

UNIVERSITY *of* **INDIANAPOLIS**®

School of Occupational Therapy

Development of an Animal Assisted Therapy Program for an Outpatient Pediatric Setting

Alexandria Kessens

August, 2018



A capstone project submitted in partial fulfillment for the requirements of the Doctor of Occupational Therapy degree from the University of Indianapolis, School of Occupational Therapy.

Under the direction of the faculty capstone advisor:

Jennifer Fogo, PhD, OTR

A Capstone Project Entitled

Development of an Animal Assisted Therapy Program for an Outpatient Pediatric Setting

Submitted to the School of Occupational Therapy at University of Indianapolis in partial fulfillment for the requirements of the Doctor of Occupational Therapy degree.

Alexandria Kessens, OTS

Approved by:

Faculty Capstone Advisor

Date

Doctoral Capstone Coordinator

Date

Accepted on this date by the Chair of the School of Occupational Therapy:

Chair, School of Occupational Therapy

Date

Development of an Animal Assisted Therapy Program for an Outpatient Pediatric Setting

Alexandria A. Kessens, OTS

University of Indianapolis

Abstract

Stones Crossing Physical Therapy and Rehab offers clients a variety of treatments and therapists have multiple advanced training and certifications in different skills. Staff wanted an animal assisted therapy (AAT) program to give clients an alternative therapy method but had limited time and resources. Therefore, a doctorate capstone experience (DCE) student was brought in at the site to develop the AAT program. The purpose of this DCE is to create an AAT program to support and/or enhance therapy interventions which will ultimately increase the QOL in an outpatient pediatric population. A needs assessment survey was created by the DCE student in order to determine if staff thought there was a need for an AAT program and what they thought potential benefits and barriers of the program would be. Based on research findings and findings from the needs assessment survey, the student developed a program proposal, policies and procedures, and found an AAT organization that best fit the site. Additionally, the student created a resource packet that included textbooks, links to the Animal Assisted Therapy International Standards of Practice and glossary terms for AAT, and citations/abstracts for intervention research articles. An inservice was presented to staff and staff completed a pre and post survey to measure their understanding of AAT after attending the presentation and reviewing the resources. Average scores on the post survey for each question increased from the pre survey. It is recommended that staff use these resources when the AAT program is implemented to ensure best practice.

Development of an Animal Assisted Therapy Program for an Outpatient Pediatric Setting

The Stones Crossing Health Pavilion is a joint venture of Community Health and Johnson Memorial Hospital to provide multiple services to meet the needs of families. The goal of Stones Crossing is to “keep your best health possible” (Community Health Network, 2017). Stones Crossing Physical Therapy and Rehab offers occupational therapy, physical therapy, and speech therapy for all ages. However, for the purposes of this paper pediatric services will be highlighted. There are unique services offered, such as aquatic therapy and a sensory integration gym for infants and children to use for play based therapy. Other services are used to assist children with diagnoses of speech-language developmental delays, autism spectrum disorder, and gait disorders, (Community Health Network, 2017). Therapists who are employed at Stones Crossing have advanced training in the following: feeding difficulties, neurodevelopment treatment, neurogenic communication disorders, voice disorders, outpatient dysphagia therapy, gait abnormalities and spasticity, and Handwriting Without Tears. Several therapists also have multiple certificates including sensory integration, pool operators, aquatic therapy, LOUD, and Beckman oral motor treatment (Community Health Network, 2017). This advanced certification allows therapists to provide specialized OT services, occupation-based practice and optimal client-centered care. Occupational therapists work with children to address difficulties of ADLs, IADLs, and social participation such as toileting, dressing, feeding, personal hygiene and grooming, communication management, meal preparation and cleanup, play, and social participation. Occupational therapist also addresses client factors such as sensory function, neuromuscular function, mental functions which include attention, executive functions, perception, and emotional regulation during treatments (American Occupational Therapy Association, 2014).

Even though therapists currently offer extensive, comprehensive services, therapists and staff believed that overall services could be enhanced with the addition of animal assisted therapy. However, they lacked the time and resources to fully investigate the possibility of attaining and sustaining such services. Therefore, a DCE student was brought in to develop the program. The purpose of this DCE was to create an animal assisted therapy program to support and/or enhance therapy interventions which will ultimately increase the QOL in an outpatient pediatric population.

Literature Review

The DCE student investigated the literature before developing an AAT program. The DCE student also researched the need for AAT for a pediatric population and investigated the number of individuals who have a developmental disability in the United States. Since neither the DCE student nor the site had any prior knowledge about AAT, the student explored the terminology of AAT and how it might be incorporated into therapy at Stone's Crossing. The DCE student found evidence to support the use of AAT in a pediatric population. There are multiple areas that children with developmental disabilities have difficulty with. These areas will be outlined in the paper as well as the evidence that supports the use of AAT to support and/or enhance therapy interventions for those difficulties.

Developmental Disability Statistics

Centers for Disease Control and Prevention (CDC) completed a study that evaluated the prevalence of developmental disabilities in the United States from 1997-2008. The prevalence of developmental disabilities over 12 years of the study increased by 17.1 percent. This equates to 1.8 million more children with a developmental disability compared to a decade before (Centers for Disease Control and Prevention, 2015, p. 1). In 2006-2008, one in six children had a

developmental disability. The prevalence of autism increased by 289.5 percent and ADHD increased by 30.9 percent (Centers for Disease Control and Prevention, 2015, p. 1). More recently Zablotzky, Black, and Blumberg (2017) estimated that the prevalence of children diagnosed with a developmental disability has continued to rise from 5.76 percent in 2014 to 6.99 percent in 2016. Children with developmental disabilities have difficulty with learning, regulating behavior, and self-care (Zablotzky et al., 2017, p. 2). Other difficulties include language, mobility, self-help, and independent living. Developmental disabilities can be diagnosed anytime from birth up to age 22 and impact the person's entire life (Centers for Disease Control and Prevention, 2015). The results indicate the rising need for interventions to assist these individuals to live a more independent life and be able to participate in meaningful occupations.

Brief Overview of Animal Assisted Therapy

Animal assisted intervention (AAI) is a term that encompasses both AAT and animal assisted activity (AAA) (Calcaterra et al., 2015; Goddard & Glimer, 2015; Morrison, 2007; Urbanski & Lazenby, 2012). AAT and AAI are a goal-directed part of the therapy process in which therapists work specifically with an animal to achieve therapeutic goals and outcomes. The progress on goals is documented and measured. Whereas, an AAA is not goal directed and is more of a causal interaction between an animal and a group or an individual (Calcaterra et al., 2015; Dietz, Davis, & Pennings, 2012; Goddard & Glimer, 2015; Morrison, 2007; Urbanski & Lazenby, 2012, Yap, Schienberg, & Williams, 2017). A variety of animals can be used for AAT, but the most common animal is a dog (Goddard & Glimer, 2015; Morrison, 2007). A trained health professional guides the intervention session (Calcaterra et al., 2015; Morrison, 2007). These health professionals include but are not limited to, registered nurses, nurse practitioners,

physicians, occupational therapists, physical therapists, social workers, psychologists, and licensed counselors (Morrison, 2007). Professionals are licensed in their discipline and then trained to become animal specialists. These specialists use the dog in therapy as a modality during treatment (Morrison, 2007; Velde, Cipriani, & Fisher, 2005). Occupational therapists use modalities to create/promote, establish/restore, maintain, modify, and prevent (Velde et al., 2005). AAT can be used in multiple settings such as hospitals, residential care facilities, and hospices (Martin & Farnum, 2002). AAI can be used across the lifespan for individuals who need improvement in mood, motivation, self-esteem, and physical and psychological well-being (Morrison, 2007). One might use AAI to address issues related to medical conditions such as autism, dementia, chronic diseases, mental health, and neurological disorders such as aphasia and epilepsy (Morrison, 2007). AAT goals focus on improvements in one's physical, social, emotional, and/or cognitive functioning (Goddard & Gilmer, 2015; Morrison, 2007; Urabanski & Lazenby, 2012). There are several therapeutic benefits that AAT can offer to children with disabilities which will be discussed next in the paper.

Stress/Anxiety

There is a growing concern that children with physical or mental disabilities like cerebral palsy (CP) may also develop psychotic disorders such as aggression, agitation, social withdrawal, and depression (Elmaci & Cevizci, 2015). Dogs can offer benefits in emotional, social, and psychological well-being of children (Wohlfarth, Mutschler, Beetz, & Schleider, 2014). This is facilitated through the human-animal interaction. The human-animal interaction is composed of psychological, emotional, playful, and physical simulation elements which guide treatment (Elmaci & Cevizci, 2015). The human-animal interaction can influence neurochemicals such as dopamine which decreases blood pressure and provides relaxation which

can improve an individual's quality of life (QOL) and coping (Elmaci & Cevizci, 2015; Urbanski & Lazenby, 2015). Martin and Farman (2002) discussed how interaction with animals can lower heart rate and blood pressure and reduce anxiety and depression. Velde et al., (2005) and Schuck, Emmerson, Fine, and Lakes (2015) also stated that AAT can alleviate stress. One of the reasons animals reduce stress is because they can provide comfort, which promotes a sense of safety and can improve self-esteem (Velde, et al., 2015).

AAT can reduce stress and increase QOL in pediatric oncology patients (Calcaterra et al., 2015; Urbanski and Lazenby, 2015). A randomized controlled pilot study performed by Calcaterra et al. (2015) evaluated the neurological, cardiovascular, and endocrinological impacts that AAT had on 40 children post-surgery compared to standard postoperative care. There were 20 children assigned to the standard care and 20 children were given AAT for 20 minutes. Neurological measurements were conducted by comparing the difference in beta electroencephalogram (EEG) activity pre and post intervention. Cardiovascular input was measured using cerebral prefrontal oxygenation (HbO₂), heart rate (HR), blood pressure (BP), and oxygen saturation (SpO₂). Salivary cortisol levels were used to measure endocrinological impact (Calcaterra et al., 2015). Results of this study found that the group with AAT had lower brain wave activity and oxygen levels, heart rate, and blood pressure levels post-op. The group of children receiving AAT after surgery also experienced more rapid recovery and vigilance after anesthesia, modified pain signals, and children were able to regulate emotions better after surgery (Calcaterra et al., 2015).

Children who survive sexual abuse can also have high anxiety, depression, and stress disorders such as post traumatic stress disorder (PTSD) (Dietz et al., 2012). Therapeutic stories is a common treatment used to treat the psychological needs of child abuse survivors (Dietz et al.,

2012). Dietz et al. (2012) compared three treatment groups: therapeutic stories with no dog, dog with stories, and dog with no stories. There were a total of 153 children between the ages of 7-17 who had all experienced sexual abuse. The group with therapeutic stories and no dogs had 12 sessions over topics including trust, self-esteem, secrets, triggers, boundaries, feelings, and welcome and unwelcome touch (Dietz et al., 2012). The group with dogs and no stories and the group with stories and no dogs also participated in the same 12 sessions covering similar topics. However, in the group with a dog and stories the dogs came in for 10-15 minutes at the beginning of the group. This group also included specific stories related to the dog to give the dog visits more structure. The results of the study found that the children who participated in the groups with the dogs had decreased scores on the Trauma Symptom Checklist for Children (TSCC) in anxiety, depression, PTSD and dissociation with the group including the therapeutic stories and dog demonstrating the most improvement when compared to the children who engaged in stories with no dog. (Dietz et al., 2015).

Children can also have anxiety from new or difficult tasks such as reading (Wohlfarth et al., 2014). In a cross over design, 24 children were assigned to either a human interaction for reading or reading with an animal and human. The children were assessed on literal reading, content comprehension, reading time, and text comprehension (Wohlfarth et al., 2014). The group that included the dog and human had higher scores in three out of four of the reading parameters. Children's reading performance improved because the child was not as stressed about the task in the presence of a dog. The dog also provided a warm, friendly, compassionate atmosphere which decreased stress and motivated the child to read (Wohlfarth et al., 2014).

Elmaci and Cevizci (2015) explored the use of a dog as part of an occupational therapy intervention to reduce children's fear of medical interventions and decrease stress and anxiety

when going to a hospital environment. The occupational therapist had two children pretend that the dog was going to the vet and that he was scared to go (Elmaci & Cevizci, 2015). The intervention consisted of the children giving the dog a physical exam and providing encouragement/empathy. By using the dog as part of the intervention, the children were able to demonstrate decreased anxiety of medical procedures and showed empathy to another living object. This assisted them in achieving their goals in occupational therapy (Elmaci & Cevizci, 2015).

Physical

Physically, individuals' range of motion (ROM), balance, and strength can improve with AAT (Velde et al., 2005). AAT can also be used to improve motor skills in children (Winkle & Jackson, 2012). Children with CP have difficulty performing motor tasks which can limit their daily function (Elmaci & Cevizci, 2015). A study by Elmaci and Cevizci (2015) used three different therapy dogs to achieve occupational therapy goals. The children were put in five different groups based on their therapy goals. One child had CP and hemiparesis and the goal was to increase muscle tonus regulation by using different sensory stimulation to increase mobility on the right side. The dog was used to provide sensory stimulation to the extremity by licking yogurt off the child's extremity and the child's tonus was decreased. However, the results were only temporary (Elmaci & Cevizci, 2015). The goals for another boy with bilateral CP were to increase muscle activities, which included handwriting and standing balance. The dog was used to assist the boy with standing and using fine motor movements such as writing a letter to the dog and painting. The boy achieved his therapy goals and his motivation for treatment was increased with the use of the dog during therapy (Elmaci & Cevizci, 2015). Another child had spastic CP, which limited his lower and upper extremity movement. After using a therapy dog,

his movements and bowel movement increased. Even though the sample size was small each child had a positive experience using a therapy dog and the therapy dog assisted in achieving goals for the children. (Elmaci & Cevizci, 2015).

Executive Functions

AAT can provide more meaningful clinical interactions and positively impact human emotion and cognition in children with disabilities (Yap et al., 2017). Interactions between animals and children with developmental and emotional disorders and Down syndrome can improve children's' emotional stability, decrease negative behaviors and aggression, and increase their attention and cooperation (Urbanski & Lazenby, 2015). Growing evidence suggests that utilizing AAT can make treatment motivating for participants (Schuck et al., 2015). Sams, Fortney, and Willenbring (2006) concluded that using AAT was an intrinsic motivator for children with autism. Therefore, external rewards were not necessary to coax the children to participate in treatment. The children wanted to complete the treatment because the use of an animal was intrinsically motivating. Also, Velde et al. (2005) stated that participants were more motivated to come to treatment when an animal was present. Participants were more motivated which increased the duration of occupational therapy activities and improved the outcomes of occupational therapy intervention since the participants stayed longer.

Children with attention deficit hyperactivity disorder (ADHD) have impairments in executive functioning, attention, emotional regulation, arousal, self-regulation, and motivation. This can lead to poor frustration tolerance, and difficulty accepting consequences. A traditional treatment approach to ADHD is cognitive behavioral therapy (Schuck et al., 2015). Schuck et al. (2015) randomly assigned 24 children to a 12 week group with either cognitive behavioral therapy or a group with cognitive behavioral therapy and canine-assisted intervention (CAI).

Data were collected per parent report and from the ADHD Rating Scale – Fourth Edition, Home and School Version (ADHD-RS-IV), Social Skills Improvement System Rating Scales (SSIS-RS), and the Social Competence Inventory (SCI). The ADHD-RS-IV uses a four point scale from never = 0 to very often = 3 to measure 3 subscales: inattention, hyperactivity/impulse, and total symptoms. SSIS-RS measures two domains: social skills and competing problematic behaviors. The SCI uses a 25 item measure of behavioral aspects of social competence (Schuck et al., 2015). Both groups demonstrated improvements in scores of social skills, pre-social behaviors, and competing problematic behaviors (Schuck et al., 2015). However, children who received CAI in addition to cognitive behavioral therapy showed a significant improvement of ADHD symptoms such as attention and inhibitory control, which are important executive functions. The benefits of CAI added with cognitive behavioral therapy were observed at week four and continued to improve throughout the 12 weeks. This indicates that CAI may enhance traditional evidenced based interventions (Schuck et al., 2015).

Examining the effects on emotional regulation, Anderson and Olson (2006) evaluated the impact of having a dog in a self-contained classroom with children diagnosed with severe emotional disorders. The goal of the project was to determine if having a dog present improved the children's emotional stability. Baseline data were collected eight weeks prior to the study (Anderson & Olson, 2006). Parent interviews were conducted and behavior change was examined from from the Problem Solving Sheet and the Antecedents Behaviors and Consequences (ABC) analysis form. The Problem Solving Sheet was used to record a problem a student was having, how the problem was resolved, and what could be done different to address the problem and the ABC analysis form was used when there was severe verbal and physical aggression displayed. The dog was present eight weeks in the classroom. Qualitative data were

also gathered by teacher/researcher five days for eight weeks and notes were made about the student's comments and interactions during students' one-on-one session with the dog. Conclusions indicated that the children had overall improved emotional stability, which was evidenced by de-escalation and emotional crises. The children also had improved attitudes towards school and were more responsible, respectful, and empathic throughout the learning process (Anderson & Olson, 2006).

Social Skills

Animals can assist in the social and cognitive development of a child (Velde et al., 2005). Interactions with animals increase children's social behavior and responsiveness, and increase play (Urbanski & Lazenby, 2015). Social interactions of smiling, laughing, looking, touching, and verbalizing improved when AAT was used in treatment (Elmaci & Cevizci, 2015). Sams et al. (2006) evaluated whether AAT, when added to traditional occupational therapy treatment for individuals with autism, improved social interaction and language use compared to children who participated in a typical intervention session. Each child participated in a typical occupational therapy intervention session and a session incorporating AAT. This study was conducted over 15 weeks (Elmaci & Cevizci, 2015). The results of this study revealed that the children used a considerable amount of language and their social interaction increased significantly when AAT was used. The authors concluded that this could be due to interactions with animals being less complex than with a person (Elmaci & Cevizci, 2015).

Even though the Diagnostic and Statistical Manual of Mental Health Disorders (DSM-5) does not recognize pervasive developmental disorders (PDD) as a diagnosis, in 2002 PDD was recognized as a category of disorders that included autistic disorder, Rett's, syndrome, childhood disintegrative disorder, pervasive developmental disorder not otherwise specified, and

Asperger's. Children with PDD had difficulty with social interaction and communication skills. For example, they were socially withdrawn, did not have appropriate social skills, and were disinterested in their social environment. At that time, traditional therapy approaches did not treat all of the symptoms of PDD (Martin & Farnum, 2002). Martin and Farnum (2002) investigated the use of AAT for improving social skills in individuals with PDD. Three treatment tools were used 15 out of 45 minutes of treatment. The conditions included a ball, a stuffed dog, and a live dog. The study encompassed 15 weeks (Martin & Farnum, 2002). The results of this study demonstrated that the children laughed more and gave treats to the live dog, which indicated the children were happier, more playful, and had increased energy when the dog was present. The children were also less distracted and paid more attention when a live dog was present compared to the dog's absence in the other conditions. In addition, the children showed an increase in socialization by exchanging numerous conversations with the dog and with the therapist about the dog. While talking, children stayed more on topic when a live dog was present. Conversations about themselves or the therapist were minimal with the live dog condition. Also, children participated in more hand flapping in the dog condition, which is usually associated with negative behavior but the study indicated hand flapping as excitement and exhilaration (Martin & Farnum, 2002).

Elmaci and Cevizci (2015), used AAT in a group of four children ranging in ages from 8 to 22 years old with severe mental and physical impairments. The goal of the session was to improve communication, planning, and empathy skills. The children planned and organized a birthday party for the canine therapy dog (Elmaci & Cevizci, 2015). Communication skills and planning were improved as observed when the group members communicated how they were going to plan the party. At the party, group members sang happy birthday and invited others to

participate in the birthday party which demonstrated improved communication skills and allowed them to feel like they belonged with a group. The group members achieved their session goals with AAT by demonstrating improved communication, planning, and empathy skills (Elmaci & Cevizci, 2015).

Theory

Combining the QOL theory and the person-occupation-environment theory will guide this doctorate capstone experience. Increasing QOL was the first goal of Healthy People 2020 (USDHHS, 2000). QOL “reflects a general sense of happiness and satisfaction with our lives and environment” (U.S. Department of Health and Human Services, 2000, p.10). There are three major aspects of QOL with subdimensions (Scaffa, Reitz, & Pizzi, 2010). *Being* is the first major aspect of QOL, which is who the individual is. The subdimensions of *being* are physical, psychological, and spiritual. *Belonging* is the next aspect of QOL, which is how the individual fits within their environment. The subdimensions of *belonging* are physical, social, and community. Lastly, *becoming* is an aspect of QOL that focuses on the person’s goals and dreams. The subdimensions of *becoming* are regular activities and leisure (Scaffa et al., 2010). The American Occupational Therapy Association (AOTA) describes QoL in (Occupational Therapy Domain and Process), QOL is discussed as an outcome, which is the end result of the therapy process (AOTA, 2014).

The person-environment-occupation (PEO) model relates the fit of the person, environment, and occupation. The greater overlap of the person, environment, and occupation, the better performance one has. If there is a gap or one of the components is not fitting well with the other components, this can lead to greater dysfunction with an individual (Scaffa et al., 2010). The *person* consists of physical, cognitive, and affective characteristics. The *environment*

is physical, social, and cultural components of the individual. *Occupation* includes self-task, leisure, and productive pursuits (Scaffa et al., 2010). The fit between the PEO can decrease or increase throughout the developmental stages. The PEO can be used by occupational therapists in many different settings and with different age groups and populations and the PEO has been used in rehabilitation of individuals with CP due to having a family-centered approach (Strong et al., 1999).

The aspects of the QOL correlate well with the PEO. For example, *being*, the first aspect of QOL, fits within the *person* category in the PEO since it includes different aspects of the individual. *Belonging* and the *environment* portion of the PEO both describe how an individual interacts with different aspects of the environment. *Becoming* discusses leisure and regular activities of the person. This would fit under the *occupation* portion of the PEO because they both describe what an individual enjoys doing. Level of satisfaction and functioning equals the level of quality in someone's life. This is the outcome of the fit between the person-environment-occupation (Strong et al., 1999).

For the purposes of this DCE, AAT fits well with the QOL and PEO theory since AAT can be added to therapy treatment. As stated in the research above, AAT assists with the *person* and *being* of the individual because it assists with decreasing stress and anxiety, increasing social skills, and improving mental functions and ROM, strength, and endurance. The *belonging* and *environment* will be Stones Crossing Physical Therapy and Rehab which includes the child's social environment. Using AAT, can potentially improve the environment of Stones Crossing Physical Therapy and Rehab by making it feel more friendly and nonjudgmental. By increasing social skills, the child will be able to participate in the social environment. AAT will promote *becoming* and *occupation* by supporting treatment goals that address activities of daily living

(ADLs) such as grooming and bathing/showering and play. As an occupational therapist, interventions should focus on what is meaningful to someone to promote the QOL of that individual. Using canine assisted therapy as an addition to therapy treatment, can improve QOL, therefore, increasing the fit between the PEO. Eventually, this will lead to better function in one's life.

Screening and evaluation

There is limited research about staff perspectives of AAT and how they would use animal assisted therapy. Further research about how occupational therapists would use AAT and how frequently it is used needs to be addressed, so that staff understands the intervention outcomes of AAT (Velde et al., 2005). Survey questions were developed using Survey Monkey. There were multiple types of quantitative and qualitative questions. Quantitative questions included yes/no responses, drop down responses, a likert scale, and multiple choice responses. Qualitative questions were free text responses in which staff could type perceived barriers and benefits to an AAT program. There was also a section where therapists could add any additional comments or questions. Several interventions were listed, in question 7 from which therapists could select interventions they believed could benefit from having a dog present. Interventions included were social interaction (Elmaci & Cevizci, 2015; Martin & Farnum, 2002; Sam et al., 2006; Velde et al., 2005), calming strategies (Calcaterra et al., 2015; Dietz et al., 2012; Elmaci & Cerizci, 2015; Martin & Farman, 2002; Schuck et al., 2015; Velde et al., 2005; Wohlfarth et al., 2014), executive functions (Andrew & Olson, 2006; Sams et al., 2006; Schuck et al., 2015; Urbanski & Lazenby, 2015; Velde et al., 2005; Yap et al., 2017), communication and language (Elmaci & Cevizci, 2015; Martin & Farnum, 2002), balance and/or gait training (Elmaci & Cevizci, 2015), emotional regulation (Anderson & Olson, 2006), ADLs (Elmaci & Cevizci,

2015), fine/gross motor (Elmaci & Cerizci 2015; Winkle & Jackson, 2012; Velde et al., 2005), neurological (Elmaci & Cevizci, 2015), sensory integration (Velde et al., 2005).

The survey was developed based on findings from Yap et al. (2017) study. A total of 128 staff members from different disciplines, including nurses, medical staff, administrative staff, and researchers, who worked at a children's hospital, were given a survey to determine the attitudes and beliefs about AAT. As a result of this survey, the staff members indicated AAT would be helpful in treating conditions of CP, autism spectrum disorder (ASD), and acquired brain injury (ABI). Frequent themes for treatment of CP were to assist with movement, function, and emotional support. Themes for both ASD and ABI included emotional support, calming agent, and assistance with behavioral management. Themes that were global across all diagnoses were companionship, improve mood, motivation, and facilitate social interaction and communication. (Yap et al., 2017). Of the staff members, 92 percent stated that AAT would be beneficial when combined with physical therapy or other rehabilitation activities and 76 percent believed AAT would be beneficial when combined with speech language pathology. Barriers of implementing an AAT program that staff identified were limited resources, fear of animals, infection, and high cost. Of the staff members that completed the survey, 98 percent were supportive of an AAT program in the hospital (Yap et al., 2017).

Therefore, a ten question online survey was sent via an email with a link to survey monkey to 20 therapists including occupational therapists (OT), physical therapists (PT) and speech language pathologist (SLP), employed at Stones Crossing Physical Therapy and Rehab . The survey included questions allowing the therapists to indicate how AAT would be utilized by therapists and to determine if therapists thought there was a need for AAT to support performance and participation in therapy sessions. Research supports utilizing a survey to collect

information about individuals' understanding of the role of AAT at a site and staff perspectives (Yap et al., 2017). Out of the 20 therapists who received the survey, 12 therapists, including 3 occupational therapists, 4 physical therapists and 5 SLP's responded to the survey. Eight therapists worked with children. One therapist worked with adults, and three therapists worked with both children and adults.

Based on a Likert scale of 1-5, with 1 being strongly disagree to 5 being strongly agree, 83 percent of the respondents either agreed or strongly agreed that there was a need for AAT and that AAT would be beneficial to therapy sessions. The top three interventions based on the greatest percentage of responses were social interaction, calming strategies, and executive functions (motivation, cognition, attention, memory). Refer to Figure 1A for the rest of the interventions and responses. Therapists gave feedback on potential barriers and benefits of AAT at Stones Crossing Physical Therapy and Rehab. The responses were divided into categories. The top categories listed for barriers were AAT therapy concerns, health and safety, and patient's fear of dogs. The top categories for benefits were motivation and alternative therapy. The number of responses are listed below in parentheses next to each category (see Appendix A: Needs assessment survey questions and responses on p. 20). A hundred percent of the staff that completed the survey stated that they would support AAT at Stones Crossing Physical Therapy and Rehab (see Appendix A: Needs assessment survey questions and responses on p. 20). The results from this survey will be used to structure the AAT program development.

Implementation

During the implementation stage, the DCE student researched different AAT organizations, established policies and procedures, and developed a program proposal for Stones Crossing Physical Therapy and Rehab facility. The first step of implementation was to research

various organizations that trained facility dogs. The staff at the site preferred to obtain a facility dog that had received strict training and management feeling more comfortable with a trained facility service dog versus having one of the therapist's dog trained and certified. A facility service dog works alongside different professionals at the facility to increase the quality of life of individuals, assisting professionals with improving motivation, social interaction, comfort, and feelings of safety and wellbeing. (Therapy Dogs United, 2016). The DCE student compared and contrasted organizations' placement rate, graduation rate, training requirements of both the handler and dog, cost, application process, and wait list. The site wanted to partner with an AAT organization located close to the site, so the handler did not have to travel far for training. Cost was one of the barriers staff at the site identified when completing the survey. Therefore, it was important to find an organization that met the requirements but kept cost low. With these guidelines in mind, the DCE student found three organizations that fit the sites needs the best. These organizations included Canine Companions for Independence, Indiana Canine Assistance Network, and Medical Mutts.

The DCE student also developed policies and procedures and a program proposal. Since the site had no prior research or understanding about the topic, it was the DCE student's responsibility to find evidence to support the program. Research included findings about the description of AAT, how AAT can support or enhance therapy sessions, and identification of barriers and precautions that need to be addressed when implementing an AAT program.

Staff had a huge role in assisting with the development of policies and procedures and the AAT program proposal. One of the staff members agreed to be the handler of the dog. Her specific responsibilities were listed in the policies and procedures to provide staff and the handler with more clarity about her role in the program. The site mentor has experience with program

development, so she assisted with the implementation stage based on her professional competencies and job responsibilities. Other staff members assisted with the development of the program proposal and policies and procedures through completion of the needs assessment survey. Staff members completed a *Benefits and Barriers* section of the survey which was used to individualize the policies and procedures and program proposal specific to the site's needs. The policies and procedures and program proposal will be given to staff members to further their understanding about AAT program.

It is recommended to establish clear policies and procedures when implementing an AAT program at a facility (Goddard & Gilmer, 2015; Velde et al., 2002). There were multiple considerations that needed to be analyzed while creating the policies and procedures. First, the safety of patients, staff, and the dog needed to be considered. Second, guidelines for scheduling procedures and billing structures needed to be developed. Third, the handler's specific role and responsibilities needed to be outlined. Lastly, the freedoms of the dog needed to be defined. (Fine, Tedeschi, and Elvove, 2015). For the complete policies and procedures (see Appendix B: Policies and procedures on p. 30)

Staff at the capstone site identified health and safety such as allergies and fear as top barriers to implementing an AAT program in the needs assessment. A primary concern listed in research was the possibility of a children's family and/or the child fearing animals such as dogs (Goddard & Gilmer, 2015; Winkle & Jackson, 2012; Yap et al., 2017). Allergies are another primary concern that needed to be addressed in the policy and procedures (Goddard & Gilmer, 2015; Urbanski & Lazenby, 2012; Velde et al., 2002; Winkle & Jackson, 2012). Other medical conditions that need to be considered before engaging in AAT are open wounds, infectious disease, and asthma (Urbanski & Lazenby, 2012; Winkle & Jackson, 2012). The DCE student

recommended in the policy and procedures that signs be posted outside of rooms that the dog is being used in so patients who have a fear of dogs can avoid the dog. Hand washing before and after treatment is crucial to decrease the risk of an allergic reaction (Goddard & Gilmer, 2015; Velde et al., 2002). Staff at the site also recommend sanitizing any equipment that was used by the dog after the session was over. Sanitizing equipment is already a procedure in place that staff engage in daily as well as hand washing or using sanitizer before and after patients. Hand washing and wiping equipment policies were therefore included in the policies and procedures created by the DCE student for Stone's Crossing. The policies and procedures also provide therapists with a guideline on medical conditions that need to be considered before a patient can engage in AAT. The policy also requires that therapists ask the family or client if they are allergic to dogs and if they fear dogs. When interviewing with a handler at a site that already has AAT implemented, the handler at Community Health Physical Therapy and Rehab Fort Benjamin Harrison stated that hand washing and wiping down equipment has been a successful way of decreasing allergic reaction (K. A. Reuter, personal communication, April 27, 2018).

The DCE student also created policies and procedures to address safety concerns such as fall hazards, how to document injuries resulting from working with a dog, and specific questions to ask to determine a child's/ family's history or cultural beliefs about dogs. Velde et al. (2002) suggested that dog equipment such as food, water, and the dog's resting area were kept away from high traffic areas to reduce fall hazards. Therapists also need to be cautious of a client's background such as religious/cultural views (Winkle & Jackson, 2012) and previous relationships with animals (Urbanski & Lazenby 2012; Winkle & Jackson, 2012). Some religions and cultures may identify dogs as dirty or unclean or believe dogs should be outside (Winkle & Jackson, 2012) or a child may be aggressive towards animals or have abused animals in the past

(Urbanski & Lazenby, 2012; Winkle & Jackson, 2012). To address these concerns, it was recommended to have a screening or assessment for therapists to use (Goddard & Gilmer, 2015; Winkle & Jackson, 2012). The questions on the policies and procedures are similar to a site that already has an AAT program. The site asks client's if they are allergic or fear dogs before they can participate in AAT (K. A. Reuter, personal communication, April 27, 2018). Clients at Stone's Crossing who might benefit from working with AAT will need to be asked if they are allergic, if they are afraid of dogs, what are their views of animals, what is their history with animals, and if the client has any medical conditions that may impact therapy such as open wounds, weak skin integrity, asthma, or an infectious disease. If the patient responds positively, then it is recommended that the client does not engage in AAT. The AAT policies and procedures also require that therapists follow the incident report that is already in place at the site if an injury were to occur when using AAT. This is similar to the procedure used at Community Health Physical Therapy and Rehab Fort Benjamin Harrison whose handler reported that her site uses the same incident report if there was an injury from AAT (K. A. Reuter, personal communication, April 27, 2018).

The roles and responsibilities of the handler and the rights of the animal also were addressed in the policies and procedures. AAT and therapy concerns such as training, responsibility of taking care of the dog, approval of services and insurance coverage were barriers listed in the needs assessment. The handler is the responsible for the wellbeing of the animal (Ng, Albright, Fine, and Peralta, 2015; Winkle & Jackson, 2012). This includes food, water, shelter, and veterinary care (Ng et al., 2015). Copies of vaccinations, parasitic prevention, registration, and ongoing training will be at the site. The handler will be responsible for keeping these documents up to date. Staff members must be trained before they incorporate the animal

into therapy sessions (Winkle & Jackson, 2012). The handler is responsible for training staff members about commands and triggers of the dog (Ng et al., 2015; Winkle & Jackson, 2012). Winkle and Jackson (2012) suggested that inservice training for staff occurs annually and that the handler does a minimum of six hours of continuing education to ensure best practice of AAT (see Appendix B: Policies and Procedures on p. 37).

Staff also listed insurance coverage for AAT services as a barrier to implementing an AAT program. Services completed with an animal can be billed as therapeutic equipment or activity or whatever services are normally covered under insurance (K. A. Reuter, personal communication, April 27, 2018). For example, if an occupational therapist is working on fine motor coordination, instead of having a child place coins inside a slot, the child could open a container of treats and get a few from the container to give to the dog. Both activities are working on the same goal, so they can be billed as therapeutic activity.

The staff also identified difficulty with scheduling as a potential barrier to establishing an AAT program at Stones Crossing. Procedure was developed such that a schedule will be posted in the office where staff can block out 15-30 minute time frames of using the dog. This allows staff to use the dog with different children even if they are scheduled at the same time. The procedure established that the handler will be responsible for the schedule and for giving the dog breaks throughout the day. The dog also has rights and freedoms at the site. Ng et al. (2015) listed five freedoms, freedom from thirst, hunger, and malnutrition; freedom from discomfort; freedom from pain, injury, and disease; freedom from fear and distress; and freedom to express most normal dog behavior. All of these were included in the policies and procedures.

A program proposal was also developed during the implementation stage. The program proposal gives an introduction into the program and includes statement of need for the program.

Details of the program are outlined in the program proposal. Lastly, a strengths, weakness, opportunities, and threats (SWOT) analysis as a way to analyze outcomes of program. The DCE student especially evaluated the weakness and threats of the program and attempted to find solutions for all of the weakness and threats to ensure the success of the program (see Appendix C: Program Proposal on p. 31). The DCE student used research findings of potential barriers, staff identified barriers and the DCE student identified weaknesses or threats to the program to develop appropriate policies and procedures to address as many weaknesses and threats as possible. Some of the identified threats were out of the DCE student's control such as a long wait list to receive a facility service dog.

Leadership skills

Leadership skills were demonstrated throughout the process of the DCE. The DCE student made a schedule to be organized and keep track of progress, which made the student accountable for the DCE. The DCE student met with her site mentor daily to give updated progress to ensure that the site mentor and the DCE student were on the same page. The DCE student had to find research and be knowledgeable on the topic since the site had no exposure to AAT and limited understanding. The DCE student wanted to keep the project client centered. A survey was developed to gather information for the needs assessment. The findings from the survey were used to structure the program. The policies and procedures and program proposal were evidenced based and client-centered for the site. An inservice presentation and a resource packet was completed in addition to the policies and procedures and program proposal. The DCE student wanted to be part of the team at the site so she participated in other activities outside the DCE project such as a six week handwriting camp and staff events that students were not required to go too. The DCE student also demonstrated leadership by scheduling interviews,

contacting different AAT organizations and sites that have AAT, and communicating with staff, site mentor, and facility mentor.

Outcomes

An inservice was completed for staff members at the site. The presentation was over background information and research about AAT and the process of the DCE project. A resource packet, the policies and procedures and program proposal were passed out during the presentation. The resource packet contained information about the Animal Assisted Therapy International Standards of Practice and glossary terms for AAT that therapists can refer too. There are also three activity books listed in the resource packet. The books have different AAT activities and provide step by step instructions for implementing the activities. The resource list also includes a book about AAT which includes standards of AAT practice and information about how to implement AAT in a variety of settings and with a variety of populations. Citations and the abstracts of the intervention research articles are included in the resource packet. The articles were divided into sections according to interventions addressing specific deficits typically seen with pediatric clients (social interaction, executive function, ROM/strength, and stress/anxiety).

An outcome measure for the behavior of the dog is included in the resource packet. The behavioral assessment is broken down into nine categories (aggression, fear/anxiety/stress, excitability, interaction with people, interaction with dogs, obedience, tiredness, reactivity, and anticipation). The therapist using the assessment can score it before, during, and/or after a session to evaluate if the dog is too tired or too stressed to participate in the session. The scores are 0-3 for each category. The higher the score the higher stress or discomfort the dog is experiencing which indicates the dog needs a break (Fine & Eisen, 2008).

A survey was used to ensure quality improvement resulting from this project. The DCE student wanted to ensure that the presentation and materials given to staff answered their questions about the AAT program and that staff had no additional concerns about the AAT program. In the initial needs assessment survey, staff members identified potential barriers to the program and gave feedback about potential threats and weaknesses to the program. The DCE student specifically developed the resources and the presentation to address these potential barriers and threats/weaknesses to the AAT program. The survey was given before and after the presentation.

The survey was a hard copy made in Microsoft Word by the DCE student. The pre survey composed of six questions to explore the therapists understanding of using AAT in therapy and to identify the therapists' comfort level of having AAT at the site. The post survey composed of 8 questions. The first six questions were same as the pre survey and the other two questions asked therapists to indicate if the presentation and resources answered their questions. The survey was all quantitative except the last question on the post survey. All other questions on the pre and post survey used a likert scale from 1-5, with 1 being strongly disagree to 5 being strongly agree. The last question was an open ended question allowing staff to write any questions they still have about the program or write any comments about the presentation and resource packet (see Appendix D: Pre/post Survey on p. 45).

Discontinuation

There was a total of 11 individuals who came to the presentation and completed the pre and post survey. Ten of those individuals were staff (therapists and manager) and one was a student. One of the staff members was the manager, five were pediatric staff members, one staff member does both pediatrics and adults, and three adult therapists. The DCE student handed

surveys to the individuals before the presentation and collected the surveys at the end of the presentation. Data were analyzed by comparing the average scores of the pre-presentation responses to the post presentation responses. Question 8 on the post survey asked if the staff had any feedback or additional questions that staff had about the program. Staff gave positive feedback such as “great work”, “very informative, and “thanks for setting the foundation”. Overall averages increased on the post survey compared to the pre survey. Refer to Table 1, to see pre versus post averages.

Table 1

Pre and Post Survey Averages of Responses to DCE Presentation and Resources

Question Number	Pre survey averages	Post survey averages
Question 1	3	4
Question 2	2	4
Question 3	2	4
Question 4	2	4
Question 5	2	4
Question 6	4	5
Question 7		5

There will be a folder created on Sharepoint, which is a cloud service that therapists at this site use, to keep all of the documents about the AAT program. The DCE student made multiple resources for staff to ensure that they can respond to society’s changing needs. Staff agreed to continue the program and make any additional changes to the resources if a new situation arises after the student leaves. The DCE student also created a policy to insure that

therapists who use AAT engage in continuing education. Completing continuing education, ensures that the program remains evidenced based and up to date with the current standards. Some suggested websites for continuing education courses were included in the resource list. Staff can also modify the list of activities that they do with children and/or add new activities to ensure best practice.

Overall Learning

Communication was a crucial component of this DCE. I was in contact with multiple individuals and I used a variety of communication styles throughout the DCE. In the beginning of the DCE, I had to write my own online survey and send it to staff members via email. I had to be clear with what the survey was asking so that therapists understood how to complete the survey so I had good data. Written communication was used in the implementation stage when I composed policies and procedures and a program proposal. It was critical that these documents were written in a professional manner because they will be official documents at the site. I also created a chart that compared different AAT organizations that had to be organized and clear so that staff can easily compare and contrast the different organizations.

Non-verbal communication and verbal communication with different professionals and organizations were used in the implementation stage. I had to contact a handler at a site that already has an AAT program to discuss the structure of their AAT program. I communicated with different AAT organizations over the phone and/or email to gain more information about the organization. Some of the organizations I had to be professional and wait for responses or send follow up emails or phone calls. After I had the information from the AAT organizations, I met with a staff member who agreed to be the handler and discussed different AAT organizations with her so she could make a decision about what organization she wanted to

partner with. A follow up email summarizing information about all of the organizations was sent so she could have that information and think about her decision. During the discontinuation stage, I provided a final inservice presentation at the site to discuss the program and the process of the DCE project. A resource packet was composed and given to staff and a pre-post survey was also given to staff at the inservice. Throughout the capstone, I constantly communicated with my site mentor and faculty mentor so that they knew how I was progressing.

The DCE has provided me with multiple learning experiences and has prepared me for future practice. I learned how to be more independent. I couldn't rely on anyone for knowledge or guidance about AAT because most of the staff members have never had exposure to AAT or they had limited knowledge. It was my responsibility to find information and develop the documents needed for the DCE. The DCE has made me feel more confident in my abilities. I feel more confident to communicate with others, find information and research, and complete program development. One of my professional development goals has been to improve my confidence and this capstone has assisted me in achieving that goal. I learned how important leadership and advocacy skills are in practice. I had to be a leader in this DCE so the program succeeded. I believe that an important quality of a leader is listening to others and being respectful of their opinions. I demonstrated this when I developed the resources for the AAT program based on the staffs concerns and desires for the program. I advocated for the benefit of AAT and advocated for the development of an AAT program working with a pediatric population.

The staff at the site was supportive of the DCE project and was willing to take time to meet with me and complete surveys that I sent out. Their feedback was a valuable piece of this project in insure that the program was client centered. They demonstrated effective communication

skills with me and were timely with their responses. I truly felt like I was part of the team at the site and not just a student. There was mutual respect between the staff and myself while completing the project. I respected the staff members' knowledge of the structure of the site and their feedback about what they thought would be feasible for an AAT program. The staff respected my suggestions for the program and the education that I provided for them. Overall, this DCE has provided skills for me to be an educator, advocate, developer, and leader in the profession of occupational therapy. I will use these skills to make myself a better practitioner and better team member in whatever setting I am in. I am truly grateful for the opportunity to assist in pushing the profession of occupational therapy forward by completing this DCE project.

References

- American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process (3rd ed.). American Journal of Occupational Therapy, 68(Suppl. 1), S1-S48.
- Anderson, K. L., & Olson, M. R. (2006). The value of a dog in a classroom of children with severe emotional disorders. *Anthrozoos a Multidisciplinary Journal of the Interactions of People and Animals*, 19(1), 35-49. doi: 10.2752/089279306785593919
- Calcaterra, V., Veggiotti, P., Palestini, C., De Giorgis, V., Raschetti, R., Tumminell, M., Mencherini, S., Papotti, F., Klersy, C., Albertini, R., Ostuni, S., & Pelizzo, G. (2015). Post-operative benefits of animal-assisted therapy in pediatric surgery: A randomized study. *Plos one*, 10(6), 1-13. doi: 10.1371/journal.pone.0125813
- Centers for Disease Control and Prevention. (2015, February 12). *Key Findings: Trends in the Prevalence of Developmental Disabilities in U.S Children. 1997-2008*. Retrieved April 16, 2018 from <https://www.cdc.gov/ncbddd/developmentaldisabilities/features/birthdefects-dd-keyfindings.html#>
- Community Health Network. (2017). Stones Crossing Health Pavilion. Retrieved on 13 April 2018 from <https://www.ecommunity.com/locations/stones-crossing-health-pavilion>
- Dietz, T. J., Davis, D., Pennings, J. (2012). Evaluating animal-assisted therapy in group treatment for child sexual abuse. *Journal of Child Sexual Abuse*, 21, 665-683. doi: 10.1080/10538712.2012.726700
- Elmaci, D, T., and Cevizci, S. (2015). Dog-assisted therapies and activities in rehabilitation of children with cerebral palsy and physical and mental disabilities. *International Journal of*

- Environmental Research and Public Health, 12, 5046-5060.
doi:10.3390/ijerph120505046
- Fine, A. H., & Eisen, C. (2008). The development of the pet assisted therapy welfare assessment tool. In *Paper presented at the 2013 IAHAIO conference, Chicago, Illinois, July 20-22*.
- Fine, A. H., Tedeschi, P., Elvove, E. (2015). Forward thinking: The evolving field of human-animal interactions. In A. H. Fine (Eds), *Handbook on Animal Assisted Therapy* (pp. 21-35). San Diego, CA: Elsevier
- Goddard, A. T., Gilmer, M. J. (2015). The role and impact of animals with pediatric patients. *Pediatric Nursing, 41*(2), 65-71.
- Healthy People 2010: Understanding and Improving Health (U.S. Department of Health and Human Services [USDHHS], 2000
- Martin, F., Farnum, J. (2002). Animal-assisted therapy for children with Pervasive Developmental Disorder. *Western Journal of Nursing Research, 24*(6), 657-670.
- Morrison, M. L. (2007). Health benefits of animal-assisted therapy. *Complementary Health Practice Review, 12*(1), 51-62. doi: 10.1177/1533210107302397
- Ng, Z., Albright, J., Fine, A. H., Peralta, J. (2015). Forward thinking: The evolving field of human-animal interactions. In A. H. Fine (Eds), *Handbook on Animal Assisted Therapy* (pp. 357-376). San Diego, CA: Elsevier
- Sams, M. J., Fortney, E. V., & Willenbring, S. (2006). Occupational therapy incorporating animals for children with autism: A pilot investigation. *American Occupational Therapy Association, 60*, 268-274. doi:10.5014/ajot.60.3.268
- Scaffa, M., Reitz, S.M., & Pizzi, M.A. (2010). *Occupational therapy in the promotion of health and wellness*. Philadelphia: F.A.Davis Company.

- Schuck, S. E. B., Emmerson, N. A., Fine, A. H., & Lakes, K. D. (2015). Canine-assisted therapy for children with ADHD: Preliminary findings from the positive assertive cooperative kids study. *Journal of Attention Disorders, 19*(2), 125–137.
doi.org/10.1177/1087054713502080
- Strong, S., Rigby, P., Stewart, D., Law, M., Letts, L., & Cooper, B. (1999). Application of the person-environment-occupation model: A practical tool. *Canadian Journal of Occupational Therapy, 66*(3), 122-133. doi: 10.1177/00841749906600304
- Therapy Dogs United. (2016). *What is a Facility Service Dog?* Retrieved May 27, 2018 from http://www.therapydogsunited.org/programs/facility_therapy_dog/
- Urbanski, B. L., & Lazenby, M. (2015). Distress among hospitalized pediatric cancer patients modified by pet-therapy intervention to improve quality of life. *Journal of Pediatric Oncology, 29*(5), 272-282. doi: 10.1177/104345424555697
- Velde, B. P., Cipriani, J., Fisher, G. (2005). Resident and therapist view of animal-assisted therapy: Implications for occupational therapy practice. *Australian Occupational Therapy Journal, 52*, 43-50.
- Winkle, M. Y., & Jackson, L. Z. (2012). Animal kindness: Best practices for the animal-assisted therapy practitioner. *OT Practice, 17*(6), 10-14.
- Wohlfarth, R., Mutschler, B., Beetz, A., & Schleider, K. (2014). An investigation into the efficacy of therapy dogs on reading performance in 6-7 year old children. *Human-Animal Interaction Bulletin, 2*, 60-73.
- Yap, E., Scheiberg, A., Williams, K. (2017). Attitudes to and beliefs about animal assisted therapy for children with disabilities. *Complementary to Clinical Practice, 26*, 47-52.
<http://dx.doi.org/10.1016/j.ctcp.2016.11.009>

Zablotsky, B., Black, L. I., & Blumberg, S. J. (2017). *Established Prevalence of Children with Diagnosed Developmental Disabilities in the United States, 2014-2016* (Report No. 291).

Hyattsville, MD: National Center for Health Statistics.

Appendix A

Needs assessment survey questions and responses: Survey used to analyze staff perspectives of the use and need of AAT at Stones Crossing Physical Therapy and Rehab

Question 1: Are you afraid of dogs?

Yes	1 respondent (8%)
No	11 respondents (92%)

Question 2: Are you allergic to dogs?

Yes	0 respondents (0%)
No	12 respondents (100%)

Question 3: What therapy profession are you?

Occupational therapy	3 respondents (25%)
Physical therapy	4 respondents (33%)
Speech therapy	5 respondents (41%)

Questions 4: What population do you work with?

Pediatrics	8 respondents (66%)
Adults	1 respondent (8%)
Both	3 respondents (3%)

Question 5: There is a need for AAT in my population

Strongly Disagree (1)	0 respondents (0%)
Disagree (2)	0 respondents (0%)
Neutral (3)	2 respondents (16%)
Agree (4)	7 respondents (58%)
Strongly agree (5)	3 respondents (25%)

Question 6: AAT would be beneficial for me to use in therapy sessions

Strongly Disagree (1)	0 respondents (0%)
Disagree (2)	0 respondents (0%)
Neutral (3)	2 respondents (16%)
Agree (4)	8 respondents (66%)
Strongly agree (5)	2 respondents (16%)

Question 7: What interventions would you use AAT?

Social interaction	8 respondents (66%)
Communication and language skills	5 respondents (41%)
Calming strategies	8 respondents (66%)
Executive functions (motivation, cognition, attention, memory)	8 respondents (66%)
Sensory integration	2 respondents (16%)
Emotional regulation	4 respondents (33%)
ADLs	4 respondents (33%)
Neurological	3 respondents (25%)
Fine and gross motor ROM and Strength	4 respondents (33%)
Balance and gait training	5 respondents (41%)
Other (please specify)	0 respondents (0%)

Question 8: Would you support AAT at this site?

Yes	12 respondents (100%)
No	0 respondents (0%)

Question 9: What are the potential barriers for implementing AAT at Stones Crossing? What are the benefits?

Barriers: Scheduling (3), AAT and therapy concerns such as training, responsibility of taking care of the dog, and approval of services (4), health and safety (4), patients fear of dogs (4), other responses were cost and patients being distracted.

Benefits: motivation (8), reduce anxiety and provide support (3), Social interaction/communication (3), alternative therapy for therapists (5), other responses include improving compliance with therapy and set clinic apart from competitors

Questions 10: Any questions or comments for me? I will use your feedback to help me research and add information to my project.

Feedback given: In-service training would be helpful, use of dog has been very beneficial for me when I have had access to a dog in the past, providing another home for the dog when the handler is on vacation

What interventions would you use AAT?

Answered: 12 Skipped: 0

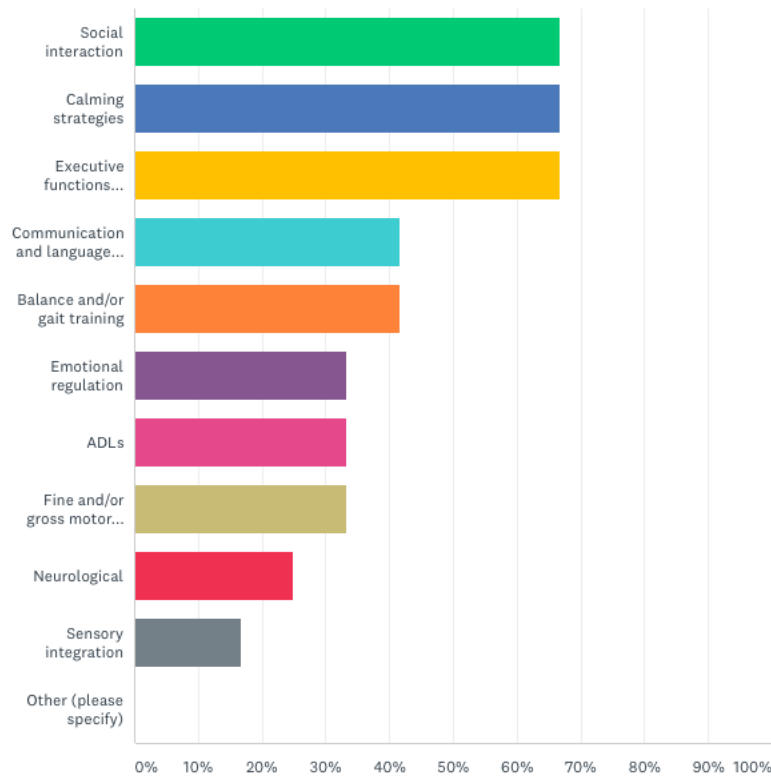


Figure 1A. Intervention responses. This figure illustrates the percentage of responses for each intervention listed.

Appendix B

Policies and procedures: Complete policies and procedures for the AAT program

Purpose: Therapists will use a trained facility dog to enhance and/or support goal-directed treatment sessions to address physical, emotional, social, psychological needs to increase quality of life in individuals.

Policy: A trained facility dog will be used in therapy as a form of alternative treatment to achieve individual's goals.

Procedure

1. Handler responsibilities/role:
 - a. The handler determines the schedule of the dog. If the dog needs breaks the handler has a right to deny the use of the dog for treatment sessions.
 - b. The handler will be in charge of ensuring the dog is up to date with veterinary check-ups and vaccinations.
 - c. Copies of vaccinations, parasitic prevention, registration, and ongoing training will be on record at the site.
 - d. The handler will train therapists about commands and triggers of the dog
 - e. The handler will keep up to date with all certifications and training requirements.
2. The dog has five freedoms:
 - a. Freedom from hunger and thirst
 - b. Freedom from discomfort
 - c. Freedom from pain, injury, or disease
 - d. Freedom to express most normal behavior
 - e. Freedom from fear and distress
3. Therapists must be trained by the handler before using the dog in therapy sessions.
4. Therapists who use the dog for therapy purposes should have annual education to review animal assisted therapy to ensure the best practice is used. It is recommended the trainer completes in a minimum of six hours of continuing education per year from Winkle and Jackson's article *Animal Kindness* published in OT practice.
5. A schedule will be posted in the office where therapists will sign up for 15-30 minute time frames. The handler will be in charge of the schedule
6. Practicing patient safety is key during sessions
 - a. Both patients and therapists must wash hands before and after the treatment session
 - b. Equipment needs to be wiped down after the use of the dog
 - c. If there is an incident with the dog, follow the normal protocol for an incident report
 - d. Signs will be posted outside of rooms where the dog is located so that staff and patients are aware a dog is being used
 - e. To decrease fall hazards, place food, toys, and dog resting area away from high traffic patient areas
 - f. Dog will not be left alone with patients.
7. At evaluation, the patient will be determined if he or she is appropriate for animal assisted therapy. A patient is not appropriate if they answer yes to any of the questions listed:
 - a. Is the child allergic to dogs? If so, how severe? Can the child interact with a dog?
 - b. Is the child/family afraid of dogs?
 - c. How does the child/family view dogs?
 - d. What is the child's/family past relationships with animals? Any aggressive behavior towards animals in the past?
 - e. Does the child have any medical conditions such as severe asthma, open wounds, skin integrity, infectious diseases?
8. Treatment sessions with the dog will be goal-orientated and progress will be evaluated per standard documentation guidelines. The services will be billed like other therapy interventions based on activities completed.

Appendix C

Program proposal: Written program proposal for an AAT program at this site.

Introduction

The program being requested is an animal assisted therapy (AAT) program for Stones Crossing Physical Therapy and Rehab. The purpose of this program is to use a trained facility dog to enhance or support goal-directed treatment sessions to address physical, emotional, social, and psychological needs to increase quality of life in individuals. Animal assisted therapy is used in a session to support therapy goals. The dog can be used with multiple therapy disciplines and will have a handler who is responsible for the wellbeing of the dog (Morrison, 2007).

Research has reported that dogs assist with the treatment of social interaction (Elmaci & Cevizci, 2015; Martin & Farnum, 2002; Sams, Fortney, & Willenbring, 2006; Velde, Cipriani, & Fisher, 2005) executive functions (attention, motivation, and emotional regulation) (Anderson & Olson, 2006; Sams et al., 2006; Schuck, Emmerson, Fine, & Lakes, 2015; Urbanski & Lazenby, 2015; Velde et al., 2005; Yap, Scheiberg, & Williams, 2017) ROM/strength (Elmaci & Cerizci 2015; Winkle & Jackson, 2012; Velde et al., 2005), stress/anxiety (Calcaterra et al., 2015; Dietz, Davis, Pennings, 2012; Elmaci & Cerizci, 2015; Martin & Farman, 2002; Schuck et al., 2015; Velde et al., 2005; Wohlfarth, Mutschler, Beetz, & Schleider, 2014), and overall wellbeing (Elmaci & Cerizci, 2015; Urbanski & Lazenby, 2015).

Statement of need

There a need for therapy services to address the increase of developmental disabilities across the United States. Centers for Disease Control and Prevention (CDC) completed a study that evaluated the prevalence of developmental disabilities in the United States from 1997-2008. The prevalence of developmental disabilities over 12 years of the study increased by 17.1 percent, which equates to 1.8 million more children had a developmental disability compared to the decade before (Centers for Disease Control and Prevention, 2015, p. 1). In 2006-2008, one in six children had a developmental disability. More recently, Zablotzky, Black, and Blumberg (2017) estimated that the prevalence of children diagnosed with a developmental disability had continued to rise from 5.76 percent in 2014 to 6.99 percent in 2016. The results indicate the rising need for interventions to assist these individuals to live a more independent lives and be able to participate in meaningful activities.

Program

At evaluation, the patient will be determined if he or she is appropriate for AAT. If a patient is severely allergic (Goddard & Gilmer, 2015; Urbanski & Lazenby, 2012; Velde et al., 2002; Winkle & Jackson, 2012), is afraid of dogs (Goddard & Gilmer, 2015; Winkle & Jackson, 2012; Yap et al., 2017), has cultural or religious views that impact the relationship with the dog (Winkle & Jackson, 2012), has past history of abusing animals or aggressive behavior (Urbanski & Lazenby, 2012; Winkle & Jackson, 2012), and/or has medical conditions such as severe asthma, open wounds, weak skin integrity, or infectious disease (Goddard & Jackson, 2015; Urbanski & Lazenby, 2012) he or she would be deemed not appropriate to engage in AAT. A staff member is going to be the handler of the dog. The handler is responsible for the wellbeing of the dog. This includes water, food, veterinary care, and giving the dog breaks during the day (Ng, Albright, Fine, and Peralta, J. 2015; Winkle & Jackson, 2012). The handler is responsible for the schedule to use the dog (Ng et al., 2015; Winkle & Jackson, 2012). The schedule will be assigned a location in the office and therapists will sign up to use the dog for 15-30 minute increments. The handler will train staff on the commands and stresses of the dog. All staff members who plan on using the dog in therapy must be trained by the handler before they can use the dog. At a minimum, the handler should complete six hours of continuing education regarding AAT to ensure best practice. In-services should be provided annually for staff who use the dog in therapy (Winkle & Jackson, 2012). To ensure patient safety, hand washing procedures and wiping down equipment must be followed. Signs will be posted outside of therapy rooms where the dog is being used so the staff and patients are aware. Food, toys, and the dog's resting area need to be placed away from high traffic patient areas to decrease fall hazards (Velde et al., 2002). Patients will not be left unattended with the dog. If an incident occurs, follow the normal incident report protocol (K. A. Reuter, personal communication, April 27, 2018). The dog also has freedoms and should be treated with respect. The five freedoms are freedom from hunger and thirst, freedom from discomfort, freedom from pain, injury, or disease, freedom to express most normal behavior, and freedom from fear and distress (Ng, Albright, Fine, and Peralta, J. 2015). Treatment sessions with the dog are goal-oriented and will be billed as services that are already covered under insurance (K. A. Reuter, personal communication, April 27, 2018).

SWOT analysis

A strengths, weaknesses, opportunities, and threats (SWOT) analysis was used to assist with structuring the program. A SWOT analysis is a strategic tool that is used in marketing and business (Gregory, 2018). A SWOT analysis is helpful because it outlines the strengths, weaknesses, opportunities, and threats of a program. The

developer can evaluate the weaknesses and threats and try to come up with strategies to overcome those obstacles.

Also, the developer can highlight the strengths and opportunities that a program can provide for a company

(Gregory, 2018). The writer chose to use the SWOT analysis matrix to structure the program and provide

organization. The SWOT analysis matrix is listed below.

Strengths <ul style="list-style-type: none"> - Flexibility to be used across the lifespan - Multiple therapeutic benefits - Dog can be used in combination with treatment - Motivation - Decrease anxiety - Social interaction and communication - Improve therapy compliance 	Weaknesses <ul style="list-style-type: none"> - Learning curve on how to document and incorporate dog into therapy - Cost - Scheduling of dog and patient care - Safety - Allergies/fear of dog - Patients getting distracted
Opportunities <ul style="list-style-type: none"> - Alternative form of therapy - Set apart from nearby competitors 	Threats <ul style="list-style-type: none"> - Company policy - Not having a dog in the past - Long wait list - Travel and time for handler training

For weaknesses, the student is going to give an inservice about using the dog in therapy and how the program will be structured. Guidelines will be listed in the policies and procedures. Therapists can use these guidelines to address allergies, fear, safety, and scheduling guidelines. Not every child will be appropriate for AAT due to medical conditions, getting too distracted, or background with an animal. There are guidelines listed in the policies and procedures to address what child may be appropriate for AAT. The handler will receive training on how to incorporate the dog into therapy and will train other therapists. AAT organizations were considered based on a variety of factors including cost. The student found an organization that provides a dog for no charge and an organization that provides a dog at low cost. Therapists at Physical Therapy and Rehab Fort Ben already utilize AAT. An interview was conducted with the handler who provided information on how the site documents with the dog in therapy. The therapists at Physical Therapy and Rehab Fort Ben can also provide some guidance for

navigating company policy. Unfortunately, there is a long wait list to receive an animal but the strengths and opportunities for the program outweigh the threats of having a long wait list, travel time, and handler training.

Appendix D

Pre/post Survey: Survey given to staff members before and after presentation and after resource materials.

Survey

Please circle or write your response

Pre

1. **I understand the purpose of AAT in therapy**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
2. **I understand how to utilize AAT into therapy sessions**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
3. **I understand my responsibilities when using a dog in therapy sessions**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
4. **I understand what individuals are able to participate in AAT**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
5. **I understand how to document and bill AAT**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
6. **I feel comfortable with AAT being offered at this site**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5

Post

1. **I understand the purpose of AAT**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
2. **I understand how to utilize AAT into therapy sessions**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
3. **I understand the my responsibilities when using a dog in therapy sessions**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
4. **I understand what individuals are able to participate in AAT**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5
5. **I understand how to document and bill AAT**
 Strongly disagree Disagree Neutral Agree Strongly agree
 1 2 3 4 5

6. I feel comfortable with having AAT offered at this site

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

7. The presentation answered my questions about AAT

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

8. Feedback to improve presentation and/or materials?