MOTIVATION TO USE ANIMAL-ASSISTED THERAPY (AAT) AMONG COUNSELLING AND CLINICAL PSYCHOLOGY GRADUATE STUDENTS

by

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A thesis submitted in conformity with the requirements for the degree of Master of Arts
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2016
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Abstract

Though there is evidence of the benefits of incorporating Animal Assisted Therapy (AAT) in counselling, this therapy is obscure to many Canadian students. This online study explored Canadian counselling and clinical psychology graduate students' attitudes toward, and perceptions of, AAT. Responses obtained from 224 students indicated that 37% of students are motivated to use AAT and 48% are motivated to learn more about it. Participants with higher motivation were more likely to be females, older, counselling students, and have pets. Students recognized many advantages of using AAT, such as improving health and reducing stress, but also identified important concerns for the welfare of clients. Furthermore, students reported receiving no AAT materials or supervision in their academic programs, but the majority of them are interested in attending symposiums or workshops on AAT. These findings can be used to increase awareness of students’ interest in educational and professional programs on AAT.
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**Introduction**

The first documented formal use of animals in therapy for psychological disorders was believed to have taken place in England, in 1792. During this time in history, asylums and lunatic hospitals, as they were called, often used harsh methods of restraint and hostility to treat their patients. One religious organization, the Society of Friends, which promoted the humane treatment of the mentally ill, found a more compassionate form of therapy: kindness. As part of their new program, they decided to provide patients with small animals, such as rabbits, chickens, and ducks, so that the patients could exercise self-control by taking care of creatures that were weaker than they were. They reported that these animals did not only provide pleasure to patients, but also increased patients’ compassion (Jones, 1955, as cited in Chandler, 2012).

Even as early as 1699, John Locke, the renowned English philosopher, recognized the importance of animals as serving a socializing function in children. He advocated allowing children to take care of small animals, such as dogs, birds and squirrels, because it develops their sense of responsibility and tender feelings (Locke, 1699, as cited in Serpell, 2006).

Even though the human-animal bond has existed for thousands of years, it is only recently that the mutual benefits of this relationship have started to be investigated empirically. Having a companion animal, or simply being around an animal, has been found to positively influence both children and adults in many ways: physiologically (e.g. Allen, Shykoff, & Izzo, 2001), mentally (e.g. Moretti et al., 2011), socially (e.g. McConnell, Brown, Shoda, Stayton, & Martin, 2011), emotionally (e.g. Geist, 2011), and developmentally (e.g. Endenburg & van Lith, 2011).

This literature review will define animal assisted therapy and outline the potential benefits of this therapy, particularly for psychotherapy clients. This review will describe the
promising research that has been conducted in this area, along with its methodological issues. With this literature review, I hope to demonstrate the potential benefits of incorporating AAT in psychotherapy, for both clients and therapists, which could merit more curiosity and interest from students, to learn more and possibly seek training in AAT.

**Literature Review**

**What is Animal Assisted Therapy?**

Animal Assisted Therapy (AAT) is a type of therapy that utilizes the advantages associated with certain animals to the benefit of humans with psychological or physiological problems. AAT is formally defined as "a goal directed intervention in which an animal, meeting specific criteria, becomes an integral part of the treatment process or treatment team" (Chandramouleeswaran & Russell, 2014, p.5). The intervention is intended to advance clients' social, emotional, cognitive, or physical functioning, and meet specific short-term and long-term goals. Many researchers use a narrower definition and regard AAT as a therapy in which the animal must play an active role (e.g. Connor & Miller, 2000). For example, therapeutic horseback riding or overcoming cynophobia by petting a dog would be considered AAT, but animal visitation would not, because the animal is passive and does not actively contribute to the person's healing process. According to this view, a passive use of animals in therapy would be considered Animal Assisted Activity (AAA) and not AAT, because it does not require the involvement of a certified therapist (Chandler, 2012). However, in the current study, a broader definition will be used in order to make AAT applicable to more psychotherapists and more clients with different problems. In addition, as will be argued below, the mere presence of an animal can be therapeutic both psychologically and physiologically, create a friendlier
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atmosphere, and can lessen clients' negative feelings. Thus, even the "passive" presence of an animal can be beneficial and therapeutic for clients.

AAT is implemented by psychologists, medical doctors, counsellors, social workers, nurses, or volunteers in different facilities and settings. The character and temperament of the animal, and the type of therapy, are important factors in deciding which animal to use. Generally, dogs, horses, cats, guinea pigs and birds are the most commonly used animals in AAT (Barba, 1995), but even animals that can be observed but not touched, such as fish, are used. Katcher, Segal and Beck (1984) found that patients waiting for a dental appointment were significantly more relaxed and had a marked reduction in anxiety when given the opportunity to watch an aquarium while waiting.

Although AAT is currently used in North America infrequently and as an alternative treatment, it is beginning to receive recognition. In 2008, the American Psychological Association’s (APA) Division 17 on Counseling Psychology created a new section addressing AAT: Human- Animal Interaction: Research and Practice (APA, 2015). The following year, the American Counseling Association (ACA) established the Animal Assisted Therapy in Mental Health (AATMH) Interest Network (ACA, 2015). The goal of these sections is to promote safe and effective research and practice of AAT in the mental health field.

AAT in Counselling Settings

Counselling and psychotherapy offices are settings that can greatly benefit from AAT. Boris Levinson was the first to test and document the potential benefits of therapy animals in psychotherapy in the early 1960s by using his own dog, Jingles, in therapy with children (Brodie & Biley, 1999). He studied the effect dogs had on children during difficult times in their lives, and believed therapy animals could be used as a catalyst for change by facilitating an empathic
relationship between clients and human therapists. He believed therapy animals can especially help clients who are withdrawn and uncommunicative (Levinson, 1984). Later, Levinson realized that therapy animals' benefits are not limited to children, and extend to adults and the elderly as well (Levinson, 1970).

AAT can be integrated with any modality of therapy, and can be applied with individual, group, or family therapy formats, depending on the creativity of the therapist (Bruneau & Johnson, 2011, as cited in Thew, Marco, Erdman, & Caro, 2015). One reason why AAT works well in counselling settings is because it shares mutual goals with other modalities, mainly: enhancing the therapeutic alliance, stimulating clients' attention and focus, rewarding clients' engagement and participation, and encouraging positive change (Chandler, 2012). AAT has the potential to offer great benefits to both clients and therapists. Increasing awareness and knowledge of these benefits can help students and academic program administrators recognize the potential of this type of therapy and make educated decisions concerning whether they would like to use this type of therapy in their future careers. The benefits of AAT in psychotherapy are described in more detail below.

Enhance the therapeutic alliance. The therapeutic alliance is one of the most crucial factors in determining the success of therapy (Horvath & Symonds, 1991) regardless of modality. Therapy animals can contribute to the therapeutic alliance by affecting how the client perceives the therapist (Chandler, 2012). Thus, the inclusion of AAT techniques may contribute to positive outcomes in counselling. For example, Wesley, Minatrea and Watson (2009) found that incorporating AAT into a substance abuse treatment group improved most clients’ perceptions of the quality of the therapeutic alliance when compared to a group of similar clients who had no therapy animal present in group therapy sessions. A study by Schneider and Pilchak
Harley (2006) presented participants videotapes of a therapist either with or without a dog present. Participants rated the therapist with the dog as more trustworthy, regardless of their attitudes toward animals.

Mallon (1994) found that therapy animals served as catalysts in building strong relationships between children in residential treatment centers and their therapists. Parshall (2013) believes therapy animals can help strengthen the therapeutic alliance and enhance self-disclosure because they are perceived by many people as providing a safe place to vent their emotions and true thoughts without the fear of being judged.

Rossetti and King (2010) observed in their clinical work that therapy animals can strengthen the therapeutic alliance because they are often perceived as good icebreakers, and they can lighten the mood, and bring laughter and smiles to stressful situations. Chandler (2012) speculates that that the reason animals are perceived as icebreakers is that the client can observe the warm relationship between the animal and the therapist, and perceive the therapist as being more empathic and warm toward the client, which, in turn, may help them feel more comfortable with the therapist.

Social support. Therapy animals can serve as an important source of social support to clients (Wesley et al., 2009), and can help teach them social skills. A large poll of 1,110 American pet owners conducted by the Associated Press (2009), reported that 86% of participants viewed their pet as part of the family, and 50% viewed them as being as important as any other family members. This poll demonstrates that many pet owners are attached to their pets, and view them as close companions. Thus, pets can provide a sense of well-being and social support for their owners just as well as other humans in the owners’ lives. In addition, the interaction with therapy animals fosters social interaction, and is often used to increase a
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withdrawn person’s responsiveness (Chandramouleeswaran & Russell, 2014). Katsinas (2000) found that a therapy animal can generate social interaction and be a topic of conversation among inpatients in a hospital setting. Furthermore, the inpatients reported that the therapy animal helped reduce their sense of loneliness and quietly provided them company.

Equine therapy is a good example of how AAT can be used to provide clients with social support and an opportunity to practice social skills. Equine therapy works on clients' strengths and coordination, but also teaches them trust, assertiveness, verbal and non-verbal communication, and problem-solving skills (Cuypers, De Ridder, & Strandheim, 2011; Masini, 2010). The client can practice interacting, playing together, and teaching the animal tricks. Gabriels et al., (2012) found that therapeutic horseback riding improved self-regulating behaviours and increased prosocial behaviour in children diagnosed with Autism Spectrum Disorder (ASD). Therapeutic horseback riding improved hyperactivity, irritability, and language abilities in these children, in comparison to their scores at baseline, and to a control group who did not participate in the therapeutic riding program. Interestingly, the significant behavioural improvement seen in children with ASD after participating in equine therapy was apparent not only during the equine sessions, but also was generalizable to the home environment and to community settings (Holm et al., 2014).

Hall and Malpus (2000) wanted to control for the possibility that the animal's handler is the one who is actually providing the social interaction and improvement in prosocial behaviour. Thus, the handler was introduced alone for a few weeks before the dog was introduced with its handler to a group of nursing home residents. The researchers discovered that the presence of the dog was the most significant factor that influenced participants' reactions and behaviour.
**Provide comfort and affection.** Therapy animals can provide clients with unique affection and comfort. Playing, petting, or merely looking at different kinds of animals, are activities that many people enjoy and find pleasant (Chandramouleeswaran & Russell, 2014). Wu, Niedra, Pendergast and McCrindle (2002) found that hospitalized children, who took part in a dog visitation program, found the interaction to be pleasant and distracting from the reality of hospitalization. In addition, all children reported gaining some benefit from the dog visitation program, in which the most frequent benefits were relief, unconditional love, and motivation to be optimistic.

One unique benefit of a therapy animal, that therapy clients cannot receive otherwise, is tactile stimulus. Mallon (1994) found that touch was an important part of the therapeutic power of animals. In his study, children in residential treatment centers reported feeling happier, calmer and less sad after they touched and petted farm animals. Chandler (2012) suggests that therapy animals can provide genuine, caring touch that therapists cannot offer their clients due to ethical concerns. Furthermore, Martin and Farnum (2002) found that touching a live animal was superior to touching a stuffed animal or a nonsocial toy among children with developmental disorders, as assessed by both behavioural and verbal measures. The therapy animals responded in a kind and affectionate manner, which reinforced the therapeutic value of touch.

It is sometimes easier to receive comfort from animals, as oppose to humans, as people often perceive therapeutic animals as providing unconditional acceptance and being nonjudgmental (Allen, 2003; Connor & Miller, 2000; Mallon, 1994). This sense of acceptance can help clients feel more calm and comfortable in sessions. In addition, the therapy animal’s desire to interact with the client, regardless of the client’s past behaviour, appearance, social class, or disability, can improve client's body image, self-worth and self-esteem (Bardill &
Hutchinson, 1997; Connor & Miller, 2000). For example, self-esteem can be enhanced by the successful completion of a task with the therapy animal, such as teaching a dog simple tricks or cleaning a horse's hooves.

**Improve health.** Animals in general, and companion animals more specifically, have a great impact on humans' health and quality of life. Several studies have found that people who own pets reported better health and visited doctors' offices less frequently than people without pets (Headey & Grabka, 2007; Headey et al., 2008). For example, animals were found to reduce heart rate and blood pressure levels in both adults (Cole, Gawlinski, Steers, & Kotlerman, 2007) and children (Tsai, Friedmann, & Thomas, 2010).

In order to control for external variables that might influence the health of pet-owners, such as age, weight, or SES, a randomized study examined the effect of pet ownership on the health of 48 hypertensive individuals, by asking half of the participants who planned to adopt a dog to do so, and the other half to defer adoption. Though demographics, baseline blood pressure and baseline heart rate were similar between the two groups, at a six-month follow-up after adoption, those who adopted a dog had significantly lower blood pressure and lower heart rate reactivity in comparison to those who did not adopt a dog yet (Allen, Blascovich, Tomaka, & Kelsey, 2001).

The significant reduction in pain sensation, heart rate and blood pressure, and the overall better physical health demonstrated by individuals who are around animals (Cole et al., 2007; Polheber & Matchock, 2013; Headey & Grabka, 2007; Sobo, Eng, & Kassity-Krich, 2006; Tsai et al., 2010), may indicate that introducing AAT in psychotherapy can potentially reduce clients’ dependency on medication, and increase their overall physical health, which can, in turn, influence their mental health.
**Reduce stress.** Psychotherapy can be extremely stressful and emotionally demanding for clients. Several studies found that people who have pets, or are in the presence of animals (especially dogs), feel less stress (Allen, Blascovich, Tomaka, & Kelsey, 1991; Cole et al., 2007; Polheber & Matchock, 2013; Tsai et al., 2010). Petting or interacting with an animal can help clients feel calmer in a stressful situation, like the psychotherapy office (Conner & Miller, 2000). Allen, Blascovich, and Mendes (2002) found among 240 married couples that pet owners had a lower reactivity to stress and a faster recovery from a stressful event in comparison to non pet-owners. In addition, pet owners showed lower stress, as assessed by physiological measures, when in the presence of their pet than when in the presence of a close friend or their spouse.

A few studies have tried to investigate whether non-pet owners can still enjoy the health benefits and stress reduction qualities of animals without being attached and owning one. Research in the area of AAT suggests that they can. Research is now finding that simply being around an unfamiliar animal can help reduce stress and pain (Sobo et al., 2006; Tsai et al., 2010), and induce calmness and relaxation (Bardill & Hutchinson, 1997; Chandler, 2012).

**Cognitive effect.** Working on clients’ cognition is part of the goal of several psychotherapy modalities. Therapy animals can be used in psychotherapy in a way that can help this process, particularly with clients who suffer from dementia. Cognitive measures of dementia patients, who participated in biweekly AAT meetings for three months, were compared with their baseline measures, and with a control group’s scores with similar baseline measures who did not receive AAT. Participants in the AAT group showed less cognitive impairment in their daily activities in memory, attention and language abilities, less problematic behaviour associated with the dementia, and they experienced less stress (Kanamori et al., 2001).
A therapy animal can help patients re-orient when they withdraw into themselves or forget where they are, and keep them in touch with reality by providing a form of sensory stimulation (Chandramouleeswaran & Russell, 2014). For example, Katsinas (2001) studied the effect of canine companion on nursing home residents with dementia, and found that the program brought structure to patients' lives, and provided an event to which they could look forward. Though some may argue the improvement in cognitive functioning in these patients is due to a novel object or a new interest in their lives, studies found that these behavioural and cognitive modifications are sustained in the long term as well, even 18 weeks after the therapy animal was introduced to patients (Hall & Malpus, 2000; McCabe, Baun, Speich, & Agrawal, 2002).

**Motivation to return.** A therapy animal can make the often stressful experience of psychotherapy more enjoyable and less anxiety-provoking, which encourages the client to return to therapy and adhere to the treatment plan. Beck, Seraydarian and Hunter (1986) found that the presence of birds in a therapy room increased the attendance and participation of psychiatric patients in an eleven-week therapy program.

**Effects on the therapists.** The benefits of incorporating therapy animals in psychotherapy are not limited to clients, but can also affect their therapists. Some pet owners appreciate the opportunity to take their pets to work, and would like to utilize their pets’ qualities for the best interest of their clients. In addition, the same health benefits and stress reduction qualities that influence clients, also work on therapists.

Bardill and Hutchinson (1997) found that AAT programs positively affect the staff by creating a friendlier and a happier work environment. Observing patients interact with animals helps the staff perceive the patients as kinder. Similarly, patients who observe the staff interact
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with therapy animals perceive the staff more favourably (see also: Rossetti, DeFabiiis,& Belpedio, 2008).

Explaining the Effect of Animals

The field of AAT currently lacks a unified or empirically supported theoretical framework for explaining how and why animals affect humans in a potentially therapeutic way. A brief description of some of the possible mechanisms is provided below, most of which focus on animals’ unique attributes that can potentially contribute to therapy. From a social perspective, people often view their pets as social resources by ascribing to them human-like traits and emotions related to social connectedness such as sympathy and empathy (McConnell et al., 2011). In other words, we project onto animals what we would like to get from other humans.

The biophilia hypothesis offers another perspective that attempts to explain the therapeutic effect of animals. The biophilia hypothesis proposes that humans have an innate connection, rooted in evolutionary development, to nature and particularly, to living things (Kellert & Wilson, 1993). According to this theory, in ancient times, humans’ ability to hunt animals and locate food increased their survival, and thus this ability developed and preserved. The human brain is predisposed to pay attention to animals and read their non-verbal cues (Beck & Katcher, 2003).

In contrast, learning theory provides a more mechanistic explanation for the human-animals bond. Virues-Ortega & Buela-Casal (2006), for example, claim that pet owners and animal lovers have become conditioned to associate some types of animals with relaxation and an atmosphere of peace, quiet, and leisure, which explains the relaxing effect of animals on humans. Similarly, animals can provide a distraction from a stressful or painful situation, and help focus people's attention on a pleasurable object (Allen, 2003; Barba, 1995; Sobo et al.,
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Brickel’s (1985) theorized that pleasurable activities are self-reinforcing and are more likely to reoccur. Thus, therapy animals can serve as a buffer and divert clients’ attention from uncomfortable sensations or stress to a learned association of leisure and relaxation, and, in time, reduce negative feelings associated with therapy.

Zilcha-Mano, Mikulincer and Shaver (2011) attempted to explain the psychological effect of animals on humans using John Bowlby’s (1973) attachment theory. To summarize Bowlby’s theory very briefly, peoples’ interaction and bond with available and supportive attachment figures fosters the development of their sense of security, self-worth, emotion-regulation, and psychosocial functioning. According to Zilcha-Mano and her colleagues, an animal can serve as an attachment figure that brings security and comfort to an individual, and will not leave him/her in time of need. Thus, incorporating an animal in therapy can help the client develop a more secure attachment, and teach the client to reevaluate and modify maladaptive interpersonal attachments. Furthermore, the attachment to the therapy animal can help build the therapeutic alliance between the client and the therapist. The therapy animal can serve as a transitional object with which the client first establishes a relationship that can later be extended to a human therapist as well (Martin & Farnum, 2002).

From a physiological perspective, the release of hormones during the petting of an animal can help the body relax, feel less pain, and promote health. Charnetski, Riggers and Brennan (2004) tested the effect of petting a dog on the secretion of immunoglobulin A (IgA), an antibody that plays a critical role in the human immune system. The researchers found that those who petted a real dog secreted significantly more IgA than participants who petted a stuffed animal or did nothing. Thus, petting a dog increases the response of the immune system, which may explain why pet owners are generally healthier than non-pet owners (Headey et al.,
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2008). Furthermore, it was found that levels of cortisol (a hormone released during stressful situations) decreased in humans following an interaction with a dog, while levels of oxytocin (a hormone that promotes intimate bonding), dopamine and \(\beta\)-phenylethylamine (bodily chemicals that make us feel good), and beta-endorphins (hormones responsible for decreased sensation of pain) significantly increased following an interaction with a dog (Odendaal & Meintjes, 2003). This study might be able to explain why many people become attached to their pets, feel happier around them, and can tolerate stress and pain better when their pets are present (Allen et al., 1991; Polheber & Matchock, 2013; Sobo et al., 2006; Tsai et al., 2010).

In conclusion, many theories try to explain the therapeutic effect of the human-animal bond, in general, and particularly in psychotherapy. Since these psychological, social and physiological factors are interrelated, it is difficult to determine which ones are the most prominent.

**Barriers to using AAT**

It is important to note that AAT has some barriers as well, which may make this type of therapy less appealing or suitable for some psychotherapists and can impact their motivation to use it. Chandler (2012) has outlined a few possible challenges of using AAT. First, there is a risk of injury to the client or the animal. The client may, for example, accidentally get scratched by a cat during play or develop a previously unknown allergy. Similarly, clients may abuse or treat the animal aggressively. A second barrier to using AAT is that the client may become emotionally attached to the therapy animal, especially if they are working closely together for some time (Chandler, 2012).

A third barrier to using AAT is that some clients might be fearful of certain animals. Likewise, clients' personal backgrounds or cultural values may not permit animal-human
interaction (Shelton, Leeman, & O'Hara, 2011). A fourth barrier is that there are logistics that could be a bother to anyone interested in practicing AAT. Training or certifying an animal can be costly and time consuming, considering the welfare of the animal and making sure the animal is not mistreated by clients can be bothersome, and, certainly, many workplaces will not allow animals to enter their premises. All these challenges have suitable solutions that require preparation, but for many psychotherapists they might seem insurmountable.

Some researchers claim that the biggest challenge for psychotherapists who want to incorporate animals into psychotherapy is the lack of empirically based evidence for its effectiveness (Thew et al., 2015). Furthermore, many researchers challenge the existing studies' methodologies (Anestis, Anestis, Zawilinski, Hopkins, & Lilienfeld, 2014). The biggest methodological problems are that the body of AAT research currently consists of a compilation of outcome studies, in which samples are generally small and results are mostly anecdotal (Thew et al., 2015). In addition, some researchers claim that AAT studies sometimes use biased raters that are influenced by experimenter expectation (Anestis et al., 2014). Difficulties often arise when randomized studies, or use of a control group, are not possible due to small sample size or ethical concerns (Thew et al., 2015). However, despite some methodological difficulties, the anecdotal evidence is compelling, as are the small studies, and further research is warranted to further the available information on the benefits of AAT in psychotherapy and mental health.

**Mental health practitioners' attitudes toward AAT**

As research on AAT in psychotherapy continues to expand, practitioners' attitudes toward the field have evolved. Currently, there is no estimation of how many psychotherapists and psychologists in North America are using AAT and in which capacity, though Rossetti and King (2010) found in their literature review that AAT is gradually increasing in popularity.
AAT is currently used in a variety of settings, yet its practice and familiarity are relatively limited in the field of psychology in North America. In other parts of the world, however, AAT is better accepted and studied. In Europe, for example, the use of animals (including farm animals) in healthcare intervention is more common as part of the Green Care initiative. The Green Care initiative promotes a diverse set of interventions, such as AAT, therapeutic horticulture and ecotherapy, which use nature and the environment as a framework for this approach (Sempik, Hine, & Wilcox, 2010). Berget, Grepperud, Aasland, and Braastad (2013) conducted a survey among 475 Norwegian general practitioners, psychiatrists and psychologists. Their survey explored mental health care professionals' attitudes toward therapeutic interventions with animals. The researchers found that 67% of mental healthcare practitioners had some knowledge of AAT and were motivated to use it in their own practice. In addition, almost 90% thought that AAT should be used more in mental health facilities.

Black, Chur-Hansen, and Winefield (2011) interviewed Australian psychologists to assess their knowledge and attitudes of AAT. Participants in this small sample-sized study (n=9) reported that AAT can be used across the lifespan of clients in many different health settings but that training is currently inadequate. Participants believed, regardless of whether they were using AAT or not, that AAT could strengthen the therapeutic alliance between the client and the therapist. Generally, the participating psychologists considered AAT as effective, but noted that there are also barriers in its employment.

The above studies focused on practicing clinicians, and not students and future psychotherapists. Recently, a study by Thew et al., (2015) explored attitudes toward AAT among clinical psychologists and clinical psychology students from APA accredited programs across the United States. Thew and her colleagues found that most participants view AAT as a legitimate
supplementary therapy but admitted to knowing very little about it. In addition, 39% of participants showed motivation to use AAT in therapy.

The above studies demonstrate the recent increase in international interest in AAT among the scientific community as well as practicing clinicians in various professions, and the increased understanding of its importance and potential. These studies show promise in terms of younger professionals' openness to new approaches and techniques that could benefit their clients. However, there is still a gap in the existing literature regarding Canadian future psychotherapists' motivation and interest in AAT, their perception of its benefits and barriers, and their academic and training needs. This study will attempt to fill this gap.

**Purpose of study**

Growing interest in the knowledge and practice of AAT has created a need to assess how future psychotherapists view this practice. The purpose of this study was to: (a) explore Canadian counselling and clinical psychology graduate students’ perceptions of AAT and motivation to use it in their future practice; (b) explore which factors contribute to this motivation; (c) understand what students perceive as benefits of and barriers to using AAT in psychotherapy; and (d) gain an accurate picture of the status of AAT training in academic settings, explore what interest students, and which AAT training and educational materials they would like to make use of.

To answer these questions, an online survey was conducted among clinical psychology and counselling graduate students across Canada. The survey asked students to indicate their level of interest in AAT and their motivation to use it, and explored which areas of AAT students would like to learn more about. Information gathered from this survey provided a first assessment of students' interest in AAT, and where and how this interest should be addressed.
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Though current literature on this topic is limited, some hypotheses were made. Participants with past experience with animals, in general, and those with experience in AAT more specifically, were expected to show more motivation to use AAT. In addition, it was hypothesized that motivation to use AAT would be linked with interest in learning more about it. Finally, it was hypothesized that participants’ attitudes toward animals will account for some of the relationship between interest and motivation to use AAT.

Method

Participants

Two-hundred and twenty-four students from across Canada, who were completing their master's or doctorate studies in English-speaking counselling or clinical psychology graduate programs, took part in the survey. After using the list-wise deletion process to eliminate participants who had more than 20% incomplete responses, the final total number of participants was 213.

Procedure

Data collection began following approval from the Social Sciences, Humanities and Education Research Ethics Board at the University of Toronto. A preliminary pilot study was sent to peers in order to ensure that the survey was clear and comprehensive. As a first step of recruitment, emails were sent to the appropriate contact person within each department of all clinical psychology and counselling graduate programs across Canada (Appendix A). These emails provided information about the purpose and procedure of the study and asked the contact person to forward the recruitment email (Appendix B) to their graduate students. Twenty-three emails were sent to clinical psychology programs, and 27 emails were sent to counselling psychology programs, both in the master's and doctorate levels. Twenty-nine academic
institutions replied to the email. All but three agreed to disseminate the recruitment email among their students. The reason for refusal mentioned by these three institutions was that they do not circulate emails through their students' mailing list due to anti-spam regulation. In addition, at least one more university disseminated the recruitment email among their students without replying to the original email.

Students who received the recruitment email and wanted to participate or learn more about the study could access the online survey using a link where they could read a more detailed consent form (Appendix C). Participants had to click an "agree" button to indicate they had read the consent form and agreed to participate. Before answering the survey, participants read a definition of AAT, as it is described in the literature review (Chandramouleeswaran & Russell, 2014; Connor & Miller, 2000). Participants who completed the survey were provided with further reading materials on AAT in case they were interested in the subject. Once participants completed the online survey, they were offered the opportunity to be directed to a separate webpage and to enter their email address to participate in a draw and win one of two $50 Amazon.com gift cards. To keep participants anonymous, their survey responses were not linked to their email address.

Materials

All participants completed an online survey (Appendix D). First, participants answered demographic questions, such as their age, gender, and program of study. Then, participants completed questions regarding their past experience with animals in therapy and in different leisure activities. Next, participants were asked questions about their motivation to use AAT in their future careers and their current knowledge on AAT. In addition, participants were asked to rate perceived benefits of, and barriers to, incorporating animals in psychotherapy. In creating
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this list of benefits, items found in previous research as advantages of AAT were included, such as increasing attendance and participation in sessions (Beck et al. 1986) and reducing stress (Sobo et al., 2006). Similarly, challenges that were found in previous research, such as clients’ background (Shelton et al., 2011) and time and effort required from the therapist (Rossetti et al., 2008), were included as potential barriers of using AAT. Furthermore, participants were asked about their current academic exposure to AAT and their interest in receiving more information on AAT.

The final survey consisted of 46 questions, including 10 demographic questions, 31 multiple choice, two open-ended questions, and three five-points Likert-scale questions, where 1 indicated ‘strongly disagree’, 2 indicated ‘disagree’, 3 indicated ‘neutral’, 4 indicated ‘agree’ and 5 indicated ‘strongly agree’. Once participants completed all the above questions, they were given the Pet Attitude Scale (PAS), created by Templer et al. (1981) and modified by Munsell et al. (2004), to measure their attitudes toward pets. The scale contains 18 items such as "Having a pet is a waste of money" and "You should treat your house pets with as much as respect as you would a human member of your family". There are seven possible answers ranging from ‘strongly disagree’ to ‘strongly agree’. Scores can range from 18 to 126, with a higher score indicating a more positive feeling toward animals. This scale was found to be reliable, and has a test-retest stability of 0.92 (Lago, Kafer, Delaney, & Connell, 1988).

Data Analysis

Data were analyzed with IBM’s Statistical Package for the Social Sciences- Version 22 (SPSS-22), using descriptive and inferential statistics. A series of chi-square and independent samples t-tests were conducted to explore participants' characteristics, attitudes, interests and knowledge. In addition, factor analyses were used to investigate the relationship between the
MOTIVATION TO USE AAT

different items of benefits of and barriers to using AAT, and to examine whether the different items share similar patterns of responses because they are all associated with a latent variable. Additionally, participants’ PAS total scores was used as a co-variable in an ANCOVA to see its contribution to perceiving animals as beneficial in therapy.

Results

Demographics

The age range of the 213 students who participated in the survey was 21-63 years old (M= 29.9, SD= 6.96 years). Table 1 details demographic information of gender, ethnicity, year of study and experience with counselling.

Table 1
Demographics (N=213)

<table>
<thead>
<tr>
<th>Demographics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>187 (87.8)</td>
</tr>
<tr>
<td>Males</td>
<td>26 (12.2)</td>
</tr>
<tr>
<td>Ethnicity*</td>
<td></td>
</tr>
<tr>
<td>African/Caribbean</td>
<td>0</td>
</tr>
<tr>
<td>Asian</td>
<td>15 (7)</td>
</tr>
<tr>
<td>European/Caucasian</td>
<td>175 (82.2)</td>
</tr>
<tr>
<td>Hispanic/Latin</td>
<td>0</td>
</tr>
<tr>
<td>Indigenous</td>
<td>7 (3.3)</td>
</tr>
<tr>
<td>Islander/pacific</td>
<td>7 (3.3)</td>
</tr>
<tr>
<td>Middle Eastern</td>
<td>3 (1.4)</td>
</tr>
<tr>
<td>Other (mix heritage)</td>
<td>4 (1.8)</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>8 (3.8)</td>
</tr>
<tr>
<td>Current year of study</td>
<td></td>
</tr>
<tr>
<td>1st year MA</td>
<td>51 (23.9)</td>
</tr>
<tr>
<td>2nd year or higher MA</td>
<td>61 (28.6)</td>
</tr>
</tbody>
</table>
MOTIVATION TO USE AAT

<table>
<thead>
<tr>
<th>Category</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st or 2nd year PhD</td>
<td>52 (24.4)</td>
</tr>
<tr>
<td>3rd - 5th year PhD</td>
<td>49 (23.1)</td>
</tr>
<tr>
<td>Clinical psychology</td>
<td>128 (60.1)</td>
</tr>
<tr>
<td>Counselling</td>
<td>85 (39.9)</td>
</tr>
</tbody>
</table>

Experience conducting counselling

- None                        | 31 (14.6)          |
- Little                      | 34 (16)            |
- Somewhat                    | 102 (47.9)         |
- Extensively                  | 46 (21.5)          |

*Some individuals identified with more than one ethnic group

The sample was comprised of students who were born in almost all of the Canadian provinces, with Ontario, Alberta, and British Colombia being the most represented. Similarly, participants were attending universities across Canada, with Ontario, Saskatchewan, and British Colombia being the most represented in the sample. Students who attend universities in Quebec, Newfoundland and Labrador, and Prince Edward Island were not represented in the sample, though their universities received a recruitment email.

History with Animals

A majority of participants had some experience with animals in the past or present (Table 2). Cats, dogs and fish were the most common pets that participants reported growing up with. Those who grew up with farm animals mentioned a range of animals, including horses, pigs, chickens and rodents. Only 7% of participants (n=15) had no type of past experience with animals. None of the participants reported having training or certification in AAT; however, 1.4% of participants (n=3) have certification in animal training.

Familiarity and Interest in AAT
Participants’ current knowledge and reading on AAT was limited (Table 3). Ninety-seven percent of participants reported knowing nothing or very little about AAT. None of the participants reported attending workshops on AAT. However, 48% of participants showed some to high motivation to learn more about AAT.

Table 2  
*Participants’ history with animals (N=213)*  

<table>
<thead>
<tr>
<th>History with pets</th>
<th>Yes (n (%))</th>
<th>No (n (%))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently have pets</td>
<td>117 (54.9)</td>
<td>96 (45.1)</td>
</tr>
<tr>
<td>Grew up with pets</td>
<td>164 (77)</td>
<td>49 (23)</td>
</tr>
<tr>
<td>Grew up with farm animal</td>
<td>36 (16.9)</td>
<td>177 (83.1)</td>
</tr>
<tr>
<td>Volunteered with animals</td>
<td>51 (23.9)</td>
<td>162 (76.1)</td>
</tr>
<tr>
<td>Sports with animals</td>
<td>62 (29.1)</td>
<td>(151) 70.9</td>
</tr>
</tbody>
</table>

Table 3  
*Participants’ familiarity with AAT (N=213)*  

<table>
<thead>
<tr>
<th>Familiarity with AAT</th>
<th>None (n (%))</th>
<th>Little (n (%))</th>
<th>Some (n (%))</th>
<th>Extensively (n (%))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of knowledge on AAT</td>
<td>147 (69)</td>
<td>60 (28.2)</td>
<td>5 (2.3)</td>
<td>1 (0.5)</td>
</tr>
<tr>
<td>Amount of reading done on AAT</td>
<td>159 (74.6)</td>
<td>51 (23.9)</td>
<td>3 (1.4)</td>
<td>0</td>
</tr>
<tr>
<td>Motivation to learn more about AAT</td>
<td>26 (12.2)</td>
<td>85 (39.9)</td>
<td>70 (32.9)</td>
<td>32 (15)</td>
</tr>
</tbody>
</table>

Only 16% of participants (n=34) had some experience incorporating animals in psychotherapy. Of these 34 participants, two were the clients, 14 were the therapist/facilitator, and 18 were observers/helpers. When asked to further detail their experiences, most participants reported that their experience involved equine therapy, animal visitation programs (mainly with seniors), and the use of therapy animals to reduce stress. Furthermore, 88% (n= 30) of those who had experience with AAT reported that they believe the therapy was beneficial to the client.
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Those who did not find AAT helpful to the client (n=4) were all observers. Horses, dogs, and cats were the most commonly used animals, but fish, birds, and even a dolphin were mentioned as well.

**Perceived Effectiveness of AAT**

Participants were asked to choose three populations that would benefit the most from working with animals (Table 4). One percent of participants (n= 2) believed that no population would benefit from AAT. Participants who chose the option "other populations" mentioned offenders, people with disabilities, and people who experienced trauma.

Similarly, participants were asked to choose up to four facilities that would incorporate AAT in the most successful way (Table 4). One percent of participants (n= 2) believed that none of the facilities were appropriate for AAT. When given the option to add additional facilities, the most common answer was First Nations healing centers.

Table 4

*Populations and facilities that would benefit from AAT (N=213)*

<table>
<thead>
<tr>
<th>Populations</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>183 (85.9)</td>
</tr>
<tr>
<td>Adolescents</td>
<td>164 (77)</td>
</tr>
<tr>
<td>Seniors</td>
<td>151 (70.9)</td>
</tr>
<tr>
<td>Adults</td>
<td>72 (33.8)</td>
</tr>
<tr>
<td>Families</td>
<td>23 (10.8)</td>
</tr>
<tr>
<td>Toddlers &amp; infants</td>
<td>21 (9.9)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retirement homes</td>
<td>157 (73.7)</td>
</tr>
<tr>
<td>Private practice</td>
<td>107 (50.2)</td>
</tr>
<tr>
<td>Correctional facilities</td>
<td>106 (49.8)</td>
</tr>
<tr>
<td>After school programs</td>
<td>90 (42.3)</td>
</tr>
<tr>
<td>Schools</td>
<td>88 (41.3)</td>
</tr>
</tbody>
</table>
MOTIVATION TO USE AAT

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community centers</td>
<td>85 (39.9)</td>
</tr>
<tr>
<td>Hospitals</td>
<td>70 (32.9)</td>
</tr>
<tr>
<td>Healthcare centers</td>
<td>54 (25.4)</td>
</tr>
<tr>
<td>Kindergarten/childcare</td>
<td>45 (21.1)</td>
</tr>
</tbody>
</table>

* Participants could choose several options

Motivation to Use AAT

Participants were asked how motivated they are to use AAT in their future careers. Ten percent (n=21) stated that they are highly motivated, 27% (n=58) stated that they have some motivation, 41% (n=87) stated that they have little motivation, and 22% (n=47) stated they have no motivation to use AAT in their future career. Based on these replies, two groups were formed: those who had high or some motivation to use AAT in the future were combined into a group titled 'motivated' (n=79); those who expressed little or no motivation to use AAT in their future careers were combine into a group titled 'not motivated' (n=134).

Similarly, past experience with psychotherapy was collapsed into two groups: ‘experienced’ (comprised of responses of “somewhat” and “extensively”, n=148) and ‘not experienced’ (comprised of “none” or “little”, n=65). Likewise, students’ interest in learning more about AAT in their academic programs via workshops, courses, symposiums and reading materials, were combined, separately for each learning activity, into three groups: those who answered “no” or “probably not” to whether they would attend the above learning experiences formed one group; those who indicated they would ”maybe” attend were a second group, and those who indicated that they would “probably” or “definitely” attend these learning opportunities formed the third group (see Table 5 for groups size).

A series of chi-square tests (Table 5) and independent samples t-tests (Table 6) were used to examine the differences between the 'motivated' and 'not motivated' groups. An examination
of the characteristics of the 'motivated' and 'not motivated' groups revealed that there were significant differences between them on some important variables. However, there were no differences between the two motivation groups in terms of history of growing up with animals in their homes and experience in counselling.

Table 5

<table>
<thead>
<tr>
<th>Variables</th>
<th>Motivated n (%)</th>
<th>Not Motivated n (%)</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>5 (2.3)</td>
<td>21 (9.9)</td>
<td>4.05*</td>
</tr>
<tr>
<td>Females</td>
<td>74 (34.7)</td>
<td>113 (53.1)</td>
<td></td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td></td>
<td></td>
<td>8.53**</td>
</tr>
<tr>
<td>Clinical psychology</td>
<td>37 (17.3)</td>
<td>90 (42.3)</td>
<td></td>
</tr>
<tr>
<td>Counselling</td>
<td>42 (19.7)</td>
<td>44 (20.7)</td>
<td></td>
</tr>
<tr>
<td><strong>Counselling experience</strong></td>
<td></td>
<td></td>
<td>5.6</td>
</tr>
<tr>
<td>No</td>
<td>21 (9.9)</td>
<td>44 (20.7)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>58 (27.2)</td>
<td>90 (42.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Experience with animals:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently have a pet at home</td>
<td></td>
<td></td>
<td>13.39**</td>
</tr>
<tr>
<td>Yes</td>
<td>55 (25.9)</td>
<td>62 (29.1)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>23 (10.7)</td>
<td>73 (34.3)</td>
<td></td>
</tr>
<tr>
<td>Grew up with animals at home</td>
<td></td>
<td></td>
<td>4.6</td>
</tr>
<tr>
<td>Yes</td>
<td>67 (31.5)</td>
<td>97 (45.6)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>13 (6.1)</td>
<td>36 (16.9)</td>
<td></td>
</tr>
<tr>
<td>Grew up with farm animals</td>
<td></td>
<td></td>
<td>6.8*</td>
</tr>
<tr>
<td>Yes</td>
<td>21 (9.9)</td>
<td>16 (7.5)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>59 (27.7)</td>
<td>117 (54.9)</td>
<td></td>
</tr>
</tbody>
</table>
Table 5- Continued
*Differences between the 'motivated' (n=79) and 'not motivated' (n=134) groups*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Motivated n(%)</th>
<th>Not Motivated n(%)</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worked/Volunteered with animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>29 (13.6)</td>
<td>21 (9.9)</td>
<td>12.24**</td>
</tr>
<tr>
<td>No</td>
<td>50 (23.5)</td>
<td>113 (53.1)</td>
<td></td>
</tr>
<tr>
<td>Participated in sports with animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>33 (15.5)</td>
<td>28 (13.1)</td>
<td>10.6**</td>
</tr>
<tr>
<td>No</td>
<td>46 (21.6)</td>
<td>106 (49.8)</td>
<td></td>
</tr>
<tr>
<td>Experience conducting therapy with animals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>18 (8.5)</td>
<td>16 (7.5)</td>
<td>4.36*</td>
</tr>
<tr>
<td>No</td>
<td>61 (28.6)</td>
<td>118 (55.4)</td>
<td></td>
</tr>
<tr>
<td>Interest in learning more on AAT:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will you attend courses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (n=65)</td>
<td>4 (1.9)</td>
<td>61 (28.6)</td>
<td>71.82**</td>
</tr>
<tr>
<td>Maybe (n=71)</td>
<td>19 (8.9)</td>
<td>52 (24.4)</td>
<td></td>
</tr>
<tr>
<td>Yes (n=77)</td>
<td>56 (26.3)</td>
<td>21 (9.9)</td>
<td></td>
</tr>
<tr>
<td>Will you attend workshops</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (n=36)</td>
<td>1 (0.5)</td>
<td>35 (16.4)</td>
<td>39.06**</td>
</tr>
<tr>
<td>Maybe (n=63)</td>
<td>15 (7.1)</td>
<td>48 (22.5)</td>
<td></td>
</tr>
<tr>
<td>Yes (n=117)</td>
<td>63 (29.6)</td>
<td>51 (23.9)</td>
<td></td>
</tr>
<tr>
<td>Will you attend symposiums</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (n=16)</td>
<td>0</td>
<td>16 (7.5)</td>
<td>35.67**</td>
</tr>
<tr>
<td>Maybe (n=68)</td>
<td>11 (5.2)</td>
<td>57 (26.8)</td>
<td></td>
</tr>
<tr>
<td>Yes (n=129)</td>
<td>68 (31.9)</td>
<td>61 (28.6)</td>
<td></td>
</tr>
<tr>
<td>Will you read more on AAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (n=65)</td>
<td>54 (25.4)</td>
<td>11 (5.2)</td>
<td>41.46**</td>
</tr>
<tr>
<td>Maybe (n=94)</td>
<td>65 (30.5)</td>
<td>29 (13.6)</td>
<td></td>
</tr>
</tbody>
</table>
Based on the above findings of students likelihood of attending learning opportunities on AAT, a series of post-hoc tests were conducted to identify the specific cells making the greatest contributions to the chi-square test results. Residual analysis is the most common way to investigate further a statistically significant omnibus chi-square test result (Sharpe, 2015). The residual analysis found that all cells contributed significantly to the chi-square test in participants’ motivation to attend symposiums. However, in the variables of attending courses, attending workshops, and reading more on AAT, participants in the ‘maybe’ group did not significantly contribute to the chi-square, and were not statistically significantly different from the other two groups. Similarly, participants in the 'motivated' group, in comparison to the 'not motivated' group, showed higher interest in learning more about AAT (Table 5). A residual analysis indicated that all four cells significantly contributed to the chi-square results.

