

# Up the leash: Exploring canine handlers' perceptions of volunteering in canine-assisted interventions



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**Abstract:** To date, research on university and college based canine-assisted interventions for post-secondary students have focused on identifying the effects of spending time with therapy dogs on the well-being of participants and, to a lesser extent, exploring the effects of canine-assisted interventions on therapy dogs as a means of safeguarding canine welfare. Little empirical attention has focused on understanding the experience of volunteer canine handlers – agents at the heart of the success of canine-assisted interventions. The aim of this exploratory research was to first capture the voice of these key stakeholders to better understand their experience as canine handler volunteers and second to provide preliminary insights into their well-being. Sixty volunteer handlers with varying volunteer experience with a canine therapy program at a mid-size Canadian university responded to a series of open-ended prompts related to their volunteer work and completed a battery of well-being measures. Qualitative findings revealed that most participants identified social benefits to volunteering for themselves (64%) and for their dog (55%). The perceived impact on students (33%) and the ability to help university students (36%) were the most rewarding aspects of volunteering. Though enticed to volunteer by qualities of the CAI program (36%), participant motivations to continue volunteering were predominantly associated with personal benefits of volunteering (44%). Most handlers reported no challenges associated with volunteering (73%) and described their dog as happy after sessions (71%). Participants commonly described good therapy dogs as relaxed, calm, and respectful (66%) and strong handlers as having good awareness of their dog (48%). Quantitative findings revealed volunteer handlers reported elevated levels of positive affect ( $p = < 0.001$ ,  $d = 1.19$ ), greater satisfaction with life ( $p = < 0.001$ ,  $d = 0.85$ ) and lower levels of avoidant attachment to their therapy dog ( $p = < 0.001$ ,  $d = -1.16$ ) when compared to normative samples. Implications for the governing of university and college based programs and handler well-being are discussed.

**Keywords:** canine-assisted intervention, therapy dog handlers, volunteering, well-being.

## HIGHLIGHTS

- Handlers disclosed being drawn to volunteer due to the aspects of the program and the staff (e.g., I heard amazing things about the program, I met the program director), but motivations to continue volunteering were predominantly associated with the social benefits derived from volunteering
- Handlers described their dogs as happy after a session and recognized that therapy dogs must be relaxed, calm, and respectful to participate in sessions.
- Handlers reported few obstacles or challenges associated with volunteering as a canine handler in a community-based program.

## INTRODUCTION

There has been a proliferation in research on the effects of spending time with therapy dogs on a variety of clients. Often referred to as animal-assisted visitation (Crossman and Kazdin 2015) or as canine-assisted intervention (CAI; Binfet and Hartwig 2019; Silas et al. 2019), this protocol provides clients access to therapy dogs to boost their well-being. Spending time with therapy dogs elicits a number of favorable outcomes across a variety of contexts and clients including, but not limited to, reduction in anxiety in hospitalized children (Hinic et al. 2019), increase in children's reading motivation (Rousseau and Tardif-Williams 2019), and reduction in depression in older adults in assisted-living (Friedmann et al. 2019). There has also been an abundance of research conducted within the context of university and college based CAIs (i.e., on-campus CAIs) and, collectively, this research attests to the positive effects on students from spending time with therapy dogs (Binfet 2017; Barker et al. 2016; Pendry and Vandagriff 2019; Ward-Griffin et al. 2018).

Recently, concerns have been raised over animal welfare (Hatch 2007; Ng et al. 2015; Serpell et al. 2010) and calls have been put forward to ensure that therapy dogs providing support to clients are not themselves stressed by the experience (Silas et al. 2019). Consequently, there has been an increase in research examining the effects of CAIs on the experience of therapy dogs themselves (e.g., Clark et al. 2020, Glenk 2017, Ng et al. 2014). Researchers and handlers alike are encouraged to ensure canine welfare protocols are in place when CAIs are delivered to constantly monitor, accurately recognize and appropriately manage stress associated behaviours in dogs when they occur. Moreover, researchers have an ethical responsibility to ensure that animal welfare protocols are in place during all research activities.

The above brief review of the literature attests to the empirical interest in the experiences of two of the three key stakeholders involved in any given CAI – the clients targeted by the interventions and the therapy dogs. However, there is a paucity of research and a distinct knowledge gap around the experience of volunteer handlers who play an integral role in facilitating interactions between all partakers of CAIs (i.e., therapy dogs and clients alike). Handlers, or the community volunteers who share their dogs with the public, are an essential stakeholder driving all CAIs. Without them, the countless programs in operation across college campuses and in varied community programs would be unable to operate. Moreover, their well-being holds implications for their ability to support the well-being of clients. It follows that, safeguarding the well-being of



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handlers is central to the retention of dog-handler teams and the continuation of CAI programs. Yet little is documented about them, the benefits they derive from volunteering, and their viewpoints and experiences as volunteers.

In one of the few studies investigating canine handlers working in CAIs, recent research by Kuzara, Pendry and Gee (2019) suggests that handlers may vary across dimensions of responsiveness and demandingness with respect to the attention they give to their dogs. Accordingly, they fall into one of four interaction styles that differ in their combination of handler warmth and control. These styles include authoritative, authoritarian, permissive, and hands-off. These authors also suggest that handlers shift their interaction style in response to a student's presence. Shifts in interaction styles depended on the initial interaction style before students were introduced. Authoritarian handlers commonly shifted to an authoritative style and permissive handlers became more hands-off when students were present. More research is needed to understand why handlers might increase their positive, warm behaviours to their dog (authoritarian to authoritative) or distance themselves (permissive to hands off) when interacting with students, as little is known about handlers experience volunteering in CAIs.

A review of the literature revealed no peer reviewed publications investigating handlers' perceptions, and their associated well-being, that arise from participating in CAIs. However, a number of student dissertations examining the experience of handlers were identified (e.g., Cable and Pulcini 2018; Collins 2014; Moorhead 2012; Paige 2010; Reece 2012). Of these papers, Reece's research merits mention as she conducted interviews with 10 animal-assisted therapy (AAT) handlers to explore the benefits arising from volunteering in AAT. Whereas AAI can be considered "an umbrella term that refers to the deliberate and meaningful inclusion of animals into human health, wellbeing, or educational interventions" (Jones et al. 2019, p. e0210761), AAT is defined as "... a goal oriented, planned and structured therapeutic intervention directed and/or delivered by health, education and human service professionals." (IAHAIO 2014). The analysis of handlers' responses in Reece's study revealed seven salient themes that included: 1) *the joy of helping others*; 2) *enlightenment*: (i.e., enrichment and learning experiences) 3) *a sense of pride and accomplishment*; 4) *connecting with other people*; 5) *human/animal bond*; 6) *a need to provide AAT*, some even describing it as a "calling" (p.60); and 7) *a positive experience across conditions/populations* (e.g., seeing amazing things, [AAT] was rewarding, always feeling great; Reece 2012, p. 41-42). Although the handlers in this study were working within the context of more formalized therapy for clients, the themes identified here nevertheless inform our understanding of what motivates handlers to volunteer with their therapy dogs.



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#### *The Present Study*

Informed by social support theory, the aim of this mixed-methods, exploratory research was to access handlers' insights (i.e., thoughts and observations) around their experiences as volunteers and assess their perceptions of their well-being. Social support theory outlines the conditions of social companionship that foster positive health effects (Cobb 1976; Hupcey 1998). For example, research indicates that having a social support network including friends, family and peers is a vital resource that mediates between stress and mental and physical health, and can offset academic stress in undergraduate students (Schaefer et al. 1981; Wilks and Spivey 2010).

Although originally theorized about human companionship, the model

endorses a social support hypothesis that can be applied to explain the physiological and psychological benefits of interacting with companion animals (Fine and Weaver 2018; O’Haire 2010).

Questions driving this exploratory study of handlers’ well-being were:

- 1) What are the perceived benefits and challenges associated with volunteering in an on-campus CAI for both volunteer handlers and their dogs?;
- 2) What motivates handlers to volunteer with their dogs in an on-campus CAI?;
- 3) What thoughts and observations do handlers have regarding their experiences, their dogs, and the students they support?
- 4) What is the well-being profile (i.e., positive and negative dimensions of psychological functioning) of volunteer canine handlers?

## METHOD

### Participants

Sixty certified volunteer canine handlers (87% female; *Age* = 41.92, *SD* = 12.96) participated in this exploratory study and were recruited from the Building Academic Retention through K9s (B.A.R.K) program, a CAI program at the University of British Columbia (UBC) Okanagan. Experience volunteering as a therapy dog handler ranged from 0 to 6 years with an average of 7.9 hours per semester (*SD* = 7.5 years). Most participants self-identified as Caucasian (96.7%), lived with at least one other person in their household (86.7%), and had at least a university or college degree (76.7%). Half of the participants were employed full-time (51.7%) and had only one companion animal (51.7%). Smaller proportions of the sample included part-time workers (13.1%), retirees (13.1%), students (13.1%), and participants with more than one companion animal (48.3%). When asked to rate their level of experience as a canine handler, participants reported *none* (16.6%), *little* (8.3%), *some* (51.6%), *high* (21.6%) and *no response* (1.6%). Within the context of this study, canine handlers were defined as trained and certified individuals who were responsible for the behaviour and management of their dog while participating in organized CAI activities.

### Program

Standing for “Building Academic Retention through K9s,” B.A.R.K. is a CAI program at UBC Okanagan. At the time of the study, the program had 60 volunteer handlers and 57 therapy dogs, who routinely participated in a variety of canine-assisted programs. Before participating in any B.A.R.K. programs, all handlers are required to undertake an assessment process which consists of a handler training session, a canine-assessment workshop, canine assessment, mock session, and a 4-8-month internship period. Handler-dog teams are routinely monitored after full-integration and therapy dogs are monitored for signs of stress/distress within all sessions.

Handlers in this program regularly volunteer in stress-reduction programs serving university students (see Binfet 2017; Binfet and Passmore 2016; Binfet et al. 2018) and Royal Canadian Mounted Police (RCMP; see Binfet et al. in press); social-emotional learning workshops for children aged 5-12; and visits to local elementary or high schools, campus events, or fundraisers. In their role as



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handlers, volunteers interact one-on-one with clients, work alongside student mentors in small-groups, or alongside other handler-dog teams as part of larger-scale events. All handlers receive information about wellbeing resources available to them, and regularly attend the University's Suicide Prevention Workshop (<https://wellbeing.ubc.ca/qprtraining>).

### *Procedure*

University research ethics approval (H18-02555) and participant informed consent was obtained for this study. Handlers were given an information package that included information about the study, a consent form, a survey that included a demographic questionnaire, a qualitative survey comprised of 13 open-ended questions, a series of well-being scales, a \$25 gratuity gift-card, and a prepaid envelope to return the completed forms and measures by mail.

### *Measures*

#### *Demographic questionnaire*

To collect demographic information regarding age, gender, educational attainment, years of volunteer experience, and information about each handler's therapy dog, a brief questionnaire was administered.

#### *Qualitative measure*

To capture and understand the voice of handlers around their experiences as volunteer handlers, participants were asked to complete a qualitative survey by handwriting responses to 13 open-ended questions addressing the benefits and challenges, motivation, and personal insights related to volunteering in an on-campus CAI (see questions listed in Tables 1-3).

#### *Quantitative measures*

To investigate canine handlers' well-being, a series of well-being measures was administered to participants. These measures allowed us to create an initial profile of canine handler well-being. Although a control or comparison group was not included as part of the study's design, the results stand to provide a baseline for subsequent comparative studies.

The Flourishing Scale (Diener et al. 2009) is an 8-item scale of psychological well-being, with a Cronbach's  $\alpha$  of 0.87 ( $\alpha$  for the current study was 0.85), measuring individuals' perceptions of their success. Items are rated on a 7-point Likert-type scale ranging from "strongly disagree" (1) to "strongly agree" (7). A higher total score indicates greater psychological well-being and more psychological resources.

The Friendship Scale (Hawthorne 2006) is a 6-item scale, with a Cronbach's  $\alpha$  of 0.83 ( $\alpha$  for the current study was 0.86), measuring connections to other people during the past four weeks. Items are rated on a 5-point Likert-type scale ranging from "almost always" to "not at all." A higher score indicates a greater frequency of social connectedness (i.e., less social isolation).

The Gratitude Questionnaire (GQ-6 ; McCullough et al. 2002) is a 6-item scale, with a Cronbach's  $\alpha$  of 0.82 ( $\alpha$  for the current study was 0.85), measuring thankfulness using a 7-point Likert-type scale ranging from "strongly disagree" (1) to "strongly agree" (7). Higher scores indicate a higher likelihood of experiencing gratitude in daily life.



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The Monash Dog Owner Relationship Scale (MDORS; Dwyer et al. 2006) is a 28-item survey assessing dog-owner relationships across three subscales: 1) the frequency that certain dog-owner interactions occur (S1); 2) emotional closeness between the owner and the dog (S2); and 3) the perceived costs of dog ownership (S3). The internal consistency of the subscales ranges from 0.67 to 0.84 ( $\alpha_s$  for the current study ranged from 0.56 to 0.82). Items are rated using a five-point, Likert-type scale (1 = weakest, 5 = strongest). Higher scores on S1, S2, and S3 respectively indicate more positive interactions between the handlers and their dog, more emotional proximity to their dog, and a lower perceived cost of dog ownership.

The Pet Attachment Questionnaire (PAQ; Zilcha-Mano et al. 2011) is a 26-item scale measuring attachment to a companion animal on two dimensions: 1) avoidant attachment; and 2) anxiety attachment. The internal consistency of the items ranges from 0.86 to 0.89 ( $\alpha_s$  for the current study ranged from 0.75 to 0.82) and items are rated on a 7-point Likert-type scale ranging from "strongly disagree" to "strongly agree." A higher score in the avoidant attachment subscale and anxiety attachment subscale indicate a higher level of each type of attachment.

The Perceived Stress Scale (PSS; Cohen et al. 1983) is a 10-item scale, with a Cronbach's  $\alpha$  of 0.90 ( $\alpha$  for the current study was 0.88), measuring feelings of stress in participants over the past 30 days. Items are rated on a 5-point Likert-type scale ranging from "never" to "very often." Higher total scores reflect higher perceived stress, with scores ranging from 0-13 considered as low stress, scores between 14-26 considered as moderate stress, and scores between 27-40 considered as high perceived stress.

The Positive and Negative Affect Schedule (PANAS; Watson et al. 1988) is a 20-item scale measuring positive and negative affect (10 items each), and Cronbach's  $\alpha_s$  are 0.87 and 0.88, respectively ( $\alpha_s$  for the current study were 0.81 and 0.82). Items are rated on a 5-point Likert-type scale ranging from "very slightly or not at all" to "extremely." Higher total scores for each subscale reflect higher levels of positive affect and of negative affect.

The Satisfaction with Life Scale (SWLS; Diener et al. 1985) is a 5-item scale, with a Cronbach's  $\alpha$  of 0.87 ( $\alpha$  for the current study was 0.89), measuring general perceptions of contentment with one's life. Items are rated on a 7-point Likert-type scale ranging from "strongly disagree" to "strongly agree." A higher score indicates a greater satisfaction with life.

The Self-Compassion Scale – Short Form (SCS-SF; Raes et al. 2011) is a 12-item scale, with a Cronbach's  $\alpha$  of 0.86 ( $\alpha$  for the current study was 0.89), measuring how individuals typically act towards themselves in difficult times. Items are rated on a 5-point Likert-type scale ranging from "almost never" to "almost always." Higher scores indicate a greater level of self-compassion.

The Social Connectedness Scale-Revised (SCS-R; Lee et al. 2001) is a 20-item scale, with a Cronbach's  $\alpha$  of 0.92 ( $\alpha$  for the current study was 0.95), that measures social connectedness as a psychological sense of belonging or enduring interpersonal closeness. Items are rated on a 6-point Likert-type scale ranging from "strongly disagree" to "strongly agree." A higher total score indicates a stronger sense of social connectedness.

The Subjective Happiness Scale (Lyubomirsky and Lepper 1999) is a 4-item scale, with a Cronbach's  $\alpha$  of 0.87 ( $\alpha$  for the current study was 0.87), measuring general happiness using a 7-point Likert-type scale (e.g., "not a very happy person" to "a very happy person"). Higher scores indicate greater levels of



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happiness.

The UCLA Loneliness Scale (Version 3; Russell 1996) includes 20 items designed to measure participants' subjective feelings of loneliness as well as feelings of social isolation. The internal consistency of the items ranges from 0.89 to 0.94 ( $\alpha$  for the current study was 0.94). Participants rate each item on a scale from "never" to "often." Higher total scores indicate higher levels of loneliness.

The Volunteer Functions Inventory (VFI; Clary et al. 1998) is a 30-item ( $\alpha = 0.80 - 0.89$ ) measure of functional motivations to volunteer composed of six factors: 1) career; 2) enhancement; 3) protective; 4) social; 5) understanding; and 6) values. For each item, respondents indicated: "How important or accurate each of the 30 possible reasons for volunteering were for you in doing volunteer work." Respondents answer each item on a 7-point, Likert-type scale ranging from "not at all important/accurate" to "extremely important/accurate." The internal consistency of the items ranges from 0.80 to 0.89 ( $\alpha_s$  for the current study ranged from 0.78 to 0.91). Scores are calculated for each factor and a higher score indicates a greater functional motivation to volunteer.

### Data Analytic Strategy

#### Qualitative analyses

The analysis of the qualitative survey was done in a series of phases. First, for two questions (i.e., items 8 and 9; *What three words describe how you feel (or how your dog feels) after a session?*) where participants were asked to list three descriptors, each response was assigned a positive, negative, or neutral valence and was scored accordingly (i.e., positive words were scored 1, negative words were scored -1, and neutral words were scored 0). A mean valence was calculated for each question and the percentage of positive, negative, and neutral scores was calculated taking into account the total number of descriptors. Next, for survey questions generating open-ended responses, salient themes characterizing participants' responses were identified. To do this, a list of global or general themes for each question was generated following a conventional data analysis strategy (Denzin and Lincoln 2018; Hsieh and Shannon 2005; Saldana 2009). Initial themes and coding categories emerged from the text data, and for each question, themes were then winnowed to remove redundancy (Wolcott 1990; a range of 8 to 12 winnowed themes were identified across all the open-ended questions). Finally, winnowed themes were used to code and analyze each participant's response to each question. For example, regarding what keeps handlers volunteering, responses initially coded as *physical benefits to clients*, *emotional benefits to clients* and *social benefits to clients* were amalgamated into the singular theme of *benefits to clients*. Coding manuals with complete descriptions and examples of all coding themes are provided in **Appendix A**. For each question, two coders independently coded the themes of 20% of randomly selected participants' responses. Where relevant, discordant codes were discussed, and discrepancies reconciled. Across questions, an overall inter-rater agreement of 92% was attained. Inter-coder reliability was calculated using the kappa coefficient, which measures univariate agreement between raters of nominal codes (Janson and Olsson 2001). For items 8 and 9 of the qualitative survey kappa represents the univariate agreement in valence ratings across the three words. For the other items, kappa represents agreement across all possible codes. That is, for each observation, each code was assigned a value of 0 (does not apply) or 1 (does apply). Kappa is the univariate agreement across all codes. Kappa coefficients are presented in Tables 1–3.



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## Quantitative analyses

Statistical analyses for this study were performed with R, version 3.5.2. Variables were coded in an Excel file and analyzed with the statistical software. Where relevant, group means of total scores or subscale scores were computed for each measure. Four measures required the computation of subscale scores: 1) the PANAS (positive affect; negative affect); 2) the MDORS (dog-owner interaction (S1), emotional closeness (S2), and perceived cost (S3)); 3) the PAQ (avoidant and anxiety); and 4) the VFI (protective, values, understanding, enhancement, career, and social). Next, normative or comparable samples to our study sample were identified for each measure through a review of the literature. When results from normative samples were not available for a given measure, data from the most similar study sample available was used. To give meaning to the mean total scores or mean subscale scores of each measure, we evaluated each of our means against the corresponding normative or comparable samples data through two-tailed, independent samples t tests (see **Appendix B** for a detailed review of comparative samples use for this study). A Bonferroni correction was applied to reduce chances of obtaining a Type 4 error. Accordingly, the significance level was adjusted to an alpha level of 0.002. Effect sizes were measured with Cohen's *d*.

## RESULTS

### Qualitative Findings

#### Benefits and challenges

A summary of the findings reflecting the theme *benefits and challenges* are provided in Table 1. When asked to list the benefits of volunteering in the B.A.R.K. program, participants most commonly reported *social* benefits for themselves and their dog (e.g., "It keeps me in contact with people I wouldn't normally have contact with" and "My dog needs the human interaction so he's not shy or fear driven"). