The Characteristics and Motivations of Human Volunteers of Animal-Assisted Interventions

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This study examined the characteristics and motivations of people who volunteer in animal-assisted interventions (AAIs) with their dog. Surveys of volunteer motivation, prosocial attitudes, altruism, empathy, personality, and the Pet Attachment Questionnaire were conducted, and demographic data were collected from AAI volunteers (AAIVs). For comparison purposes, these measures were also given to a group of people who volunteer with animals, but not in an AAI capacity (non-AAIVs). This study found both groups to be overwhelmingly female (>90%) with university-level educations. Motivated by the value of helping others, AAIVs scored higher than non-AAIVs on scales of empathy, prosocial behaviour, and altruism. AAIVs' personality traits were primarily agreeable and less neurotic, and they scored higher and lower, respectively, on these traits compared to non-AAIVs. For the AAIVs only, the traits of agreeableness and extraversion uniquely predicted a secure (less anxious) pet attachment. However, for non-AAIVs, conscientiousness was the only dimension that predicted a secure attachment. The discussion considers the importance of empathy, a commitment to helping, and altruism as defining characteristics of AAIVs. The relationship between personality and attachment is also discussed.

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Who are the people who choose to volunteer both themselves and their dogs in animal-assisted interventions (AAIs)? Typically, AAIs require the participation of three stakeholders: the person being served (the participant), the animal doing the serving (typically a dog), and the person managing this transaction (the animal-assisted intervention volunteer; AAIV). There is ample evidence, particularly with dogs, that AAI benefits participants in numerous ways. More recent research has focused on the well-being of dogs involved in AAI. However, little is known about the people, or handlers, who volunteer their time and beloved animal(s) in these activities.

First gaining popularity in the 1980's as an evidence-based form of *therapy* for older adults, more recent iterations of AAI include presenting animals (commonly dogs), often accompanied by handlers, to a target group of individuals with the purpose of enhancing their physical and/or psychological well-being. The demonstrated benefits of such programs are broad and include, but are not limited to, alleviating loneliness (Banks & Banks, 2002), reducing cardiovascular issues (Dembicki & Anderson, 1996), reducing distress during endoscopy (Barker et al, 2020) and even benefit individuals with dementia (Kramer et al., 2008). Research investigating the impact of AAI on undergraduate samples has found the presence of dogs reduce students' reported levels of stress and anxiety and to improve mood (McArthur & Syrnyk, 2018). The presence of dogs has also been shown to benefit children's literacy (le Roux et al., 2010), behaviour (Parish-Plass, 2008), and motor and cognitive abilities (Gee et al., 2010), and that these findings extend to those with Autistic Spectrum Disorder (Hall et al., 2016; Wright et al., 2016).

In general, dogs seem to have a positive impact on humans. For example, researchers have found that people with dogs treat them as they do a partner, often verbally confiding personal information to their dogs (Evans-Wilday et al., 2018). Indeed, almost half of all people who have a dog in their home consider them a member of the family (American Veterinary Medical Association, 2018). Most people, especially older females, believe that pets have stress-reducing properties and improve the quality of working environments (Staat et al., 2008, Wells & Perrine, 2001). Research has also found that people working outside of the home would rather bring their dog to work than have them stay home (Norling & Keeling, 2010). When asked about the perceived impact of dogs being present in the workplace, working people with and without their own dogs report that this would be more advantageous than disadvantageous, especially in reference to stress reduction (Hall et al., 2017). While AAI-based research has historically been interested in understanding the effects on those who receive its benefits, there is also reason to swing the lens inward to those, animals and humans, involved in providing AAI.

Only recently have we paid attention to how AAI involvement affects dogs. In her review of the limited literature, Glenk (2017) suggests that handlers find it difficult to ascertain stress in dogs participating in AAI settings, especially since these animals are selected for their affable traits and are often trained to control their behaviour in certain settings. However, a recent study of 40 AAI dogs participating at an undergraduate event found that handler-reported stress levels in AAI dogs were stable throughout the event, but greater in dogs whose handlers reported greater stress in themselves (Silas et al., 2019). A case study of cortisol levels found dogs who attended more AAI events had lower cortisol levels (Clark et al., 2019). Additionally, a randomized study found dogs visiting patients in hospital sites exhibited more behavioral signs of stress and also had higher cortisol levels (McCullough et al., 2018). However, this study also found that AAI dogs did not exhibit

more or fewer behavioural signs of stress during AAI events, regardless of the number of visits. Taken together, this suggests that visit frequency may not impact the welfare of AAI dogs as much as the state of their handler.

Handlers, or AAIVs, make up a unique subset of community volunteers. These individuals often donate their time and energy as well as that of their beloved animals and may spend extra time and money as they gain the required training and assessments. Although we do not know much about this specific volunteer group there is an expansive literature about volunteers in general. They help others without the expectation of compensation and make enormous contributions to society, helping to create a sense of community (Wilson & Musick, 2000). Volunteers are shown to possess an internal locus of control (Thoits & Hewitt, 2001), score high in extraversion and emotional stability (Carlo et al., 2005), and have high levels of empathy (Haski-Leventhal, 2009).

Research investigating the relationship between personality traits and the social behaviour of volunteerism often utilizes The Big Five Inventory (BFI) (John & Srivastava, 1999) that assesses personality across the five dimensions of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. Traits of agreeableness and extraversion describe a *prosocial personality* and are modestly associated with and predictive of volunteering (Carlo et al., 2005; Graziano & Eisenberg, 1997). Beyond these specific personality traits, volunteers often report improved life satisfaction, self-esteem and self-efficacy, health, and social interaction (e.g., Wilson, 2000). Researchers have also investigated the characteristics and motivations of volunteers and have found key determining factors behind these. For example, when individuals with self-reported 'caring' dispositions are satisfied with their affiliated organized, the length of their volunteer service increases (Marta & Pozzi, 2008). Age may also influence the choice to volunteer. Volunteers are often older, perhaps due to increased availability and/or altruism (Haski-Leventhal, 2009).

Altruism is commonly accepted as the driving force behind the prosocial behaviour that is volunteering (Bussell & Forbes, 2002). In terms of motivation, over 90% of Canadian volunteers reported that they do so to contribute to the community (Volunteer Canada, 2013). Might the factors for volunteers as a whole be the same main motivators for AAIVs? Or might other motivators be at play? Volunteers are not a homogenous population, making individual reasons for their altruism multifaceted.

The functional theory of volunteerism addresses this subjectivity by assuming that volunteers do so to meet their own interests (Clary & Snyder, 1991). So, while different people may choose the same action, or type of volunteer service (e.g., AAIVs), their motives for doing so may differ. The Volunteer Functions Inventory (VFI) (Clary et al., 1998) was developed to test this theory and categorizes motives for volunteering into six personal and social functions. Four of these motives may be considered 'self-serving' (career, social, enhancement, and protection), and two motives 'other-serving' (understanding, values). We might assume the motives of AAIVs as a group may be aligned with other-serving motives, given that their desire to help people unknown to them involves the additional, personal expense of offering the companionship of their beloved animal.

Although we know something of the general characteristics and motivations of volunteers, there is very limited research that has specifically looked at this particular group of volunteers (AAIVs). The first study to focus on AAIVs focused specifically on the

interaction style that the handlers have with their animals, finding that handlers differ in their styles and sometimes adapt their style depending on the situation (Kuzara et al., 2019). To our knowledge, Rousseau et al. (2020) provided the first exploratory investigation of AAIVs participating specifically in on-campus activities with their dogs. Their main focus was on the psychological well-being of this group and their perceptions of this very specific volunteering activity (on-campus AAI). Using a combination of open-ended questions and 13 different surveys, they report AAIVs to demonstrate greater psychological well-being relative to out-sourced comparative data. Similar to findings from general volunteer research (not specific to AAI) they also found handlers reported many benefits and few challenges related to AAI. Rousseau et al. (2020) also examined the motivations for volunteering using the VFI and found that AAIVs scored highest on the Values factor.

The present study intends to expand our knowledge on this specific group of volunteers that has thus far received very limited attention. Although Rousseau et al. (2020) looked at AAIVs, we are still left without a clear understanding of how they might differ from other volunteer groups. Therefore, the present study directly compared AAIVs with another group of volunteers (non-AAIVs). Gilster (2012) pointed out that research on volunteering "rarely compares forms of participation" (p. 770). With a growing need to explore the potential differences between types of volunteer activities that people participate in (Sneed & Cohen, 2013) this study sought to address the following questions: What are the defining characteristics of AAIVs? What drives them to volunteer themselves, and their animal, in this capacity? How do they differ from others who volunteer with animals?

Method

Participants

Sixty-six AAIVs (*M* age = 47.62; 60 females) from a non-profit organization that provides dog-led AAI services at various locales (e.g., hospitals, universities, retirement communities) participated. A group of comparison volunteers (non-AAIVs) included 44 participants (*M* age = 44.95; 43 females) from another non-profit that provides rescue and adoption services for cats. Both organizations involve animals but differ in that AAIV participants actively include their own pets as a central tenet of their volunteer role, whereas non-AAIV participants do not.

Procedure

Upon gaining institutional ethical approval through the Research Ethics Board, participants were recruited by means of an email invitation informing them about the nature of the research and inviting them to learn more about the study by clicking a link to an online survey. The first page of the survey acted as the informed consent form and provided details about the research, including the risks, benefits, and rights of participants. Individuals agreed to participate by clicking to confirm they had read and understood the information provided and they agreed to participate in the study. Following this, participants completed the remainder of the online survey that consisted of a series of questionnaires inquiring about their personal qualities, attitudes and motivation for volunteering, and pet ownership experience. No remuneration was offered.

Measures

The online survey consisted of, in order, a demographic questionnaire, scales of motivation for volunteering, altruism, attitudes towards helping, empathy, personality, and pet attachment. The demographic questionnaire asked about participants' backgrounds (age, gender, education, etc). A series of specific questions targeted details about participants' volunteering history (organization type, frequency, and duration of commitment), what drew them to volunteer, and for information about household animals. AAIV participants were asked further questions about their preferences when volunteering with their animals (e.g., preferred location to volunteer).

Volunteer Functions Inventory

Following the demographic questions, participants completed the 30-item VFI (Clary et al., 1998). A widely used, self-report tool, the VFI assesses individuals' motivations to volunteer. Applied across a range of volunteer organizations to help them understand and manage volunteers, the VFI consists of six factors (values, understanding, social, career, protective, enhancement) and has a Cronbach's α in the range of .80 to .89. Although the VFI has received some criticism for not being able to assess the reasons why volunteers choose specific volunteer activities (e.g., Neumann, 2010), it remains popular. We supplemented this tool by adding questions to our demographic questionnaire that tapped the specific motivations of participants. .

Altruistic Personality Scale

Participants then completed the Altruistic Personality Scale (APS) (Rushton et al., 1981). As a self-report measure that is used to report the frequency of prosocial behaviours, the APS is a 20-item long survey that consists of a 5-point Likert scale. Scored as a continuous variable, higher scores are indicative of greater altruism. The APS has as Cronbach's α of 0.83.

Helping Attitudes Scale

Next, participants completed the 20-items of the Helping Attitudes Scale (HAS; Nickell, 1998), which uses a 5-point Likert scale to establish how their attitude for helping affects their (prosocial) behavior. With the lowest score 20 and highest 100, a score of 60 is neutral. The HAS demonstrates good reliability, with a Cronbach's α of 0.87.

Toronto Empathy Questionnaire

Participants then completed the 16-item long Toronto Empathy Questionnaire (TEQ; Spreng et al., 2009) using a 5-point Likert scale. With a minimum score of 16 and maximum of 80, higher scores are indicative of greater empathy, whereas scores below 56.25 are deemed below average (Spreng et al., 2009). A popular tool for assessing the process of emotional contagion, the TEQ has a reported Cronbach's α of 0.85 and has seen many adaptations and translations (e.g., Kourmousi et al., 2017).

Big Five Inventory

The BFI (John & Srivastava, 1999) assesses personality across the five dimensions of openness to experience (tendency to be imaginative and creative), conscientiousness (tendency to be goal focused and organized), extraversion (tendency to be assertive and energetic), agreeableness (tendency to be compassionate, kind, and tolerant), and neuroticism (tendency to be anxious, pessimistic, and impulsive). Widely popular, the BFI requires participants to reflect on 44 statements using a 5-point Likert scale (agree to disagree). North American data shows the BFI to have an average Cronbach's α of 0.8 [0.75-0.90].

Pet Attachment Questionnaire

Finally, participants completed the Pet Attachment Questionnaire (PAQ; Zilcha-Mano et al., 2011). Using a 7-point Likert scale, participants respond to 26-statements about their relationship with their pet to yield scores on the avoidant (higher scores indicate feelings of discomfort perpetuated by emotional and physical pet proximity) and anxious (higher scores indicate greater worry for one's pet and the relationship) pet attachment scales. Lower scores on both dimensions are indicative of a secure attachment. The Cronbach's α for the PAQ ranges from 0.86 to 0.89. Note that non-AAIVs who reported that they did not have an animal at home ($n = 5$) did not complete this survey.

Results

Demographics

Concerning the AAIV group, the average age was 47 years ($SD = 12$) with many participants employed full-time ($n = 32$, 48%), married ($n = 47$, 71%), with an undergraduate degree ($n = 42$, 64%), and no children ($n = 38$, 58%; see Table 1). Most AAIVs had volunteered at their organization for more than three years ($n = 44$, 66%), averaging 3.15 hours per week ($SD = 3.19$). When asked what drew them to volunteer, AAIVs gave two main reasons: 1) a desire to share their animal's love and abilities (27%), and 2) inspired by someone in their life to join the organization (27%). When asked how satisfied they were with their volunteer experience at their organization, most AAIVs reported being satisfied or better ($n = 64$, 97%). The overwhelming majority of AAIVs volunteered with their dog ($n = 61$, 92%) and a minority volunteered with their rabbit or cat. Most dogs were reported to be of wide variety of purebred breeds ($n = 43$, 65%) with the remainder being of mixed breed ($n = 23$, 35%). Half of AAIVs had volunteered with one animal throughout their tenure. Volunteer animals were equally female and male and had an average age of 6.27 years ($SD = 2.56$, 2-16 years). In terms of other animals living with AAIVs (not including their AAI animal), 42.5% had no other animals at home, 42.5% had one to three others, and 15% had four or more. The bulk of these other animals were dogs and cats (87%). When asked to identify the types of settings they preferred to volunteer at with their animals, the top two preferred locales were hospitals (79%), followed by schools (65%).

Similar to the AAIV group, the average age of non-AAIVs was 45 years ($SD = 14.5$). Most of these volunteers were employed full-time ($n = 21$, 48%), and had no children ($n = 29$, 66%); approximately half had a graduate/professional degree ($n = 20$, 47%) and were married ($n = 22$, 50%; see Table 1). Half of non-AAIVs had volunteered at their organization for more than three years ($n = 22$, 50%) for an average of 9.61 hours per week ($SD = 12.73$, [1-64]). When asked what drew them to volunteer, most non-AAIVs responded this was because of their love for cats and animals ($n = 22$, 50%). The other main draws included non-AAIVs' desire to help animals ($n = 13$, 29%) and their belief in the mission of the organization ($n = 12$, 27%). Non-AAIVs' most preferred role within the organization involved center maintenance ($n = 19$, 42%). This was followed by fostering ($n = 14$, 31%). Most non-AAIVs reported being satisfied or better ($n = 41$, 91%) with their volunteer experience in their organization. The majority of these volunteers had an animal at home ($n = 39$, 87%) and had on average 2.93 animals living with them ($SD = 3.43$, [0-18]). The majority of these animals were cats (71%).

Table 1.

Breakdown of Demographic Data by Percent and Number for AAIV and Non-AAIV Groups

Item	AAIV (%)	AAIV (*n*=66)	Non-AAIV (%)	Non-AAIV(*n* = 44)
Full-time employed	48	32	48	21
Part-time employed	20	13	20	9
Unemployed	32	21	34	15
Married	71	47	50	22
Single	14	9	30	13
Divorced	11	7	14	6
Widowed	5	3	7	3
Children	42	28	34	15
No Children	58	38	66	29
Undergrad degree	64	42	33	14
Graduate/Professional degree	21	14	47	20
Other volunteering	59	39	48	21

To examine for demographic differences between the AAIV and non-AAIV groups on the above categorical variables Pearson's chi-square tests were used. As can be seen by the frequencies cross tabulated in Table 1, a significant relationship was found between group (AAIVs, non-AAIVs) and marital status (married or single) (X^2 = 5.08, p = .024). The Phi coefficient for this analysis was small but significant (φ = .215, p = .024). The differences in observed frequencies can be attributed to a larger percentage increase in married vs single participants for the AAIV group, relative to the non-AAIV group. Furthermore, a significant relationship between the groups in terms educational attainment (undergraduate degree or graduate/professional degree) was found (φ = 10.30, p = .001). As seen in Table 1, for the AAIV group there was a greater percentage of participants with an undergraduate degree, whereas for the non-AAIV group there was a greater percentage of participants with a graduate degree.

Independent groups t-tests were also applied to the ratio variables of hours per week and number of pets. A significant difference was found between the groups for hours per week volunteered (t (39.69) = 3.07, p = .004 unequal variances assumed as Levene's test was significant, F = 34.09, p < .000) with non-AAIV participants putting in more hours (M = 9.61, SD = 12.73) for their organization than AAIVs (M = 3.15, SD = 3.19). This may be attributed to the fact that AAIV's work involves their animal. As research shows that AAI activities may both increase and decrease stress markers for participating dogs (Glenk, 2017), the AAIV organization involved in this study actively discourages volunteers from doing more than two visits per week to avoid taxing dogs. The groups also differed significantly on the number of animals participants lived with (t (109) = 2.15, p = .034, equal variances assumed), with AAIVs having fewer (M = 1.72, SD = 2.47) animals than

non-AAIVs ($M = 2.93$, $SD = 3.43$). This is not unexpected, as the non-AAIV organization focuses solely on cats.

Finally, approximately half of both AAIVs and non-AAIVs engaged in additional volunteering commitments, that included community-related activities ($n = 20$ and $n = 10$, respectively), followed by assisting at a for-profit organization or employer activities ($n = 16$ and $n = 10$, respectively).

Scores across all measures for both groups may be found in Table 2. We present these results by identifying characteristics in the data from AAIVs and then examine for differences in these measures between the AAIV and non-AAIV groups.

Table 2.

AAIV and Non-AAIV Mean Scores and Independent t-test Results by Measure

Measure	AAIV	Non-AAIV	t	p
VFI – Career	10.26	14.11	2.74	.007*
VFI – Enhance	22.23	22.33	.079	.937
VFI – Protect	17.85	18.70	.683	.496
VFI – Social	14.91	15.30	.291	.772
VFI – Understand	24.86	24.02	.789	.432
VFI – Values	30.94	30.00	1.30	.197
HAS	88.00	83.79	3.03	.003*
APS	64.20	58.47	3.05	.003*
TEQ	66.23	63.58	2.13	.036*
BFI - Agreeableness	36.95	34.71	2.25	.027*
BFI – Conscientiousness	37.36	37.23	.159	.874
BFI – Extraversion	27.41	25.00	1.88	.062
BFI – Neuroticism	20.21	22.89	2.25	.026*
BFI – Openness	35.98	35.90	.063	.950
PAQ – Anxiety	2.27	2.61	1.80	.074
PAQ – Avoidant	1.38	1.42	.391	.697

Across the six dimensions (Protective Motives, Values, Career, Social, Understanding, Enhancement) of the VFI, AAIV's scored highest ($M = 30.94$, $SD = 3.59$) in the Values dimension and lowest in the Career dimension ($M = 10.26$, $SD = 6.51$) showing that it is AAIVs' desire to help others that motivates them to volunteer with their

dog. To examine for any differences between AAIVs and non-AAIVs on the VFI, independent t-tests were applied and showed both groups to be similar among all dimensions except the Career scale where AAIVs scored significantly lower ($t(107) = 2.735$, $p = .007$, equal variances assumed) ($M = 10.26$, $SD = 6.51$) than non-AAIVs ($M = 14.12$, $SD = 8.15$). This suggests that non-AAIVs were more motivated to gain career-related experience from their volunteering than were AAIVs.

On the APS AAIV's had an average score of 64.20 ($SD = 8.54$). With the lowest possible score here being 20 and the highest 100, this suggests AAIVs were moderately altruistic towards strangers. To investigate for differences in altruistic tendencies between the groups, an independent t-test applied to total APS scores was significant ($t(109) = 3.045$, $p = .003$). It was found that non-AAIV scores were significantly lower ($M = 58.47$, $SD = 11.27$) than those of AAIVs, showing that AAIVs reported themselves more likely to engage in altruistic acts.

The average score for AAIVs on the HAS was 88 ($SD = 6.47$) (max 100). A one-sample t-test comparing this mean to that of the neutral score of 60 was significant ($t(65) = 35.138$, $p < .0001$), showing that the beliefs, feelings, and behaviors AAIV's associated with helping were greater than neutral. Furthermore, an independent t-test examining for differences between AAIV's and non-AAIV's ($M = 83.79$, $SD = 7.86$) HAS scores was significant ($t(106) = 3.031$, $p = .003$) with AAIVs having the greater score.

On the TEQ (Spreng et al., 2009) a one-sample t-test found AAIVs scores were significantly higher ($M = 66.23$, $SD = 6.19$) than that of the average empathy score of 56.25 ($t(65) = 13.30$, $p < .0001$). An independent t-test (equal variances assumed) found AAIV TEQ scores to be significantly greater than those of non-AAIVs ($M = 63.58$, $SD = 6.93$) ($t(106) = 2.127$, $p = .036$), indicating a greater degree of empathy.

To examine if motivation was predictive of scores on the key measures of empathy, helping, and altruism, separate (for AAIVs and non-AAIVs) stepwise regression analyses were conducted. For both AAIVs and non-AAIVs, the only measure that was predicted by motivation was the HAS. For AAIVs, scores on the HAS were uniquely predicted by Values ($\beta 1 = .333$, $p = .008$) and Understanding ($\beta 1 = .266$, $p = .033$) motivation scores. For non-AAIVs, scores on the HAS were only predicted by the Values motivation ($\beta 1 = .619$, $p < .001$) scores; Values score accounting for 38.3% of the variability in HAS score ($F(1, 33) = 20.478$, $p < .001$).

For the PAQ a paired t-test found that AAIV scores on the avoidant ($M = 1.38$, $SD = .49$) scale were significantly lower than those on the anxiety dimension ($M = 2.27$, $SD = .78$) ($t(65) = 7.83$, $p < .001$). Similar results (see Table 2) were found for the non-AAIVs ($t(38) = 6.56$, $p < .001$). Independent t-tests between AAIVs and non-AAIVs on these dimensions were not significant, showing both groups overall felt the same about the relationships they shared with their animals. Secure pet attachment is indicated by low scores on both the avoidant and anxious dimensions (Zilcha-Mano et al., 2011).

On the BFI, AAIVs scored higher among the dimensions of agreeableness, conscientiousness, and openness and lowest in the dimension of neuroticism (see Table 2). Independent t-tests between AAIVs and non-AAIVs along the BFI found two effects. Firstly, AAIVs scored significantly higher ($M = 36.95$, $SD = 4.77$) than non-AAIVs ($M = 34.71$, $SD = 5.71$) on the agreeableness dimension ($t(109) = 2.246$, $p = .027$) showing a tendency for AAIVs to be more trusting, straightforward, warm, compliant, sympathetic, and modest than their matched peers. Secondly, AAIVs scored significantly lower ($M = $

20.21, $SD = 5.71$) than non-AAIVs ($M = 22.88$, $SD = 6.66$) on the neuroticism dimension ($t(108) = 2.251$, $p = .026$). As a group, AAIVs reported themselves to be less anxious, hostile, depressed, self-conscious, impulsive, and moody than non-AAIVs. Furthermore, since past research has found evidence of associations between human personality characteristics and pet attachment (Spreng et al., 2009), a Pearson correlation was applied to the BFI and PAQ data. Looking at the correlations separately for the AAIVs and non-AAIVs, different profiles emerged. For the AAIVs, a more secure attachment (i.e., lower score) on the anxiety dimension was significantly correlated with higher agreeableness ($r = -0.313$, $p = .010$), higher extraversion ($r = -0.304$, $p = .013$), and lower neuroticism ($r = 0.284$, $p = .021$). However, for the non-AAIVs, the only personality trait associated with a secure attachment on the anxiety dimension was a higher score on conscientiousness ($r = -0.470$, $p = .003$). In addition, for the non-AAIVs, a more secure attachment on the avoidance dimension was correlated with a higher score on extraversion ($r = -0.329$, $p = .041$). For AAIVs, the avoidance dimension of the PAQ was not correlated with any personality dimensions.

To further examine these differences in profiles between AAIVs and non-AAIVs, separate stepwise regression analyses entering all personality dimensions were conducted. For AAIVs, the dimensions of agreeableness and extraversion each contributed significantly to attachment on the anxiety dimension. Together, these two dimensions explained 15.5% of the variability in attachment, $F (2, 63) = 6.950$, $p = .002$. The stepwise regression showed that both agreeableness ($\beta 1 = -0.298$, $p = .11$) and extraversion ($\beta 1 = -0.288$, $p = .14$) contributed significantly. For the non-AAIVs, only conscientiousness predicted anxiety attachment scores, $F (1, 31) = 9.635$, $p = .004$. Conscientiousness accounted for 23.7% of the variability in anxious attachment scores.

Discussion

The purpose of this study was to better understand the characteristics and motivations of individuals who volunteer themselves and their animal in AAI, and to contrast these findings with another group of volunteers whose goal is to help animals rather than to work with their animals to help others. To our knowledge this is the first study to directly examine the qualities of these individuals and to compare them with another volunteer group.

In terms of characteristics, we found that AAIV's were more likely to be married women in their forties, with university-level educations and have more than one volunteer commitment. The case was mostly the same for non-AAIVs although they were more likely to have a postgraduate education and significantly fewer were married. With the vast majority of AAIVs (and non-AAIVs) being female, the gender disparity is notable since rates of volunteering are typically equal among women and men: approximately 45% of Canadian men and women aged 45-55 engage in some type of volunteer activity (Sinha, 2015). This disparity may be explained by the fact that women have been found to be more compassionate towards animals than men (Christov-Moore et al., 2014), especially when they themselves have animals (Paul, 2000). With most of the AAIV volunteers being female over 40 years of age, these women may be at a point in their life where they have fewer family-related responsibilities, freeing them to be engaged with their community (Herd & Meyer, 2002). However, it should be noted that this is also the age where adults, often females, are considered the 'sandwich generation' (Friedman et al., 2017). They have responsibilities both to their children and to aging parents. Given the stress-relieving

qualities of dogs, we might speculate that this volunteer activity provides some relief from other commitments. The advanced education of AAIVs might also be expected as this has been shown to be a common characteristic of volunteers; education heightens individual awareness, increasing empathy (Dutta-Bergman, 2004). Although the AAIVs were educated, they were not as educated as the non-AAIVs. This finding is worth further exploration to determine if the non-AAIVs represent a different demographic from other volunteers (i.e., not volunteering with an animal organization). In addition to these demographic characteristics, this study found that AAIVs scored higher in altruism, helping behaviour, and empathy, relative to the comparison group. Although it is not surprising to find that volunteers score high on these characteristics, it appears that this type of volunteering may attract individuals who are *even higher* in these traits. Since AAIVs are not only giving their own time and energy but also that of their beloved animals, it seems reasonable to expect AAIVs to be driven by a greater sense of altruism. Together, these findings may be interpreted by Batson and Shaw's (1991) empathy-altruism hypothesis that describes an individuals' empathy as driving their altruistic desire to help other people; empathy is often regarded as integral to the activation of altruistic behaviour (Chlopan et al., 1985). For AAIVs 'help' here is extended to sharing their animal for the benefit of others. Indeed, one of two most frequent reasons AAIVs gave for their initial interest in volunteering their pet for AAT was a desire to share their animal's affectionate qualities.

In terms of their motivations for volunteering, both groups were primarily influenced by their desire to express altruistic values. Research finds that the motivation to help others is common among volunteers of all kinds (Chacón et al., 2017). Although prosocial functions were at the heart of AAIVs' motivations, it is perhaps not surprising that career-aspirations were not. This finding aligns with the motivations reported by Rousseau et al. (2020). They noted that their volunteers were more motivated by Social factors and less by Career (although they indicated this was not statistically significant). The desire to further future employment through unpaid experience is another common motivator in general for volunteering and more important to the non-AAIVs in our study. It is possible that AAIVs were less career driven than non-AAIVs, however, it seems unlikely that this would be a general quality, and more likely linked to the specific volunteer activity. Lower comparative scores for empathy, altruism, and helping behaviours may have predicted a greater focus on career benefits for non-AAIVs. Although our findings suggested some support for this relationship, in that the AAIVs scored higher on these characteristics and lower on the career motivation, relative to the non-AAIVs, the regression analyses did not. This analysis did suggest that the strongest link between motivation and prosocial behaviour was between the Values factor on the VFI and helping behaviours. This suggests that the more strongly someone was motivated to volunteer for altruistic reasons, the higher their helping behaviour score. The difference in patterns between groups suggest the degree of altruism may differ by type of volunteering activity.

With regards to personality, AAIVs scored higher in the desirable dimensions and only differed from non-AAIVs by means of higher levels of agreeableness and lower levels of neuroticism. Previous research has found the traits of agreeableness and extraversion to be common amongst volunteers and that these traits moderate the appearance of altruistic behaviours (Carlo et al., 2005). Future research is needed to examine if greater empathy and overall altruism is key to the AAIVs, especially those with agreeable dispositions.

Initial analysis suggested that our two groups were similar in their attachment to their animals; both AAIVs and non-AAIVs were fairly secure in their attachments. Rousseau et al. (2020) reported that their volunteers scored lower on the avoidant scale (more secure) of the PAQ in comparison to 'a comparative sample'. However, given that the comparative sample was not clearly defined it is not possible to interpret their results here. The finding of no difference in attachment between AAIVs and non-AAIVs appears to contradict previous research which has found that cat owners had less secure attachments on the avoidance dimension compared to dog-owners (Zilcha-Mano et al., 2011). One might speculate that the non-AAIVs are different from other cat owners who do not volunteer their time in such a capacity. Indeed, further analysis showed that AAIVs who demonstrated traits of kindness and tolerance were more likely to be secure in the relationship they experience with their animal. We did find that for AAIVs a secure attachment on the anxiety dimension was predicted by high agreeableness and extraversion, and low neuroticism. The relationship with neuroticism was also found by Spreng et al. (2009) and Zilcha-Mano et al. (2011). However, for the non-AAIVs a different pattern emerged, where an anxious attachment was related to conscientiousness and an avoidant attachment was related to extraversion (also found by Zilcha-Mano et al., 2011). These differences between AAIVs and non-AAIVs in the relationship between attachment and personality must be examined in future research.

Although this study provides a much needed descriptive review of AAIVs, we acknowledge that there are some limitations to our study. For example, we chose this specific comparison group for their similarity to the AAIVs in that they volunteer with animals, however, they are helping the animals, rather than working *with* animals. We recognize that this specific comparison group created a confound. That is, the majority of the participants in the non-AAIV group were cat owners whereas the majority of the AAIV group were dog owners. It is unclear whether the differences observed are between dog and cat owners (as the non-AAIVs were predominately cat owners) or between the types of volunteers. Despite this limitation, we believe we have identified some interesting differences between our groups that future research can disentangle by incorporating comparable volunteer groups. We also recognize the selection bias of our participants and are cognizant of response bias. While we attempted to not inundate our participants with too many questions/surveys, future research should be careful not to overwhelm participants and risk the validity of the results.

By comparing AAIVs to non-AAIVs this study offers a clear assessment of what sets AAIVs apart from other volunteers in related fields. However, further research is needed to better understand the qualities and preferences of this volunteer group. For example, why do AAIV's report favouring hospitals above any other AAI location? Perhaps these locations provide the greatest satisfaction? Do some of the volunteers experience therapeutic value from the act of volunteering with their pet? The research supports the mood-elevating effects of taking part in animal-assisted activities (e.g., McArthur & Syrnyk, 2018) and therefore begs the question whether it is possible that volunteers, particularly women, seek out and experience this positive effect, above and beyond, what they might receive from volunteering in some other capacity? As research in this field is looking more to the animals involved in AAIs, future research should also investigate the potential relationship between volunteer characteristics and their animal's

stress levels. For example, are some AAIV characteristics better suited to manage AAI, in that they are better able to manage any potential stress in their animal?

To conclude, the present study suggests that AAIVs score higher than the comparison volunteers on empathy, helping behaviours, altruism, extraversion, and lower on neuroticism. As the research supporting the efficacy of animal-assisted events grows, so does the importance of understanding those that volunteer their time, and their animal companions. Research on ways to support and strengthen these partnerships is needed to allow these services to continue to flourish and expand.

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