**AAT in Academic Programs**
Exposure to AAT materials and training was very limited in students’ academic programs (Table 7). Only four students indicated that their programs offer courses on AAT; however, when asked to specify it was found that all four students did not in fact take a course on AAT but rather had done a presentation or wrote a paper on AAT as part of a non-related course.

Table 7

<table>
<thead>
<tr>
<th>Variables</th>
<th>None or Little</th>
<th>Some or Greatly</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure to AAT in program</td>
<td>211 (99.1)</td>
<td>2 (0.9)</td>
<td>-</td>
</tr>
<tr>
<td>Program offers courses on AAT</td>
<td>209 (98.1)</td>
<td>4 (1.9)</td>
<td>-</td>
</tr>
<tr>
<td>Supervision for research available</td>
<td>51 (23.94)</td>
<td>25 (11.7)</td>
<td>135 (63.4)</td>
</tr>
<tr>
<td>Training available</td>
<td>31 (14.6)</td>
<td>22 (10.3)</td>
<td>160 (75.1)</td>
</tr>
</tbody>
</table>

Although almost all students reported very low level of exposure to AAT materials in their academic programs, nearly two-thirds were interested in receiving more AAT information from their academic programs: 61% of participants (n=130) would definitely or probably attend a symposium on AAT, 54% (n=115) would definitely or probably participate in a workshop, 36% (n=77) would probably or definitely take a course on AAT, and 25% (n=53) would voluntarily read about AAT. Table 8 describes which areas of AAT participants would like to know more about based on their motivation to use AAT.

Table 8

<table>
<thead>
<tr>
<th>Areas of interest</th>
<th>Total n (%)</th>
<th>Motivated n (%)</th>
<th>Not Motivated n (%)</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant research on the benefits of AAT</td>
<td>166 (77.9)</td>
<td>62 (78.5)</td>
<td>104 (77.6)</td>
<td>0.22</td>
</tr>
<tr>
<td>Techniques and practical information on how to involve animals in my work</td>
<td>133 (62.4)</td>
<td>62 (78.5)</td>
<td>71 (53)</td>
<td>13.78**</td>
</tr>
</tbody>
</table>
MOTIVATION TO USE AAT

<table>
<thead>
<tr>
<th>Potential disadvantages or risks of using AAT</th>
<th>Motivated (60.6)</th>
<th>Not Motivated (62)</th>
<th>Total (59.7)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issues around insurance and liability when using AAT</td>
<td>128 (60.1)</td>
<td>61 (77.2)</td>
<td>67 (50)</td>
<td>15.35**</td>
</tr>
<tr>
<td>How to get animals certified as therapy animals</td>
<td>99 (46.5)</td>
<td>51 (64.6)</td>
<td>48 (35.8)</td>
<td>16.5**</td>
</tr>
<tr>
<td>What are the initial steps when starting an AAT program in my workplace</td>
<td>93 (43.7)</td>
<td>56 (70.9)</td>
<td>37 (27.6)</td>
<td>37.84**</td>
</tr>
<tr>
<td>Which animals can be used for AAT</td>
<td>81 (38)</td>
<td>36 (45.6)</td>
<td>45 (33.6)</td>
<td>3.03</td>
</tr>
<tr>
<td>How can I involve my own pet in my work</td>
<td>73 (34.3)</td>
<td>43 (54.4)</td>
<td>30 (22.4)</td>
<td>23.01**</td>
</tr>
<tr>
<td>I do not want to learn more on AAT</td>
<td>16 (7.5)</td>
<td>3 (3.8)</td>
<td>13 (9.7)</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*Participants could choose several options  **p<0.001

Perceived Benefits of Using AAT

Perceived benefits for clients. Participants were provided with a list of 10 potential benefits for the client of AAT and were asked to indicate on a five-point Likert scale the extent to which they agree or disagree that the item is beneficial. Participants in the 'motivated' and the 'not motivated' group did not significantly differ in ranking the benefits. Table 9 details how participants ranked the benefits of AAT for clients.

Because no significant difference was observed between means of the distinct benefits, a principle component analysis was employed in order to determine whether the items formed related subscales. The results of the analysis showed that all 10 items loaded on a single dimension called ‘benefits of using AAT for clients’. Fifty three percent of the variance was explained with a single component. The loading of individual items on this component ranged from 0.62 to 0.79, which indicates a strong relationship among the items. This analysis provides evidence that a single score computed as an average score across the 10 items can be used to represent the construct of benefits of AAT for clients.
### Table 9
Perceived benefits of AAT for clients* (N=213)

<table>
<thead>
<tr>
<th>Benefits</th>
<th>M (sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients may experience comfort and affection from petting an animal</td>
<td>4.35 (0.66)</td>
</tr>
<tr>
<td>The presence of animals has a positive effect on health (decreases heart rate and blood pressure, reduces stress, etc.)</td>
<td>4.15 (0.73)</td>
</tr>
<tr>
<td>Animals are great &quot;ice-breakers&quot;</td>
<td>4.12 (0.77)</td>
</tr>
<tr>
<td>Clients can be more relaxed/ calm in the presence of animals</td>
<td>4.09 (0.7)</td>
</tr>
<tr>
<td>Animals can be entertaining (e.g. do tricks) and introduce humor</td>
<td>3.98 (0.81)</td>
</tr>
<tr>
<td>Animals can provide a distraction from unpleasant/ painful procedures or topics</td>
<td>3.85 (0.87)</td>
</tr>
<tr>
<td>The animal can take an integral part of therapy (e.g. practice reading skills by reading to a cat, learning social skills by interacting with a dog, etc.)</td>
<td>3.54 (1.06)</td>
</tr>
<tr>
<td>It is often easier for clients to open-up or communicate through an animal</td>
<td>3.46 (0.89)</td>
</tr>
<tr>
<td>Clients will be more motivated to return to therapy when an animal is present</td>
<td>3.42 (0.88)</td>
</tr>
<tr>
<td>It is easier to build a relationship with a client in the presence of an animal</td>
<td>3.33 (0.94)</td>
</tr>
</tbody>
</table>

*Higher scores indicate a stronger benefit

A mean was computed for the 10 items and an independent samples t-test compared between the two motivation groups. A significant difference was found between the 'motivated' group's score ($M= 4.16$, $SE= 0.07$) and the 'not motivated' group's score ($M= 3.63$, $SE= 0.05$), $t(211)= -6.6$, $p<0.001$. Participants who showed higher motivation to use AAT in their future careers rated the advantages of using AAT for clients higher than participants with low motivation to use AAT in their future career. Further, Cohen’s effect size value ($d = 0.92$) suggests a high practical significance.

**Perceived benefits for therapists.** Participants were also provided with a list of six potential benefits of AAT for the therapist. They were asked to indicate on a five-point Likert scale the extent to which they agree or disagree that the item was beneficial. Participants in the...
MOTIVATION TO USE AAT

'motivated' and the 'not motivated' group did not significantly differ in ranking the benefits.

Table 10 details how participants ranked the benefits of AAT for therapists.

Table 10
Perceived benefits of AAT for therapists* (N=213)

<table>
<thead>
<tr>
<th>Benefits</th>
<th>M (sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The presence of animals can have a positive effect on the therapist's health (decreases heart rate and blood pressure, reduces stress, etc.)</td>
<td>3.94 (0.93)</td>
</tr>
<tr>
<td>Animals are great &quot;ice-breakers&quot;</td>
<td>3.92 (0.88)</td>
</tr>
<tr>
<td>Work atmosphere would be more relaxing, yet entertaining</td>
<td>3.79 (0.92)</td>
</tr>
<tr>
<td>Animals can often improve the therapeutic process</td>
<td>3.7 (0.95)</td>
</tr>
<tr>
<td>Being able to take their pets to work with them</td>
<td>3.54 (1.18)</td>
</tr>
<tr>
<td>Therapists will feel less lonely at work</td>
<td>3.32 (1.21)</td>
</tr>
</tbody>
</table>

*Higher scores indicate a stronger benefit

Because no significant difference was observed between the means of the distinct benefits, a second principle component analysis was employed in order to determine which of the six items formed related subscales. The results of the analysis showed that all six items loaded on a single dimension called ‘benefits of AAT to the therapist’. Sixty-four percent of the variance was explained with a single component. The loading of individual items on this component ranged from 0.73 to 0.87, indicating a strong relationship among the items. This analysis provides evidence that a single score computed as an average score across the six items can be used to represent the construct of benefits AAT has for therapists.

A mean was computed for the six items, and an independent samples t-test compared between the two motivation groups. A significant difference was found between the 'motivated' group's score ($M= 4.1, SE= 0.08$) and the 'not motivated' group's score ($M= 3.47, SE= 0.07$), $t(211)= -6.1, p<0.001$. The 'motivated' group rated the advantages of using AAT for therapists
higher than the 'not motivated' group. Further, Cohen’s effect size value \((d = 0.87)\) suggests a high practical significance.

**Perceived Barriers of Using AAT**

Participants were provided with a list of 15 barriers to using AAT. On a five-point Likert scale they indicated the extent to which they agree or disagree that each item is a barrier. Table 11 details how participants ranked the barriers to using AAT. Participants in the 'motivated' and the 'not motivated' group did not significantly differ in ranking the barriers of AAT.

Table 11

*Perceived barriers to using AAT* \((N=213)\)

<table>
<thead>
<tr>
<th>Barriers</th>
<th>M (sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some clients are afraid of animals</td>
<td>4.38 (0.63)</td>
</tr>
<tr>
<td>Clients may have allergies</td>
<td>4.38 (0.6)</td>
</tr>
<tr>
<td>Some clients dislike animals</td>
<td>4.37 (0.64)</td>
</tr>
<tr>
<td>Animals may not be allowed in the workplace</td>
<td>3.85 (0.84)</td>
</tr>
<tr>
<td>Some clients do not like animals due to cultural/ religious reasons</td>
<td>3.78 (0.91)</td>
</tr>
<tr>
<td>Clients may find animals noisy or dirty</td>
<td>3.67 (0.84)</td>
</tr>
<tr>
<td>Working with animals requires training that therapists do not have</td>
<td>3.77 (0.99)</td>
</tr>
<tr>
<td>Liability and insurance concerns</td>
<td>3.54 (0.98)</td>
</tr>
<tr>
<td>The animal needs to be maintained and taken care of, which takes extra time, money, and attention</td>
<td>3.24 (1.23)</td>
</tr>
<tr>
<td>The client might harm the animal</td>
<td>3.23 (1.01)</td>
</tr>
<tr>
<td>The animal might harm the client (e.g. biting or scratching)</td>
<td>3.22 (1.1)</td>
</tr>
<tr>
<td>Certifying an animal as a therapy animal is a long and tedious process</td>
<td>3.2 (0.8)</td>
</tr>
<tr>
<td>Research is still lacking on the effectiveness of AAT techniques</td>
<td>3.17 (0.84)</td>
</tr>
<tr>
<td>Colleagues may not take the therapist as seriously</td>
<td>2.8 (1.09)</td>
</tr>
<tr>
<td>The therapist may have allergies</td>
<td>2.17 (1.36)</td>
</tr>
</tbody>
</table>

* Higher scores indicate a greater barrier
A third principle component analysis was employed to investigate the underlying structure behind the 15 items. The analysis extracted three principle components that explained 50.2% of the variance. The three components were titled: "practicality and logistics", "welfare of the client", and "potential for harm". The correlation among these components was weak, ranging from (-)0.26 and 0.22, indicating these components are independent (Table 12).

Table 12
Factor loadings and communalities based on a principle components analysis with oblimin rotation for 15 items detailing barriers of using AAT (N = 213)*

<table>
<thead>
<tr>
<th>Factors</th>
<th>practicality &amp; logistics</th>
<th>welfare of client</th>
<th>potential for harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients may have allergies</td>
<td>-0.750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some clients dislike animals</td>
<td>-0.886</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some clients are afraid of animals.</td>
<td>-0.880</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some clients do not like animals due to cultural/religious</td>
<td>-0.494</td>
<td>0.369</td>
<td></td>
</tr>
<tr>
<td>reasons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The animal may harm the client (e.g. biting or scratching)</td>
<td></td>
<td>0.654</td>
<td></td>
</tr>
<tr>
<td>The client might cause harm to the animal</td>
<td></td>
<td>0.733</td>
<td></td>
</tr>
<tr>
<td>Clients may find animals noisy or dirty</td>
<td>-0.304</td>
<td>0.560</td>
<td></td>
</tr>
<tr>
<td>I have allergies</td>
<td></td>
<td>0.391</td>
<td></td>
</tr>
<tr>
<td>The animal needs to be maintained and taken care of, which</td>
<td>0.340</td>
<td></td>
<td>0.463</td>
</tr>
<tr>
<td>takes extra time, money, and attention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research is still lacking on the effectiveness of AAT</td>
<td>0.586</td>
<td></td>
<td></td>
</tr>
<tr>
<td>techniques</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certifying my pet as an animal-assisted animal is a long and</td>
<td>0.677</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tedious process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with animals requires training that I do not have</td>
<td>0.734</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My colleagues may not take me as seriously</td>
<td>0.696</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animals may not be allowed in my workplace</td>
<td>0.465</td>
<td>-0.329</td>
<td></td>
</tr>
<tr>
<td>I have concerns over liability and insurance</td>
<td>0.539</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Factor loadings < 0.3 are suppressed
This analysis suggests that the 15 items in this question can be represented by three subscale scores formed by averaging the items that load mainly on a particular domain. Composite scores were created for each of the three factors, based on the mean of the items. Higher scores indicated that the barrier was considered more challenging. Overall, participants perceived the second component, the welfare of client, to be the most important barrier in using AAT ($M=4.23$, $SE=0.04$) followed by practicality and logistics ($M=3.39$, $SE=0.04$). The third component, potential for harm, was perceived to be the least concerning ($M=3.11$, $SE=0.05$).

**Practicality and logistics.** This factor contains six items that involve the administrative part of using AAT and includes items pertaining to lack of training and research on AAT, regulations for animals in the workplace, and concerns over liability and insurance. This component explained 28% of the variability in responses. A significant difference was found between the two groups, $t(211)=6.31$, $p<0.001$. The 'not motivated' group ($M=3.57$, $SE=0.05$) perceived this factor as a greater barrier to using AAT than the 'motivated' group ($M=3.08$, $SE=0.06$). Further, Cohen’s effect size value ($d=0.91$) suggested a high practical significance.

**Welfare of the client.** This factor contains four items involving clients' comfort, allergies, and fear of animals. This component explained 12% of the variability in responses. A significant difference was found between the two groups, $t(211)=3.1$, $p=0.002$. The 'not motivated' group ($M=4.31$, $SE=0.04$) perceived this factor as a greater barrier than the 'motivated' group ($M=4.08$, $SE=0.06$). Cohen’s effect size value ($d=0.4$) suggested a moderate practical significance.

**Potential for harm.** This factor contains five items that involve negative attitudes toward animals and animals' potential for harm. It included items on harm caused to the client, harm caused to the animal, and noise and dirt caused by animals. This component explained 10% of
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the variability in responses. A significant difference was found between the two groups, \( t(211) = 4.24, p<0.001 \). The 'not motivated' group \( (M= 3.26, SE= 0.06) \) perceived this factor as a greater barrier than the 'motivated' group \( (M= 2.85, SE= 0.075) \). Further, Cohen’s effect size value \( (d = .61) \) suggested a moderate to high practical significance.

Attitudes as Covariant

Motivation to use AAT in the future was significantly positively correlated with more positive attitudes toward animals, as measured by the PAS, \( r(211) = 0.26, p< 0.001 \). Thus, it was unclear whether the observed differences between the motivation groups were due to differences in attitudes toward animals or to actual differences in motivation in using AAT in the future. Hence, a one-way analysis of covariance (ANCOVA) was conducted to determine a statistically significant difference between the 'motivated' and 'not motivated' groups on interest of learning more about AAT, while controlling for attitudes toward animals. A preliminary analysis evaluating the homogeneity-of-slopes assumption indicated that the relationship between attitudes and motivation did not differ significantly as a function of interest in learning more about AAT, \( F(1,209) = 3.8, p= 0.53, \eta^2_p = 0.18 \).

The ANCOVA was significant, \( F(1,209) = 147.24, MSE = 0.4, p<0.001 \), which means that the difference between the ‘motivated’ and ‘not motivated’ groups in terms of interest in learning more about AAT was not due to attitudes toward animals. The strength of the relationship was very strong, as assessed by partial eta square, with motivation accounting for 42% of the variance in interest in AAT, while holding attitudes scores constant.

A similar analysis was conducted with perceived barriers and benefits of using AAT as the dependent variables. All analyses were significant (Table 13), which means that attitudes
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toward animals was not the reason for the observed differences between the ‘motivated’ and ‘not motivated’ groups on perceived benefits and barriers of using ATT.

Table 13

<table>
<thead>
<tr>
<th>Differences between the motivations groups with attitudes as covariant (df=1, N=209)</th>
<th>F</th>
<th>MSE</th>
<th>$\eta^2_p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits to clients*</td>
<td>31.48</td>
<td>0.28</td>
<td>13.2%</td>
</tr>
<tr>
<td>Benefits to therapist*</td>
<td>25.12</td>
<td>0.49</td>
<td>10.8%</td>
</tr>
<tr>
<td>Barriers: practicality and logistics*</td>
<td>45.59</td>
<td>0.3</td>
<td>18%</td>
</tr>
<tr>
<td>Barriers: welfare of the client**</td>
<td>9.28</td>
<td>0.28</td>
<td>4.3%</td>
</tr>
<tr>
<td>Barrier: potential for harm*</td>
<td>13.44</td>
<td>0.46</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

* $p<0.001$  ** $p<0.01$

Results Summary

Results show that 37% (n=79) of the surveyed graduate students in counselling and clinical psychology programs are motivated to use AAT in their future careers, and 48% (n=102) are motivated to learn more about it. A closer look into students who showed motivation to use AAT revealed that the 'motivated' group were more likely to be females, older, and counselling students. Furthermore, participants in the 'motivated' group were more likely to previously work with animals in therapy, currently raise a pet, grow up with farm animals, participate in sports involving animals, and work/volunteer with animals. The ‘motivated’ group also scored statistically significantly higher on the PAS, indicating more positive attitude toward animals. However, when considering the PAS's wide range of scores (18-126), the numerical difference between the 'motivated' and the 'not motivated' groups was not great (79 and 74, respectively), implying that the two groups share similar attitudes toward animals. Furthermore, attitudes toward animals was not found to be the cause of the differences between the two motivation groups.
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Participants in the 'motivated' group showed relatively more interest in learning further about AAT. Specifically, participates in the 'motivated' group indicated that they would like to have more empirical data on the benefits of AAT, learn different AAT techniques, and learn the initial steps in starting an AAT program. 'Motivated' participants showed less interest in learning which animals to use and how to involve their own pet in AAT.

The two motivation groups ranked benefits of using AAT similarly, however the magnitude was significantly different. 'Motivated' participants indicated that animals' abilities to provide comfort and affection, to serve as an "ice breaker", and to improve health, are the most prominent benefits of incorporating animals in psychotherapy. However, it should be noted that there were no significant differences between the different benefits (thus, they were grouped into a single component), and the 'motivated' group rated highly all of the benefits.

Similarly, participants ranked barriers categorized as 'welfare of the client' as the most challenging in using AAT. This category includes barriers such as clients' fearing or disking animals, and clients having allergies. Participants perceived challenges in the category of 'potential for harm' as the least concerning. This category includes barriers such as risk of harm to the client, risk of harm to the animal, and noise or dirt caused by animals.

Children, adolescents, and seniors were chosen most frequently as the populations that would value the most from AAT. In addition, retirement homes, private practice and correctional facilities were perceived to be the facilities that would incorporate AAT in the best way.

Discussion

The first aim of this study was to explore Canadian counselling and clinical psychology graduate students’ perceptions of animal-assisted therapy (AAT), and their motivation to use it in their future practice. The results of the survey revealed that, though students admit their current
knowledge on AAT is limited, some of them are interested in learning more about it, and most of them hold favourable opinion on AAT. Level of motivation to use AAT in this Canadian sample was similar to the motivation level found by Thew et al. (2015) among American students and clinicians, indicating a low to medium receptiveness to using AAT among North American psychologists and future psychotherapists.

A discrepancy was found between Canadian students’ interest and desired level of knowledge, and their current level of knowledge and exposure to AAT materials in their academic programs. Though it is apparent that some students would like to receive more training and supervision in AAT, it is unclear where students might find it. Most academic programs in counselling and clinical psychology cannot accommodate such specific and demanding training and supervision. However, academic programs can help support students' curiosity and eagerness to learn new approaches by providing their students with information of where else, outside their academic programs, they might find AAT information, training, or supervision opportunities. Similarly, privately operated or non-academic AAT training facilities should approach and familiarize academic departments with their courses and programs. Increasing the awareness of professors and academic counselling departments to the potential benefits of AAT, will help increase, in turn, knowledge and interest among students.

This study's second aim was to understand who are the students most interested in AAT. Privately operated AAT training programs can use these findings to target potential clients and tailor appropriate materials. As hypothesized, participants who had experience and exposure to animals, whether it is through therapy involving animals, currently raising a pet, or engaging in leisure activities with animals, showed higher motivation to use AAT. It is possible that
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participants exposure to animals in different environments and roles, and seeing animals' unique qualities, allowed them to envision how these qualities could be utilized in a therapeutic setting.

Overall, significant differences were found between the scores of the 'motivated' and 'not motivated' groups in terms of their level of interest, attitudes toward animals and magnitude of perceived benefits of and barriers to using AAT. However, a closer look at the findings reveals that these two groups are not disparate. Both groups had some experience with animals, held favourable attitudes toward animals, and ranked similarly the benefits of and barriers to using AAT. Furthermore, all the participants were generally interested in attending symposiums and workshops on AAT, even if they have no plans of using it themselves in the future. These findings raise the important question of what does distinguish these two motivation groups, other than demographic determinants of age, gender and academic program? Contrary to our hypothesis, this study found that attitudes toward animals cannot account for these differences. Future studies can look at other factors such as curiosity, creativity, nature-loving, and agreeableness that may influence students' likelihood of being motivated to use AAT in their future careers.

This study's third aim was to explore what do students perceive as benefits of and barriers to using AAT in psychotherapy. These findings can be used by administrators in facilities who consider the implementation of an AAT program, by helping them recognize what could be some potential advantages or challenges from the psychotherapist's perspective. Participants stressed both benefits and barriers that pertain to the welfare of the client. According to the Canadian Psychology Association (CPA), the welfare and safety of clients is one of the basic and pivotal ethical principles that psychotherapists and psychologists must uphold (CPA, 2000). Thus, it is legitimate that future psychotherapists are concerned for clients' welfare, making sure they feel
comfortable and supported. The potential for harm, on the other hand, was the barrier that was perceived to be the least challenging. As most participants had some exposure to animals in their lifetime, they observed the nature of animals and how little risk they pose to humans and, thus, did not perceive potential for harm to be a major barrier in using AAT. Furthermore, participants tended to perceive vulnerable populations, such as children, seniors and offenders, as those who would benefit the most from AAT. These findings reinforce participants' perception that animals are not likely to cause harm to vulnerable populations but rather increase their comfort level in therapy and promote health.

In general, participants rated relatively highly all of the benefits, regardless of whether they were motivated to use AAT or not. It seems that Canadian students, despite having little factual knowledge of AAT, were able to recognize how animals could positively affect clients by means that were based merely on anecdotal or personal experience. With that being said, both motivation groups were quite cognizant of the barriers of AAT. Previous research show that practitioners who are using AAT and are perceiving it as effective and beneficial, were still well aware of the challenges and difficulties of implementing an AAT program (Rossetti et al., 2008).

Thew et al., (2015) similarly reviewed students' and practitioners' perception of the benefits of and barriers to using AAT. However, there are some important dissimilarities between these two samples in regards to their cultural background (i.e. Canadian versus American) and their profession (counselling and clinical psychology students versus clinical psychologists and clinical psychology students from APA accredited programs, respectively). Nonetheless, participants' responses from the current study were compared with the perceived barriers and benefits that were found by Thew and her colleagues (2015) and some noteworthy differences were found. Unlike the American sample, the Canadian sample did not find that
stigma and jeopardizing one's professional image was a major barrier of using AAT. In fact, decreased perceived professionalism by colleagues was rated as one of the least challenging barriers to using AAT by Canadian students.

Similarly, Thew et al. (2015) found that American students and practitioners mentioned the enhancement of the therapeutic process as the most prominent benefit to AAT; whereas the Canadian sample rated relatively lower benefits pertaining to building a stronger therapeutic alliance and enhancing the therapeutic process. Cultural differences may exist between Canadian and American students in regards to perception of animals and their roles in psychotherapy. Unfortunately, research has been limited in this area.

This study's final aim was to gain an accurate picture of the status of AAT training in academic settings, explore students' interest, and understand which AAT training and educational materials they would like to make use of. It was found that AAT courses and materials are almost non-existent in most counselling and clinical psychology programs across Canada, but the majority of students are interested in receiving AAT information, especially in a form of short and concise activities (e.g. symposiums or workshops).

When given the opportunity, participants who were motivated to use AAT indicated that the areas of AAT they would like to acquire knowledge on were areas related to the practicality and logistics of using AAT. AAT training programs can use this information in tailoring appropriate materials and offer content that can alleviate students' concerns. For example, they can provide information on how to conduct proper screening for clients intending to participate in AAT to make sure their cultural or religious background allow interaction with animals. In addition, they can offer mentorship opportunities to help psychotherapists who want to start an AAT program and need help during the initial steps.
**Limitations and Future Direction**

This exploratory study had a few limitations. First, this study did not accurately represent the population of Canadian graduate students in counselling and clinical psychology programs. Though a compelling reward was offered for those who participated, the name of the study and its purpose were presented to participants, and it is likely that those with favourable attitudes toward animals were more prone to participate. Nonetheless, this study only claims to present the profile of the students who are interested in AAT.

A second limitation of this study pertains to its design. As previously mentioned in the literature review, there are several definitions of AAT. Similarly, there are different types of AAT, each has its own application with different populations, and each poses its own challenges and advantages. Although a brief definition of AAT and how it applies to psychotherapy was provided to participants, we were unable to control which type of AAT participants considered while answering the survey. For example, those who considered equine therapy may not appreciate the benefit of taking their pet to work. Similarly, those who contemplated placing an aquarium in the office, may not be interested in receiving more information on certifying therapy animals. Future research in this area should consider this limitation and approach it accordingly.

This study revealed gaps in students’ knowledge of AAT and the need for training and materials that should be addressed to further the field. Future research could explore the perception and motivation of Canadian practicing psychotherapists, and not only students, to get a more comprehensive picture of the status of AAT and not just its potential. Furthermore, follow-up research can bring attention to the different kinds of AAT, and their application within the mental health field with different populations (i.e. people suffering from trauma, First Nations, etc.).
Conclusions

This study examined AAT's promising potential among future psychotherapists. Furthermore, this study successfully furthered the literature in the field, and helped raise awareness to this type of therapy among future psychotherapists. Overall, the results of this study demonstrate that, in counselling and clinical psychology programs in Canada, there is some motivation to use AAT in psychotherapy. This study found that students who showed interest in AAT are generally females, older and counselling students, with prior exposure to animals. It seems that this Canadian sample in its entirety has a favourable attitude toward animals and they appreciate important benefits and barriers to using AAT, but the 'motivated' group rated them more positively. Furthermore, this study also found that most students are interested in learning more about AAT, especially in the form of workshops or symposiums. It is important to examine how we can disseminate this information and further expand future psychotherapists' awareness of this promising type of therapy.
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References


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APPENDIX A
RECRUITMENT EMAIL- SCHOOLS

Dear Ms/Mr. X,

My name is Noga Lutzky-Cohen. I'm a graduate student in the Clinical and Counselling Psychology program at Ontario Institute for Studies in Education (OISE) at the University of Toronto. I am writing to find out whether you could provide assistance in recruiting participants for my Master's thesis.

I am working under the supervision of Dr. Marg Schneider to find out about the attitudes of counseling and clinical psychology graduate students toward incorporating animals in psychotherapy. I am interested in hearing what are some perceived benefits or barriers of using animals in psychotherapy, and what type of training would potentially interest graduate students. Toward that end, I am in need of master’s and doctoral students who would be willing to complete my online survey. It should take approximately 15 minutes to complete, and students will have the opportunity to win one of two $50 Amazon.com gift cards. For your convenience, I have attached the information/consent document that will be the introduction to the online survey. It contains more details about the purpose of the study.

I was wondering if you would be able to help disseminate my recruitment email among your clinical (counseling) graduate students. If I need to get an administrative consent in order for you to disseminate my recruitment email, please let me know which procedures are necessary on my part.

I would highly appreciate your help in this matter. Please let me know whether you will be able to assist.

Thank you,

Noga

Noga Lutzky-Cohen
Graduate Student in Clinical & Counselling Psychology
Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education, University of Toronto
APPENDIX B

RECRUITMENT EMAIL- PARTICIPANTS

Hello,

My name is Noga and I'm a graduate student in the Clinical and Counselling Psychology program at Ontario Institute for Studies in Education (OISE).

I would greatly appreciate your help with conducting my MA thesis. I'm interested in your opinions and thoughts regarding the incorporation of animals in psychotherapy. I'm interested in what do you see as potential benefits and/or disincentives for incorporating animals in psychotherapy, how motivated you are to incorporate animals in psychotherapy in the future, and whether you would like to know more about it.

I am looking for master's and doctorate students in counselling or clinical psychology programs to answer a short online survey.

If you are interested, please follow the link below. It would provide you with additional information about the study, as well as the survey itself.

The survey should take approximately 15 minutes to complete, and once you complete it, you'll have the opportunity to enter a draw to win one of two Amazon gift cards, for the amount of $50 each!

If you have any questions, please don't hesitate to contact me.

Thank you!

Noga

Noga Lutzky-Cohen
Graduate Student in Clinical & Counselling Psychology
Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education, University of Toronto
Dear Participant,

My name is Noga Lutzky-Cohen and I am a graduate student in the Clinical and Counseling Psychology program at Ontario Institute for Studies in Education (OISE) at the University of Toronto.

I am studying the animal-human bond, and I believe incorporating animals into psychotherapy could be beneficial in our attempt to help different types of clients.

For my MA thesis I am interested in finding out the perception and motivation of counseling and clinical psychology graduate students across Canada toward Animal Assisted Therapy (AAT) and the prospect of using it in their future practice. I am defining Animal Assisted Therapy as any use of an animal in a therapeutic intervention. The animal can have an active role, interacting with the client (for example, petting a dog to relieve stress), or may simply be present (for example, having an aquarium at the office). Many types of animals can be used as part of therapy.

Because you are a graduate student in a counseling or clinical psychology program, I am inviting you to participate in this research study by completing the attached survey.

The following survey will be conducted online and will take approximately 15 minutes to complete. The questions explore your opinions about AAT and also ask about your background in interacting with companion animals. There are no known risks to this study. Once you have completed the survey, you will have the opportunity to open a new webpage and enter your email address in a draw and win one of two $50 Amazon.com gift cards! Your responses will not be linked to your email address in any way.

In order to ensure that all information will remain confidential, please do not include your name or any identifying information on the survey.

Participation is voluntary and you may withdraw at any time by closing your browser. If you choose to withdraw, your data will be deleted. Once you complete the survey, your data will be saved anonymously, and thus, it would no longer be possible to delete. Only the research team will have access to the data collected. If you have any questions regarding your rights as a participant, please contact the Office of Research Ethics at ethics.review@utoronto.ca or 416-946-3273.
MOTIVATION TO USE AAT

If you would like to have a summary of the results of the study when it is complete, please contact me via the contact information provided below.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide useful information that will help in the development of appropriate educational and professional programs to promote the use of AAT in the field of mental-health.

If you require additional information or have any questions, please do not hesitate to contact either myself or my supervisor, Dr. Marg Schneider.

If you are interested in participating please click on "I agree to participate" below. If you choose not to participate, please close your browser.

Sincerely,

Noga Lutzky-Cohen

Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education, University of Toronto
noga.cohen@mail.utoronto.ca

Margaret Schneider, PhD, CPsych
Associate Professor
Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education, University of Toronto
416-978-0684
margaret.schneider@utoronto.ca
Background information

1. Age: ______

2. Gender:  Male_____  Female_____   Other________

3. Ethnicity (choose all that apply)
   - African/Caribbean
   - Asian
   - European
   - Hispanic/Latin
   - Indigenous
   - Middle Eastern
   - Other_______________________________________________________________

4. What is your current level of education?
   - a. First year of master's
   - b. Second (or higher) year of master's
   - c. Year 1 of a doctorate program
   - d. Year 2 of a doctorate program
   - e. Year 3 of a doctorate program
   - f. Year 4 of a doctorate program
   - g. Year 5 or higher of a doctorate program

5. Which province are you from?
   - Alberta
   - British Columbia
   - Manitoba
   - New Brunswick
   - Newfoundland and Labrador
   - Northwest Territories
   - Nova Scotia
   - Nunavut
   - Ontario
   - Prince Edward Island
   - Quebec
   - Saskatchewan
   - Yukon
   - Not originally from Canada

6. Where is your university located?
MOTIVATION TO USE AAT

Alberta
British Columbia
Manitoba
New Brunswick
Newfoundland and Labrador
Nova Scotia
Ontario
Prince Edward Island
Quebec
Saskatchewan

7. Which professional licensing would you be eligible for once you complete your professional training?
   a) Psychotherapist
   b) Counselor
   c) Psychological associate
   d) Clinical psychologist
   e) Child psychologist
   f) Other type of psychologist
   g) Other _____________________________________________________________

8. What kind of practice do you want once you've completed your schooling (check all that applies)
   a) Teaching
   b) Research
   c) Assessments
   d) Counselling
   e) Clinical
   f) Other________________________________________________________________

9. Which clients are you planning to serve (check all that apply):
   a) Toddlers
   b) Children
   c) Adolescents
   d) Adults
   e) Seniors
   f) Women
   g) Men
   h) Families
   i) Couples
   j) Other________________________________________________________________
   k) Not sure yet

10. Have you had any experience conducting counselling or psychotherapy so far?
    a) yes, extensively    b) yes, somewhat    c) yes, but very little    d) not yet
Your Experience with Companion Animals

11. Do you currently have pet(s) in your home? No____ Yes______
   [11.1 If yes, which one(s) do you have?]
   Cat
   Dog
   Bird
   Fish
   Reptile
   Rodent
   Other____________________________

12. Did you grow up with animals in your house? No_____ Yes______
    [12.1 If yes, which one(s)?]
    Cat
    Dog
    Bird
    Fish
    Reptile
    Rodent
    Other____________________________

13. Did you grow up with farm animals? No_____ Yes______
    [13.1 If yes, which one(s)?]
    Chickens
    Sheep
    Goats
    Ducks/geese
    Cows
    Pigs
    Horse
    Reptile
    Rodent
    Other____________________________

14. Do you have experience working or volunteering in a setting with animals? No____ Yes____
    [14.1 If yes, in what capacity?______________________________________________________]
    14.2 How long was the experience?______________________________________________________
    14.3 Which animals did you work with?__________________________________________________

15. Have you ever participated in sports or leisure activities that involved animals? No____
    Yes____ [15.1 If so, please describe____________________________________________________]
Your Views and Experiences with AAT

16. Do you have any experience with incorporating animals in any way in therapy?  
No____  Yes____  
if yes:  
  16.1 What was your role?  
  a) the client  
  b) the therapist/facilitator  
  c) observer  
  d) volunteer position/helper  
  e) other____________________________________________________  
  16.2 In what way was the animal involved?  
  a) The animal was present, with no interaction with the clients  
  b) The animal was present and interacted with the clients  
  (petting/playing/reading to/looking at the animal during therapy)  
  c) Other____________________________________________________  
  16.3 Which type of animal(s) was used?  
  Cat____  Bird____  Fish____  Horse____  
  Dog____  Reptile____  Rodent____  Other______  
  16.4 Did you find that this experience was helpful for the client(s)?  
Yes___  No____

17. Do you have any certification in animal-assisted therapy (AAT)?  No___  Yes___  
[17.1 If yes, which one?______________________________________________]

18. Do you have any certification or training in animal training? No_____  Yes_____  
[18.1 If yes, which one?______________________________________________]

19. Which statement would describe your familiarity with AAT?  
  1) I don't know very much about it  
  2) I know a little bit about it  
  3) I know a fair amount about it  
  4) I know a lot about it

20. Which statement would describe the amount of reading you have done on AAT?  
  1) I haven't done any reading  
  2) I've read a few things  
  3) I've read a fair amount  
  4) I've read extensively

21. Have you attended any workshops or courses on AAT? Yes _____No _____

22. To what degree are you motivated to use AAT for clients in your future practice?  
  none____  little____  some____  highly motivated______
23. What do you see as potential benefits of using AAT for clients?
   1=strongly disagree   2= disagree   3= neutral   4= agree    5= strongly agree
   a) Clients can be more relaxed/calm in the presence of an animal  1 2 3 4 5
   b) It is easier to build a relationship with a client in the presence of an animal  1 2 3 4 5
   c) Animals are great "ice-breakers"  1 2 3 4 5
   d) Animals can provide a distraction from unpleasant/painful procedures or topics  1 2 3 4 5
   e) Clients may experience comfort and affection from petting an animal  1 2 3 4 5
   f) The animal can take an integral part of therapy (e.g. practice reading skills by reading to a cat, learning social skills by taking care of a dog, etc.)  1 2 3 4 5
   g) Clients will be more motivated to return to therapy when an animal is present  1 2 3 4 5
   h) It is often easier for clients to open-up or communicate through an animal  1 2 3 4 5
   i) The presence of animals has a positive effect on health (decreases heart rate and blood pressure, reduces stress, etc.)  1 2 3 4 5
   j) Animals can be entertaining (e.g. do tricks) and introduce humor (i.e. make clients laugh).  1 2 3 4 5
   k) Other

24. What do you see as potential benefits of using animal-assisted therapy for therapists?
   1=strongly disagree   2= disagree   3= neutral   4= agree    5= strongly agree
   a) Being able to take their pets to work with them  1 2 3 4 5
   b) Animals can often improve the therapeutic process  1 2 3 4 5
   c) Animals are great "ice-breakers"  1 2 3 4 5
   d) The presence of animals can have a positive effect on the therapist's health (decreases heart rate and blood pressure, reduces stress, etc.)  1 2 3 4 5
   e) Work atmosphere would be more relaxing, yet entertaining  1 2 3 4 5
   f) Therapists will feel less lonely at work  1 2 3 4 5

25. What do you see as potential barriers to using animals as part of your future therapeutic approach?
   1=strongly disagree   2= disagree   3= neutral   4= agree    5= strongly agree
   a) Clients may have allergies  1 2 3 4 5
   b) Some clients dislike animals  1 2 3 4 5
   c) Some clients are afraid of animals.  1 2 3 4 5
   d) Some clients do not like animals due to cultural/religious reasons  1 2 3 4 5
   e) The animal may harm the client (e.g. biting or scratching)  1 2 3 4 5
   f) The client might cause harm to the animal  1 2 3 4 5
   g) Clients may find animals noisy or dirty  1 2 3 4 5
   h) I have allergies  1 2 3 4 5
   i) The animal needs to be maintained and taken care of, which takes extra time, money, and attention  1 2 3 4 5
26. Please choose 3 populations that you believe would benefit the most from AAT
   a) infants and toddlers
   b) children
   c) adolescents
   d) adults
   e) seniors
   f) families
   g) None
   h) Other_________________________________________________

27. Please choose 4 therapy facilities that you believe would benefit the most from AAT
   a) Private practice
   b) Kindergartens/child care
   c) Schools
   d) After school programs
   e) Community centers
   f) Government agencies
   g) Retirement homes
   h) Correctional facilities
   i) Hospitals
   j) Health care centers
   k) None
   l) Other_________________________________________________

28. To what degree are you motivated to learn more about how to use AAT in your practice?
   none____ little____ some____ greatly____

29. If given the chance, which areas of AAT would you like to know more about (check all that apply):
   a) How can I involve my own pet in my work
   b) Techniques and practical information on how to involve animals in my work
   c) Which animals can be used for AAT
   d) Issues around insurance and liability when using AAT
   e) Relevant research on the benefits of AAT
   f) Potential disadvantages or risks of using AAT
MOTIVATION TO USE AAT

g) What are the initial steps when starting an AAT program in my workplace
h) How to get animals certified as therapy animals
i) Other______________________________

Your Academic Experience with AAT

30. How much, if any, exposure you have had to AAT in your academic program?  
   1= none  2= little  3= some  4= greatly

31. Does your program offer courses or seminars on the animal-human bond, AAT, the use of animals in mental health or any other related issue?  No____ Yes____ if yes, please describe______________________________

32. Are there any books or other materials on AAT in your university's library?  
   Yes_____ No____ I don't know__________

33. If your academic program offered a course on AAT, would you take it?  
   1= no  2= probably not  3= maybe  4= probably  5= definitely

34. If your academic program offered workshops on AAT, would you participate?  
   1= no  2= probably not  3= maybe  4= probably  5= definitely

35. If your academic program offered symposium, guest speakers or colloquium on AAT, would you attend?  
   1= no  2= probably not  3= maybe  4= probably  5= definitely

36. If your library offered books, articles or other reading materials on AAT, would you read them?  
   1= no  2= probably not  3= maybe  4= probably  5= definitely

37. If you wanted to conduct research on AAT, are there any faculty members in your program who can supervise you?  
   Yes______
   No____
   Not sure____
   There are faculty members who are interested in AAT in my university, but not in my program______

38. If you wanted to use AAT in therapy, are there any therapists or facilities in your area that you know of that would be able to train you?  
   Yes______
   No____
   Not sure____
   Yes, but not in my area__________
MOTIVATION TO USE AAT

The Pet Attitude Scale (Munsell et al., 2004; Templer et al., 1981)

Thank you for participating in this study!
If you know of any other graduate student in a clinical psychology or counselling program that might be interested in participating in the study, please forward them the original email.
If you would like to participate in a draw and have the chance to win a $50 Amazon.com gift card, please follow this link and enter your email address. Your email address will not be connected in any way to your responses. LINK

If you would like to know more about AAT, below is a list of suggested readings: