November, 2015 PILOT STUDY



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Métis Addictions Council of Saskatchewan (MACS St. John Ambulance Therapy Dog Program

Background & Purpose

Animal Assisted Activities

(AAA) "provide opportunities for motivational, educational, recreational, and/or therapeutic benefits to enhance the quality of life [of humans]. AAAs are delivered in a variety of environments by specially-trained professionals, paraprofessionals, and/or volunteers in association with animals that meet specific criteria. Key features include absence of specific treatment goals; volunteers and treatment providers are not required to take detailed notes; visit content is spontaneous" (Delta Society, n.d., as cited in Kruger & Serpell, 2006, p. 23)

A 2014 review of studies identified an increasing empirical base for AAAs, and the need for further research (Borrego et al., 2014).

This fact sheet shares the history and findings of a pilot study of the St. John Ambulance Therapy Dog program at the Métis Addictions Council of Saskatchewan Inc. (MACSI) in Saskatoon.

The objectives of the SK St. John Ambulance (StJA) Therapy Dog program are to offer: (1) love and (2) support to the individuals with whom the dogs and handlers visit (St. John Ambulance, 2015).

As part of a multi-site project, the aim of this pilot study is to identify the outcomes/effects of the AAA Program during the Therapy Dog team visits. Both individual and group visits were held.

The concepts of love and support are examined for if and how clients experience them, and key outcomes from past studies are measured (e.g., stress, anxiety, happiness, participation). Feedback is collected from clients, observers (e.g., counsellors), and the therapy dog handlers.

MACSI Canine Assisted Activity Program

MACSI is a provincial community based addictions agency that supports Métis, First Nations and non-Aboriginal people who are seeking to live safer, healthier lives free of the harmful effects of addictions. A variety of therapeutic approaches and philosophies from a broad spectrum of influences support MACSI's service delivery, including knowledge of the Métis heritage, traditional Aboriginal teachings, the 12 step recovery model,

and emerging trends in the field of addictions.

MACSI Saskatoon offers 28 day inpatient treatment, outpatient services, a six week day program and field services. The residential program provides an abstinencebased healing environment with attention to holistic programming. The day program provides a flexible, drop -in approach to recovery for clients during the week days (MACSI, 2015). Both types of treatment offer educational workshops, including a 45 minute visit from a StJA Therapy Dog and facilitated discussion by the handler about animals as a form of support in recovery.

Indigenous worldviews are holistic and relational. Wilson (2001) shares "Knowledge...is a relationship with all of creation. It is with the cosmos; it is with the animals, with the plants, with the earth" (177). Understanding, from within an Indigenous worldview, is about 'all my relations'.

Volunteer Handler	Dog Name	Dog Breed	Dog Age	Dog Years Worked	Dog Work schedule	() and
Colleen Dell	Subie	Boxer	5	2 years	Adult Group	1. 10
Colleen Dell	Kisbey	Boxer	7	2 years	Adult Group	E. 21
Colleen Dell	Anna-Belle	Bulldog	3	2 years	Adult Group	1 C D



Research Methods

This pilot study was designed on a limited scale to gain insight into the outcomes of the StJA Therapy Dog Program at the MAC-SI Saskatoon Centre and develop a future robust study.

The data collection was two-fold via a questionnaire. Qualitative, open-ended inquiry documented participant, staff, handler, and observers' subjective experiences, meanings and processes (Denzin & Lincoln, 2008). This approach recognizes that others' perspectives lend to the co-creation of individuals' stories such that they can collaboratively unfold (i.e., clients and handlers) (Creswell, 2013). Quantitative, Likert scales documented outcomes in literature identified areas.

The data was collected from July 2014 to July 2015. A total of 87 adult clients, 11 staff, 8 handler (representing 1 handler and 3 dogs), and 2 observer questionnaires were completed. Three Therapy Dogs were involved in the data collection: Anna-Belle (43), Subie (36), and Kisbey (8). Group visits averaged 45 minutes.

The clients were presented with a questionnaire at the completion of each visit, and filled it in on-site and out of the presence

Partnership & Ethics

The StJA Therapy Dog program was initiated at MACSI with the Research Chair in Substance Abuse from the University of Saskatchewan visiting with her Therapy Dogs. This began with the residential group and then approximately half way through the study transitioned to the day program group. The original aim was to involve both groups. The visits took place monthly (once per cohort).

