabilities. In relation to psychosocial problems, the camp used evaluations and parent interviews to determine whether the program increased camper self-confidence and socialization. Results from this study found that campers had a positive experience, which led to increased bonding with other campers and
self-confidence, as well as a desire to attend the program again (Michalski, Mishna, Worthington, & Cummings, 2003)

Comfort in an Animal Companion

The superordinate theme, comfort in an animal companion, was created from the reoccurring parent descriptions of their child’s bond to their dog and the dogs purpose in helping the child cope during difficult times, suggesting their positive role in child’s wellbeing. The reference to a dog serving as a “man’s best friend” dates to the mid 1700’s when Fredrick the Great of Prussia referred to his Italian greyhound as his best friend. The value dogs serve in an owner’s life has been seen through benefits to both their psychosocial and physical domains (Souter & Miller, 2007; Salmon et al., 2010). These positive impacts extend to children living with dogs as well (Linder et al., 2018; O’Haire, 2017). In a qualitative study examining pet’s role in 174 children aged 3 to 11 years old, interviews revealed children felt their pets were a means of socialization, affection, emotional support and served a role as special friends and family members (Triebenbacher, 1998). Similar findings were found in parent interviews regarding their child’s experiences in the DAID program as parents shared their dogs role in their child’s life. Specifically, Cyrus and Landon’s positive impacts of their relationships with their dogs was revealed in parent interviews.

For both Cyrus and Landon, their dogs aided in their coping during emotionally challenging times. When asked if either gravitated towards their dogs during challenging moments, both parent’s provided descriptions of their child’s positive bond with their child. Dog’s ability to comfort children was also observed in comfort dogs serving in court rooms involving cases with child witnesses providing testimonies. Comfort dogs was observed reducing stress and anxiety for these child witnesses during testimony (Holder, 2013). Children with DD’s
can face deficits in their socio-emotional development creating further barriers in emotional regulation and social interactions (Brown & Conroy, 2011). For these individuals, dogs can serve to aide in overcoming socio-emotional barriers by serving as a topic of communication, stimulating social interactions, and providing comfort during difficult times. These benefits were seen in Cyrus and Landon’s parent recalls of their child and dog during emotionally challenging moments.

Cyrus’ mother reflected on his behavior during difficult times and provided hope for his dog Cole’s role in coping saying,

“Yeah he definitely does, or he yells at me. One of those two things. We can definitely push the other one. I’ve read a lot of articles about kids with ADHD and ODD and them unloading on their moms [is] like super completely typical behavior. Which [is] also super hard to deal with at the end of the day. So, if he could gravitate towards caring for Cole instead of complaining at me.”

Landon’s father described his coping through video games or the comfort of his dog, Lily, saying,

“Yeah, when he’s having – he’ll either want to get lost playing a video game or he’ll go and play with the dog. He likes to play rough, he’s a very... he’s a very... autistic kids like pressure. So as a kid I used to do something called steam roller and I’d lay him on the ground and roll him. Well he wants that with the dog. He likes the dog to jump on and to chase him. There’s a lot of interaction with that. He does seek out the dog a lot.”

Cyrus also found motivation in the presence of his dog Cole on car rides to school as a motivation for getting ready. Catie said,
But when he’s having a rough morning, he has a lot of rough mornings. I’ll say, if you can get yourself together and start brushing your teeth, or whatever you need to do Cole can ride in the car with us to do drop off at school. It helps a lot of the time. A lot of the time he wants Cole to be able to ride in the car with us. Anything to me that will make our morning go a little bit more smoothly. So I’m like, if the dog rides along, fine, the dog rides along.

Landon’s bond with his dog, was seen through his father’s description of his playful interactions with Lily. Landon’s father said,

“They have a really fun dynamic between those two (Landon and Lily). He loves to, I mean he’s very tactile. He likes to feel her fur and hold her. So he’s constantly trying to get her to chase, which is really not what you’re supposed to do when you’re training a dog but they have this fun relationship where they play and play.”

Cyrus and Landon’s comfort found in their dog is consistent with Bryant’s (1985) study examining 168 children’s perceptions on factors in their development during middle school. The 7 and 10-year-old population was asked to name the 10 most important individuals in their lives, on average children reported two pets. They were as likely to tell their pet about sadness, anger, happiness, and secret experiences as they were their siblings (Bryant, 1985). Dogs continue to be person’s best friend as seen in Cyrus and Landon’s relationship and bond to their dogs. For both participants, these bonds served as motivation for developing their ownership skills leading to further physical activity. Humans relationships with animals have been known to be more resilient than relationships with humans. In a study about children’s relationships, children felt their relationship with their pet was more likely to last (Furman, 1989). The role of these special bonds between child and dog show promise for future animal assisted activities and
interventions. For Cyrus and Landon, this bond led to further development of their ownership of their pet.

Ownership and Skill Acquisition Transferability

The superordinate theme, ownership and skill acquisition transferability was seen in participant’s development of skills that led to them taking responsibility and being independent through taking control and ownership of their dogs. Consistent with these findings, a study of a dog in a classroom of children with severe emotional disorders revealed the dog taught children responsibility, respect, empathy and also aided in emotional support (Anderson & Olson, 2006). In a study involving 312 families with 8 to 12 year old children, parents got pets upon child request mainly to provide an opportunity to teach responsibility and care (Fifield & Forsyth, 1999). Human-dog bonds can teach provide motivation for unfavorable tasks (e.g., dog walking in the rain or picking up dog messes) and provide opportunity for life lessons in responsibility. The four participants all gained skills in ownership during the DAID program. For Cyrus, Alexa, and Landon, their increased responsibility in ownership was seen through their willingness to care for their dogs. Cyrus’ mother Catie explained, “Cyrus will go feed him sometimes. He doesn’t usually volunteer to do chores. He’s definitely more willing to do stuff for Cole (dog) than he would be to go do the dishes or his homework.” Like Cyrus, Alexa found caring for her dog Addy more favorable than her typical responsibilities as accounted by her father, Andy when he said, “When we’re gone and we’ve had the opportunity to get away, Alexa will step up and want to feed and [do] the feeding for Addy and stuff. I guess they (Alexa and her sister) are a little more aware of things that have to happen, like water.”
Alexa’s ownership for her dog Addy transferred into further responsibility with her family cat but did not extend as far as motivating her to complete less favorable responsibilities. Her father Andy later said,

“...just being responsible too for Addy and our cat. Making sure they’re getting fed and stuff has been good. I suppose it will hopefully carry on. It still hasn’t changed brushing your teeth and those kinds of things, there are still reminders there.”

For Landon, ownership over his dog Lily was sparked when she was selected to participate in the camp soon after her adoption. This ownership led to Landon’s gained responsibility in caring for Lily which was additionally motivated by his positive relationship with her. Landon’s father Lonnie said,

“I think we’d still walk the dogs but since he went to the camp he feels that it’s kind of his responsibility and his chore to do. So, he’s taken ownership on that. So I’d say 80 percent more than he normally would have. Now if he wouldn’t have done that camp, he’d probably have still done it, but he would have yelled at his sister to go do it. Now that this is kind of his program, he takes a little bit more ownership because of that.”

The skills Jason learned in the DAID program eased the transitions between service dogs by providing the opportunity to develop skills necessary in owning and caring for a dog. Like the others, Jason learned the valuable life lesson that sometimes responsibility means completing unfavorable tasks, through completing the program homework. As reported by his mother, the service dog that participated alongside Jason retired soon after the conclusion of the program due to poor health. Jason’s transition in ownership was supported by the skills he learned at camp including giving commands and tolerating dogs. His mother Julia said,
“He isn’t as easily frustrated with Jay (new service dog). Maybe not as much as before, like before he went to camp and would be with Jet (dog).”

Julia also explained how Jason’s experience in the program and being surrounded by new dogs provided him the opportunity to develop tolerance of new dogs as well as provide commands.

“I do think it helped in him handling Jay better in understanding you have to give commands…but did that perhaps prepare him for this dog who wants to get in his space [and] that he is okay with it.”

As seen in accounts from the parents of DAID participants, dogs provided child owners with the opportunity to develop skills in ownership. Learning ownership includes learning how to nurture, care, and maintain responsibility, even when tasks are unfavorable (Fogel & Melson, 1986). These learned skills and increase in ownership led to independence, confidence, social interaction, and physical activity. All of these positive benefits indicate the importance of a positive program experience.

**Interactions with Dogs Opens the Door to Interacting with the World**

The superordinate theme interactions with dogs opens the door to interacting with the world was supported by the subordinate themes: confidence/pride, family interaction, friendship, and socialization. These reoccurring themes demonstrate areas in which the child participant’s opportunities in the DAID program aided their growth. Consistent with existing literature, the dog participants served to increase confidence, leading to further socialization. As seen in Linder and colleague’s (2018) study, dogs have served as reading companions to help children learning to read overcome the shame associated with deficits in learning. In addition to providing opportunity to develop confidence and pride, animals have served as catalysts for social interactions and provide opportunities to valuable life lessons aiding in future socialization
(Belle, 1989; Jarred, Hinchcliffe, & Roberts, 2015). In a study of 70 families and their children with ASD, it was found that children with a pet were more likely to engage in socialization. The dogs served to overcome the barrier ASD symptomology creates of social deficits (Carlisle, 2014). A study examined the socio-emotional characteristics in children with and without pets involving 826 grade school children found that children with pets were more empathetic and likely to initiate social interactions than children without pets (Vidović, Štetić, & Bratko, 1999).

Parents of the DAID program participants communicated similar observations in their children. Every participant’s experience in the program led to further skills or opportunity for communication. The participant’s development of dog training skills provided a means of further communication with sibling members and friends. For Cyrus, his bond with his dog Cole led to additional walks to friends’ houses and the local park. His experiences participating in the DAID program and incentives received served as conversation material between his friends and family. His mother Catie recounted, “He really likes that he got paid for it. He went around and told all of his friends that he got paid [and] that he was a professional dog trainer” and later said, “He went home and told his brothers everything that went on. They really wanted to do the tricks that Cyrus had taught Cole to do too.” For Cyrus, his relationship with Cole prompted him to take walks to visit friends which gave opportunity to discuss experiences in the DAID program. His experiences stimulated interactions with his brothers and provided him with the opportunity to take pride and share his newly developed dog training skills.

Similarly, Landon’s bond with his dog, Lily, motivated him to take her on walks with his sister, despite complex sibling dynamics and varying interests. Landon’s participation in the DAID program further led to quality time with his brother. His father, Lonnie said, “They could have their time together and [his brother] was learning to drive and I’m like what a perfect
place to drive.” When asked if they hung out more than usual because of this, Lonnie said, “Oh yeah, they don’t [hang out]. His brother at the age of 16, going to be 17, [where he wants] the independence and wants to do his own thing. His brother (Landon) wants his bubble to remain in the same. So, anything that I can get them to continue doing together gets them closer.” Jason may have also experienced increased family interactions because of the DAID program, as his mother Julia said, “I remember his sister trying to be out there and she wanted to do them too [training skills]. She would be like, can I do them now?”

In addition to stimulating socialization with family members, the DAID program provided an opportunity to help Alexa develop the confidence to set boundaries with her intrusive family dog, Addy. As seen in the benefits of a reading companion dogs, Addy in combination with the guidance of the DAID program, gave Alexa the opportunity for to develop confidence in her communication, leading to her developed skills in self-advocacy. Her mother Teresa said,

“She’d be in the back seat going ‘help,’ you know? So as this progressed she found her voice with Addy. She found the confidence to say, ‘no, it’s not okay for you to stand on me, you need to move off of me’ because Addy would get one whiff of ocean water or river water and want to be at the window and it was always Alexa that she knew she could literally stand on.”

Later Teresa went on to discuss the changes she observed in Alexa’s communication with Addy. She noticed Alexa’s improved ability to set boundaries with Addy, saying, “It wasn’t too long into the program where we both went, “she’s (Alexa) hearing her own voice.” She’s noticing she can command our family pet and it’s okay to command the family pet that it doesn’t hurt her.”
As accounted by some of the parent proxies, the DAID program served as a topic of conversation with family members and friends of the child participants. The social interactions were further benefited by their ability to share and teach their learned skills. For Alexa, learning to set boundaries through control of her dog Addy led to promising beginnings in self-advocating and further social interaction between both family members and friends. Dogs can serve as a catalyst to social interaction in providing topics of discussion and in aiding in the development of confidence in communication (Solomon, 2010).

**Physical Activity**

Literature provides ample evidence that pet ownership can lead to and is associated with positive outcomes (Wells, 2007). In a National Household Travel Survey, 1,282 youth and adults reported on dog walking habits and dog care trips. In nearly 60% of participants, the owners walked their dogs at least two or more times a day. 80% of the participants took their dog on at least one walk per day. A cross sectional study examining dog ownership, dog walking, and physical activity in children ages 5 to 6 and 10 to 12 years old and their parents, found that dog ownership was associated with higher levels of daily PA than non-dog owners (Salmon, Timperio, Chu, & Veitch, 2010). Dogs serve as a prompt to engage in PA in both dog walking and play. Similar observations were made by the parents of DAID participants and their dogs. For both Cyrus and Alexa, these dog walks provided opportunity for socialization with their peers. Cyrus’ mother said, “yeah, his little buddies, they don’t have a dog, they live about half mile from our house. He would walk Cole to their house and hang out.” For Alexa, dog walking provided an opportunity to demonstrate independence and responsibility on frequently trafficked routes. For Alexa, Addy also served as a wingman in excursions to admire boys playing sports. Andy said,
“I think we are more comfortable letting her because the walk might be as much as a mile. A loop around the park and back and stuff. Before I would hardly ever let her have the leash on the busy street. I’m pretty comfortable with her taking Addy and going off on her own and doing the big loop.” He continued, “…yeah and sometimes she’ll take Addy over to the high school, the track, if there are boys out on the field doing something.”

The increase in Alexa’s dog-related activity and PA from the DAID program led to further PA in both dog walking and non-dog related PA after the program conclusion. Alexa’s participation in the DAID program provoked her interest in PA which was later reinforced by quality physical educators. In the interviews, both of her parents noted the difference in PA they’ve observed since last summer, including its benefit in the way she physically carries herself with confidence. Her mother Teresa said, “I think the program last summer was certainly a stepping stone in her awareness in her physical activity. In choosing what she enjoys doing and taking that step into it.” She continued,

“Sitting here I’m thinking about her physical activity about a year ago, prior to summer happening, it was probably a battle for us to get her to the YMCA but now she just goes. We’ll tell her when she gets home we’re going to give you so many minutes of cool down time and it’s not a battle. It’s not talk back, she just knows. She’s matured, she’s had pretty good PE teachers this year and she had the activity (DAID program) last summer.”

For Landon, his participation in the DAID program stimulated his bond to his dog Lily which further led to play and dog walking. As his father Lonnie notes, dog walking isn’t his preferred interaction with Lily, but that his bond with her supports his motivation to walk her. Lonnie said, “He does more with the dog in play mode. Walking is more of a byproduct, it’s the chore to do.
But the dog and him get more exercise running around the house chasing each other.” Like Landon, other children have been found to take more responsibility in tasks of pet ownership due to their bond with their dog. A cross sectional study of 370 children ages 4 to 10 years old and their dogs were evaluated on PA and dog attachment. Results showed children with higher attachment to their dog had higher levels of PA (Gadomski, Scribani, Krupa, & Jenkins, 2017).

For Jason, his willingness to complete dog walking and training homework has influenced his mother Julia to integrate dog walking into his daily routine. Julia said, “I’m hoping to sometime soon include that in his afterschool or daily routine that he walks Jay on the treadmill. It’s one more thing they should do together. He’s not my dog. I love him, but he’s not supposed to be my dog.”

The reason Jason’s dog walking did not continue after the conclusion of the DAID program was not revealed but it can be hypothesized that the retirement of his service dog, Jet, and addition of his new service dog, Jay, made it difficult to continue built routines. His willingness to participate during camp leads to optimism about future walks aiding in his PA.

Overall, participant’s PA was positively influenced by their participation in the DAID program. These findings are consistent with past evidence of associations between dog ownership and PA (Salmon, Timperio, Chu, et al., 2010; Wells, 2007). For all participants, the DAID program led to ownership of their dogs, which led to further PA, and taking responsibility for dog care. Teaching children lessons in pet ownership can serve as an investment into their lifelong fitness. Children’s gained confidence and independence in ownership is a skill that can be transferred to future pets, ultimately leading to future play and walks, aiding in improved PA.
Examining Connections between Participants:

Due to the purpose of the study, all participants shared the common experience of participating in the summer 2017 DAID program. According to parent proxies, each participant had a positive experience in the program which further led positive program outcomes as shown in the three common superordinate themes. The superordinate themes interactions with dogs opens the door to interacting with the world, ownership and skill acquisition, and transferability, as well as physical activity arose among all participants in their own respect.

The theme comfort in an animal companion did not carry as strongly through all participants. In both Alexa’s and Jason’s parent interviews, little discussion occurred about their child’s bond with their dog. It’s difficult to determine if the child-dog bond was not present, or was not perceived by parents, or simply did not arise in discussion. When considering both Alexa’s and Jason’s relationship with their dogs, the lack of focus on child-dog bond in parent interviews is logical. For both participants, their parent’s interviews focused more on the program’s impact on their ownership and developed skills.

For Alexa, the DAID program taught her to set boundaries with her intrusive dog. Although her parents, Angela and Andy, indicate that Alexa is fond of their dog Addy, they describe a child-dog relationship in which their dog’s invasive behavior negatively impacted Alexa. This may account for the lack of expressed and perceived child-dog bond. Jason’s relationship with his dog was distinguished by Jet’s role as a service dog. Jason’s mother Julia accounted for Jet’s increased attachment for Jason but was not certain about the development of a child-dog bond. The lack of bond can be attributed to their working relationship, Jason’s ASD symptomology, and/or Julia’s perception. Social interactions, whether with a dog or a human can be challenging for individuals with ASD. Conversely, as seen in Jason and Jet’s relationship,
learning ownership for a family dog can lead to responsibility, further social interaction, and flexibility in new circumstances.

For Cyrus and Landon, their bonds with their dogs developed along with their skills in ownership. For both, their dogs served as a prompt to walk around the neighborhood and as a companion to find comfort in during challenging times. Both of their child-dog relationships were reinforced by their participation in the DAID program. For the two of them, their bonds with their dogs led to further responsibility in completing chores. Their positive program experience may partially be attributed to their child-dog bond.

The two themes, ownership and skill acquisition transferability and interactions with dogs opens interactions to the world, co-occurred in all participants. Through developed ownership, all participants experienced an increase in social interactions and PA during and after participating in the program. The skills taught in the program led to participant’s improved ownership by learning responsibility, control, and independence. For Cyrus, Alexa, and Landon, this ownership led to sustained PA in caring for their dog. These three participants continued walking their dogs following the program. For Jason, his willingness to complete the program homework led to his mother Julia’s optimism in including dog walking into his daily routine. Each participant’s experience was different, but similarities found in their participation supports the program’s positive impact on their present and future wellbeing.

**Lasting Impacts and Furry Futures:**

Individuals with DD’s engage in less PA (Hickson & Curtis, 2013 & Pan, 2008), which can compromise QoL. As with other animal-assisted programs, promising results from this study support the positive role dogs can have in improving positive program outcomes (Lewis et al., 2009; Salmon et al., 2010; Souter & Miller, 2007). Simply owning a dog can lead to increased
PA, but the additional benefits of teaching dog training skills to individuals with DD’s emerged through examining the DAID program. By providing an opportunity for child-dog bonds and ownership to develop, participants had positive program outcomes. Improvements in skills were seen in the individuals developed ownership, leading to responsibility and control which further benefitted their social interactions. Through the responsibility of dog walking, participants experienced increased PA during and after the program.

The transferability of these learned skills was seen in each participant. In Cyrus, his learned skills, from this project, aided in further social interactions in sharing his pride in participating in the program. His improved relationship with his dog, Cole, led to comfort during more challenging times. Jason’s mastery in delivering commands and learned tolerance for unfamiliar dogs supported his transition to a new service dog. His success in completing the program homework has transferred into his mother’s goal of increasing PA through dog walks. Like Jason, Alexa benefited from the practice providing commands. Her development in showing control towards her dog, Addy, led to her growth in setting boundaries with family members. Taking ownership in walking Addy influenced her awareness of PA, leading to an increase in her overall activity. For Landon, his developed child-dog bond and ownership transferred into responsibility for Lily in social situations. His relationship with Lily transferred into a mechanism to show control in his dynamic sibling relationship with his sister but also served as a bridge to their increased dog walks together. These sustained skills may further transfer into future dog ownership.

**Parents Perceptions of Participants and Pups:**

Parent proxies served as informants on child’s longitudinal relationship with their dog. As past studies show, parents can accurately provide information on their child’s QoL
(Sherifali & Pinelli, 2007; Eiser & Morse, 2001; Russel et al., 2006; Marques et al., 2013; Galloway & Newman, 2017; and Parkinson et al., 2011). Although the parent’s shared descriptions of their child’s experiences from the DAID program, evidence from previous studies shows that the sole use of parent proxies might result in potential bias and does not provide a holistic understanding of their child’s experience. Biases related to parent-child relationship, and demographics including ethnicity and socioeconomics might limit or skew parent response (Sherifali & Pinelli, 2007). Parent proxies also provide a one-sided explanation that might lead to missing key themes and results (Parkinson et al., 2011).

Though parents involved in this study seemed to have a thorough understanding of their child’s experiences, several statements were made that indicated the need for additional investigation. When asking Julia what Jason enjoyed about camp, her response included,

“…it would be awesome if we could get inside of his head and see what it is about dog camp that he liked, you know. What was so exciting about it. Some of it might have been because it was science and I said it was a research project and a study. The whole wearing the belt (physical activity monitor) thing, he really got into that.”

Later Julia said, “I think if you asked him what he liked about it he would say, ‘all of it.’” Her prediction of his limited response is likely due to his limitations in communication and social interactions related to his ASD symptomology. Similarly, Landon’s father Lonnie, talked about how Landon’s ASD symptomology impacts the formality of his communication, describing him as “not very shy, but he gets formal…he doesn’t talk very much.” When seeking information about child outcomes, deficits in communication and socialization can play a role in the availability and accuracy of reporting. As seen in this study, parent proxies can provide exclusive information to their child’s experiences.
Limitations

The perspectives collected in this study were limited to parent perceptions of their children’s experiences in the DAID program. The principle investigator of this study was involved in coordinating and running the summer 2017 DAID program, which gave opportunity for rapport to develop with parents of participants. Due to this previously existing relationship, parents may have felt obliged to provide responses to question and prompts that they felt the interviewer may have been looking for. Limitations may have also existed in the interview questions’ ability to capture all information that represented child experiences in the DAID program. Finally, parents’ perceptions of their children could fail to capture their children’s experiences in the DAID program.
CHAPTER 6 – CONCLUSION

The purpose of this study was to examine the child participant experiences in the DAID program through semi-structured interviews with their parent. The DAID program taught children ages 8 to 17 with DD how to train their family dog. Findings from this study were congruent with past studies involving human-animal interaction, which resulted in positive impacts to participants (O’Haire, 2017; Linder et al., 2018, Souter & Miller, 2015; Tepfer et al., 2017). Overall, children experienced positive outcomes from their participation in the DAID program, as reported by parent proxy respondents. In addition, the participants’ positive program experiences helped them develop dog ownership skills and strengthened child-dog bonds, which led to further social interactions and dog walking.

Results from this study were based on parent perception. In future studies, child self-reporting is encouraged to gain a more holistic perspective. Interviewing participants would provide the opportunity to compare parent and child responses and might also lead to additional valuable themes arising from the data (Parkinson et al. 2011).

As seen in the results from the DAID program, dogs serve to teach children responsibility, independence, and control through ownership, all of which can further lead to socialization. In past studies, children who were more attached to their pets were found to demonstrate greater empathy with others (Daly & Morton, 2006; Poresky, 1996). Creating opportunities for children to develop ownership may be the impetus for a lifelong investment in fitness, with their dogs serving as prompts for PA. This study’s findings can be used to shape future animal-assisted interventions, activities, and programs. To build a comprehensive understanding of the role dogs can play in children’s skill development, further research should be conducted to develop
activities, programs, and interventions that can best facilitate skill acquisition in training dogs to maximize program benefit.
Bibliography


https://doi.org/10.1177/1074840706297789


Appendix

Appendix A

Interview Script

1. Can you tell me what your child’s experience in the DAID program was like?
   
   Possible Prompts: On car rides home from DAID, what did your child share about camp? What were some highlights your child shared from camp? Did they enjoy it?

2. How have you seen the DAID training skills impact your child’s life?
   
   Possible Prompts: How so? What about in friendships? What about with other dogs?

3. Did you notice your child’s physical activity level change?
   
   Possible Prompts: During camp, he/she took (dog) on walk for homework, did this continue? During camp, we walked your dog often, did this transfer to home? Did you notice improvements in any other physical skills? Playing ball/catch...

4. How did your child’s relationship with their dog change?
   
   Possible Prompts: What was their relationship like when your first got the dog? What was their relationship like before camp? What was their relationship like after camp?

5. Can you describe any differences you noticed in your child’s confidence or self-worth?
   
   Possible Prompts: Did they become more confident outside of dog training?

6. Have you seen your child practice dog training since camp?
   
   Possible Prompts: You child learned (skills learned), can you describe any of the skills that stuck?

7. How did you child describe their experience in the camp?
   
   Possible Prompts: Their buddy noticed they excelled at (skill), what did you notice at home? Do they ever talk about camp?
8. Has your child taken more responsibility for your family dog at home?

*Possible Prompts: Who takes your dog out? Who feeds your dog?*

9. Have you noticed any changes in their relationship during or since participating in camp?

*Possible Prompts: Do they spend more time together?*

10. Are there any areas of your child life that they transferred their skills learned at DAID in?

*Possible Prompts: How so? What about in school? What about in friendships?*

11. How did your child benefit from the DAID camp?

*Possible Prompts: Did you see skills transfer outside of camp? What about in helping care for their dog?*

12. Are there any other comments you would like to add about the DAID camp?

*Possible Prompts: What were the highlights? Were there any improvements or alterations to camp you feel other families would benefit from?*