When the transition from the residential

the Therapy Dog team. Staff, the handler and observers completed questionnaires immediately after the session.

The client demographics are:

Gender	Male	42	48%
	Female	33	38%
	Other or Unknown	12	14%
Ethnicity	Aboriginal	50	58%
	Caucasian	25	29%
	Other or Unknown	12	14%
Age	Adult	87	100%
Have Pet	Yes	32	37%
	No	41	47%
	Unknown	14	16%

The StJA handler demographics are:

Gender	Female	1	100%
Years Volunteering for the StJA Therapy Dog program	2 years		
The handler has a back- ground in group facilitation in the addictions field			

to the day program group took place, a second StJA Therapy Dog was introduced to the residential program on Sundays for visiting. Data was not collected for these visits and they continued weekly for approximately 4 months.

The Saskatoon Health Region provided operational approval for this study, ethics exemption was granted from the University of Saskatchewan Human Research Ethics Board given the project's evaluative focus, and an ethics certificate was granted

Data Analysis

The data collected using the Likert scale were analyzed quantitatively for descriptive statistics (i.e., mean and frequencys). Means and frequencies were compared to provide an indication of highest means and largest proportion of agreement on items. T-test mean comparisons were conducted on how a client felt before and after spending time with the Therapy Dog.

The qualitative data was analyzed through an inductive thematic analysis. Such an analysis seeks to identify recurrent patterns, or themes, in textual data. These themes were compared with others and clustered based on similarity in meaning (Saldana, 2010). The frequencies presented here may not sum to the sample size because sentences can be thematically coded more than once. All data was reviewed and interpreted by our multi-disciplinary team.



from the U of S Animal Research Ethics Board and adhered to the Canadian Council on Animal Care guidelines for humane animal use.

The findings of this Fact Sheet *cannot* be directly compared to the findings of other AAI programs because each program has clients with different presenting needs, the therapeutic approach may be dissimilar, and, in some cases, the species varies (e.g., horses are prey animals and dogs are not).

Becoming a St. John Ambulance Therapy Dog

The StJA Therapy Dog program started in Saskatchewan in 2007, with over 140 current Therapy Dog teams. The handler must be 18 years of age or older; physically and mentally capable of performing the activities that are reasonable for the type of service they are providing; willing to complete an application process and Criminal Record Check; able to successfully participate in a dog evaluation; and able to provide up-to-date veterinarian documents indicating that all vaccinations are current.

The dog must be accepting of a friendly stranger; sit calm for petting; walk on a loose leash; walk through a crowd; sit on command/stay in place; and react well to another dog or to distractions (St. John Ambulance, 2015). A team commits to volunteering at least once a month and annually provides a veterinary record of vaccinations and any behavior-related issues with the dog. The handlers sign an annual attestation form to verify their Criminal Record Check and provide an updated Check every three years. Visit www.sja.ca for more information.

Findings

Client: Rated Items

Of the 87 adult clients, 77 were asked to rate eleven items while 10 clients inadvertently completed 'staff' questionnaires, and so these were excluded from the quantitative analysis. All items except for two items in the questionnaire used a 5-point Likert scale ('Not at all' to 'Yes, a lot' OR Smiley/Sad Faces). The "Glad met with Therapy dog" and "Recommend" items in the questionnaire had three options ('Yes', 'No', 'Unsure').

In response to whether they were glad they met with the Therapy Dog, 96% responded "Yes" and 4% responded "Unsure", with an overall average of 4.9.

About time spent with the Therapy Dog, on average the adults gave similar ratings to love/support from the dog as support from handler. For love/support from the dog, 33% of the adults rated 'Yes, a lot' and 49% rated 'Yes, a little", with an average of 4.1. For support from the handler, 38% of the adults rated 'Yes, a lot' and 44% rated 'Yes, a little", with an average of 4.0. Additionally, there were no significant differences between the male and female ratings.

1='Not at all'/'No' 5=''Yes a lot/'Yes'	Female Average	Male Average	All Average
Glad met/like spending time	4.88	4.95	4.9
Helped de-stress	3.8	4.1	4.0
Comforted/loved by the dog	3.8	4.2	4.1
Supported by the dog handler	4.0	4.1	4.0

After spending time with the Therapy Dog, on average the adults rated feeling calm (4.0), with a large majority (85%) responding 'Yes, a lot' (29%) or 'Yes, a little' (56%).

1='Not at all'/'No'	Female	Male	All
5='Yes, a lot'/'Yes'	Average	Average	Average
Feeling anxious	2.7	2.4	2.5
Feeling calm	3.9	4.2	4.0
In better control of feelings	3.9	3.9	3.9
Stressed	2.2	2.3	2.3

On average the adults rated their feelings statistically significantly higher by one happier face after spending time with the Therapy Dog (3.1 to 4.4) (p < .001). This finding was similar by gender.

1='Very Sad Face' to 5='Very Happy Face'	Female Average	Male Average	All Average
How felt before time with the dog	3.2	3.1	3.1
How felt after time with the dog	4.5	4.3	4.4

Client: Qualitative

Question: What was your reason for meeting with the Therapy Dog today? **Who responded:** 73 of 87 (84%); 32F/39M/2U **Themed frequency:** (all themes similar across gender)

1. Program/therapy/treatment (47, 64%) 2. Educational/learn about dogs (10, 14%) 3. Enjoyment/like/love dogs (6, 8%) 4. Happened to be there/dog was there (5, 7%) 5.Cope/Relax (3, 4%)



Question: Are you glad that you met with the Therapy dog? Why?

Who responded: 80 of 87 (92%); 31F/38M/11U

Themed frequency (all themes similar across gender)

Cute dogs/friendly/nice to see (19, 24%) Enjoyment/entertaining (18, 23%) Support/accepting (12, 15%) Uplifting (12, 15%) Learned about dogs (10, 15%) Love dogs/feel loved (5, 6%) Being with/pet dog (5, 6%)



Question: What words would you use to describe your experience with the Therapy Dog today?

Who responded: 76 of 87 (87%); 30F/39M Themed frequency: (similar by gender except where indicated)

Enjoy/happy/good (34, 45%) De-stress/relax/calm (16, 21%) Support/comforted (15, 20%) Love dog/loved (9, 12%) Friendly dog/kind (5, 7%) [0%F/13%M] Education (5, 7%) Change in mood (3, 4%) [10%F/0%M]

Question: Would you recommend the Therapy Dog program? 75% Yes/9% Unsure/16% Missing Why? **Who responded?** 59 of 87 (68%); 26F/33M

Themed frequency: (themes similar by gender) De-stress/calm/relaxing (15, 25%) Around dogs (8, 14%) Program helps/works (8, 14%) Good experience (8, 14%) Support/comfort (7, 12%) Enjoyment/fun (6,10%) Unconditional love (4, 7%) Question: Any additional comments? Who responded: 38 of 87 (44%); 11F/23M/4U

Themed frequency:

Like the dog/want a dog (13, 34%) Good program/supportive handler (8, 21%) Keep coming (6, 16%) Feel love/loved it (6, 16%) Thank you (6, 16%) Enjoyment/great time (3, 8%)



Staff, Handler, and Observer: Rated Items

The 11 Staff, 8 Handler and 2 Observers rated their observations of the clients on three items using a 3-point Likert scale (Yes, Unsure, No). On average, the staffs', handlers', and observers' strongest agreement was that the clients felt supported by the handler (average 3.0 and 100% responded 'Yes'). There was some uncertainty from the three groups if clients were feeling love and support from the dog; however, the majority were positive and responded 'Yes'.

3 = 'Yes', Client feel	Staff Average	Handler Average	Observer Average
Loved	2.7	2.3	2.8
Supported	2.7	2.6	2.5
Handler support	3.0	3.0	3.0

Staff: Rated Items

In addition, the 11 staff rated their observations of their clients on six items using a 5-point Likert scale (Strongly Disagree, Disagree, Unsure, Agree, Strongly Agree). On average, the staffs' strongest agreement was that the clients talked more openly, smiled more/showed positive affect, and were less agitated (average 4.0 for the three items), and more than 80% of staff responded 'Strongly Agreed' or 'Agreed'. This average compares to the lowest average of 3.8 for the items 'increased participation' and 'more relaxed', with a majority responding 'Agreed' and slightly less responding 'Strongly Agreed'.

5= 'Strongly Agree'	Average Rating
Client	
Talked more openly	4.0
Increased participation	3.8
Smiled more	4.0
Less agitated	4.0
More relaxed	3.8
Increased compliance	3.9

Findings continued

Staff: Qualitative continued

Question: Do you think that spending time with the Therapy Dog made the clients feel loved? 82% responded 'Yes'. Of the remaining two, one was unsure and one responded "No".

And Why? 11 of 11 (100%) responded

Themed frequency

Enjoyment/laughing/happy (4, 36%) Love/affection from dog (2, 18%) Safe/comforted (2,18%) De-stress/calm (2, 18%)

Question: Do You think that spending time with the Therapy Dog made the clients feel supported?

73% responded 'Yes". The remaining staff were unsure.

And Why? 10 of 11 (91%) responded Themed frequency

Shared openly/nonjudgmental (4, 40%) Unconditional love (2, 20%) Clients receptive/sharing stories (2, 20%) Uplifted Mood (2, 20%)

Question: Do you think spending time with the Therapy Dog Handler made the clients feel supported?

100% of the staff responded 'Yes". **And Why?** 10 of 11 (91%) responded

Themed frequency

Calm presence/friendly/open to client's opinion (5, 50%)

Engaging/talked openly/understanding (3, 30%) Shared pet therapy knowledge/understands addictions (3, 30%)



Question: What words would you use to describe your clients' experiences with the Therapy Dog today?

Who responded? 11 of 11 (100%) responded Theme frequency:

Enjoyment/happy/fun (7, 64%) Comfort/beneficial/therapeutic (5, 45%) De-stress/relax/calm (4, 36%) Love dogs/loving (3, 27%)

Question: Any additional comments? Who responded: 6 of 11 (55%) responded Themed frequency: Thanks/great program (3, 50%) Calming activity (3, 50%) Enjoyment for clients (2, 33%) Great handler (1, 17%)

Handler: Qualitative

Question: Why do you think the client came to spend time with the Therapy Dog? **Who responded**? 8 of 8 (100%)

Themed frequency:

Programming (6, 75%) Visit dog (2, 25%)

Question: Do you think that spending time with the Therapy Dog makes the client feel loved? Why?

Who responded? 8 of 8 (100%) Themed frequency:

Attention from dog (5, 63%) Getting oriented/informational (4, 50%) Cuddle/kiss/love/talk about loving dogs (4, 50%) Amusement/interest (2, 25%) Relationship with dog/trust building (2, 25%)

Question: Do you think spending time with the Therapy Dog made the client feel supported? Why?

Who responded? 7 of 8 (88%) Themed frequency:

Talk/sharing stories/discussion (6, 88%) Being there/informational talk about support (4, 58%)

Connecting with their lives (3, 44%)



Question: Do you think spending time with the Therapy Dog handler made the client feel supported?

Who responded? 6 of the 8 (75%) responded Themed frequency:

By volunteering/sharing dog (4, 66%) Client interest/opening up (2, 22%)

Question: What words would you use to describe the attendees' experience with the Therapy Dog?

Who responded? 7 of 8 (88%) responded Themed frequency:

Enjoyment/fun/interest (6, 86%) Informative (4, 57%) Caring/grateful (3, 43%) Love (1, 14%) Relax (1, 14%)

Question: Other comments **Who responded?** 4 of 8 (50%) responded **Themed frequency**:

Some pitbull owners for protection (1, 25%) Informative/lots of questions (1, 25%) Do not like forms (1, 25%)

Observer: Qualitative

Question: Do you think that spending time with the Therapy Dog made the attendees feel loved? **Who responded?** Observer All 2 (100%) responded

Themed frequency:

Dog gave attention/client reaching out to dog (2) Some uncertainty (1) Talk of loving dogs (1)

Question: Do you think spending time with the Therapy Dogs made the attendees feel supported? **Who responded?** Observer All 2 (100%) responded

Themed frequency: Non-judgmental (2) / Openness (1) Explanations provided made them feel supported (1)

Question: Do you think spending time with the Therapy Dog Handler made the attendees feel

supported? Who responded? All 2 (100%) responded

Themed frequency: Open to ask questions (1) Made attendees comfortable (1) Offered compassion and good role model (1)

Question: What words would you use to describe the attendees experience with the Therapy Dog?

Who responded? All 2 (100%) Themed frequency: Relax/calm (2) Acceptance/care (2) Enjoyment (1) Flashbacks of animal experience (1)



Male versus Female

The rated items were examined by the male versus female variable within the client data. There was no significant differences noted. Proportion of frequencies were examined for differences within the qualitative themes, and overall, similarity was noted between the gender.



Discussion

Overall, the vast majority of clients in the MACSI program very much enjoyed the time they spent with the Therapy Dog team, and specifically the dog, and felt better because of it.

The outcomes/effects of the St. John Ambulance Therapy Dog Program are discussed within its two objectives. Support for both objectives was identified, as follows:

If and how clients experienced love and support from the Therapy Dog & support from the handler.

LOVE

Overall, the clients shared that they felt loved by the dog. Many expressed their love of animals generally, including for some their own pets.

"Nice to see how you can get support and love from someone other than humans"

This was supported by the staff, handlers and observers. They felt the Therapy Dog offered the clients emotional attention. The Therapy Dog also offered physical affection, for example, by laying beside the human and being hugged or pet.

"the dog paying attention to everyone by personally greeting them, every client enjoyed her visit and pet " (Staff)

"they call her over and have her cuddle on their laps" (Handler)

"One client layed on the floor and allowed the therapy dog to lick him" (Observer)

The literature identifies dogs' innate ability to offer and receive nurturance (Chandler, 2005; Levinson, 1984; Melson & Fine, 2010). Therapy Dogs present with nonjudgmental warmth, companionship and bonding, which in turn nurtures the ability of humans to love and trust (Arkow, 2011). In fact, it has been reported that interacting with dogs can, for some, parallel the social support experienced in humanhuman relationships (Fine & Beck, 2010). Animals can trigger happy memories, improve mood, and bring a sense of happiness, joy and a general sense of wellbeing to individuals (Arkow, 2011). Perceived shifts in participants' feelings and mood may also be influenced by beneficial hormones and neurochemicals that are released when petting an animal, including oxytocin, prolactin, dopamine, beta endorphins and phenylethyalami-ne (Odendaal & Lehmann, 2000).

SUPPORT

The clients shared that they felt supported by the dogs, as well as the handlers to a similar extent.

"[the dog's] soft eyes, easy energy, safe, accepting and responsive to touch. It is comforting to just touch her"

Support was interpreted by the staff, Therapy Dog handlers and observers as allowing the clients to talk, engage more, connect with their own stories and lives, and engage with positive behaviour. They were also consistent in their rating of the clients feeling support for the handler.

"the clients seemed to enjoy their time out doors and appeared to be relaxed" (Staff)

"I think through our discussions they started to see and recognize the role (supportive role) of animals in our current lives. They also spoke about the animals in their lives growing up and as adult, but more so growing up" (Handler)

"I think that it was a combination of the therapy dog handler's explanation combined with the dogs presence of unconditional love that made the clients feel supported" (Observer)

The literature shares that an animal can instill relief from stress (Allen, Blascovich, & Mendes, 2002). Arkow (2011) refers to Therapy Dogs as "a form of stress-reducing or stress-buffering social support" (p.2). Kruger and Serpell (2010) suggest that they can be calming and reduce anxiety, and serve as a buffer from anxiety-generating stimuli. Physiological changes in humans can also occur, including lowered blood pressure, heart rate, levels of cholesterol and triglycerides, and increased dopamine production which reduces the stress hormone cortisol (Kruger & Serpel, 2010 as cited in Arkow 2011; Wilson 1987).

The handlers' offering of support alongside the therapy animals has only recently been acknowledged in the literature (Adams, et al., 2015). There is, for example, evidence that the presence of a dog in a counselling session can facilitate a client's communication and feelings of comfort. Wesley, Minatrea, and Watson (2009) found in their study of an adult residential substance abuse program that clients were more likely to open up in the presence of a dog about their histories of violence and trauma. We have seen glimpses of this as well in the work of Hodgson and Darling (2011) on the physician pet query, in which a primary care provider can more fully

determine their patients' environmental history and social context by asking about pets.

OTHER THERAPEUTIC BENEFITS

In this study the clients overwhelmingly shared that the dogs made them feel happy.

"it was an amazing experience, my heart and soul has been lifted"

"it made me feel like when I was a kid of how much happier I felt"

The staff, handlers and observers strongly agreed that the client showed more positive affect (e.g., smiled) with the dog present. Related, they positively rated their levels of calmness and relaxation.

"The clients shared, really enjoy her being here and reminiscing about their animals" (Staff)

"relaxed, open, un-judged, happy, giggly" (Observer)

"they seemed to really enjoy her presence" (Handler)

Overall, the group environment facilitated by the presence of the Therapy Dog team was an accepting one and was experienced as enjoyable. One of the only studies of Therapy Dogs in a residential substance abuse treatment facility focused on Animal Assisted Therapy (AAT) (dogs in therapy sessions). The research evaluated the effect of AAT on therapeutic alliance in group therapy and found that the presence of a dog enhanced it (Wesley, Minatrea & Watson, 2009). The staff in our study likewise shared that they felt the clients talked more openly and engaged more generally because of the Therapy Dog's presence in the group session.

Male versus Female

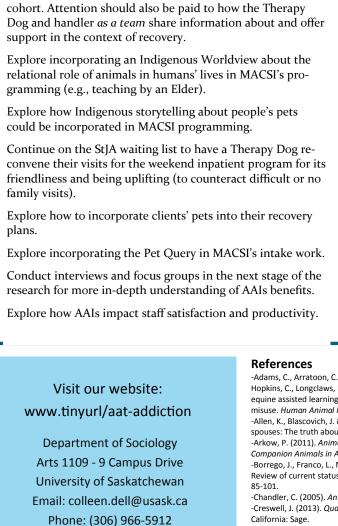
Overall, no significant mean differences were found in the rated items when examined by gender.



"Perhaps we're overthinking the situation."

Practice & Research Recommendations

Further develop how the AAI is integrated into MACSI's programming, for both inpatient treatment and the day program. For example, establish linkages between the presentation of information and particular concepts of interest to a





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PILOT STUDY CONCLUSION

The outcomes/effects of the St. John Ambulance Therapy Dog program at MACSI support its two objectives, in addition to providing clients with additional therapeutic benefits.

This Fact Sheet is one in a series. The findings of the Facts Sheets cannot be directly compared to one another because the AAI programs vary in clients, approaches and species.



fr	 -Adams, C., Arratoon, C., Boucher, J., Cartier, G., Chalmers, D., Dell, C., Dryka, D., Duncan, R., Dunn, K., Hopkins, C., Longclaws, L., MacKinnon, L., Sauve, E., Spence, S. & Wuttunee, M. (2015). The helping horse: How equine assisted learning contributes to the wellbeing of First Nations youth in treatment for volatile substance misuse. <i>Human Animal Interaction Bulletin</i>, 1(1), 52-75. -Allen, K., Blascovich, J. & Mendes, W. (2002). Cardiovascular reactivity and the presence of pets, friends and spouses: The truth about cats and dogs. <i>Psychsomatic Medicine</i>, 64(5), 727-39. -Arkow, P. (2011). <i>Animal-assisted Interventions</i> (10th ed.). Stratford: Ideas. -Borrego, J., Franco, L., Mediavilla, M., Pinero, N., Roldan, A. & Picabia, A. (2014). Animal-assisted interventions: Review of current status and future changes. <i>International Journal of Psychology and Psychological Theory</i>, <i>14</i>(185-101. -Chandler, C. (2005). <i>Animal Assisted Therapy in Counselling</i>. New York: Routledge. -Creswell, J. (2013). <i>Qualitative Inquiry and Research Design: Choosing Among Five Approaches</i>. (3rd ed.) California: Sage. -Delta Society (2015). <i>Delta Society</i>. Retrieved February 15, 2015, from http://www.deltasociety.com.au/ -Denzin, N.K. & Lincoln, Y.S. (2008). Introduction: The discipline and practice of qualitative research. In N. Denzin & Y. Lincoln (Eds.). <i>The Landscope of Qualitative Research</i>. (3rd ed., pp. 1-43). California: Sage. -Fine, A. & Beck, A. (2010). Understanding our kinship with animals: Input for health care professionals intereste in the human/animal bond. In A. Fine Handbook on Animal-assisted Therapy: Theoretical Foundations and Guidelines for Practice (3rd Ed., pp. 3-15). California: Academic Press. -Hodgson, K. & M. Darling (2011). Zooeyia: An essential component of "One Health". The Canadian Veterinary Journal, <i>52</i>(2), 189-191. -Kruger, K. & Serpell, J. (2010). Anima	1), n ed 2-	
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	-Wilson, S. (2001). What is indigenous research methodology? Canadian Journal of Native Education, 25(1), 175- 179.		
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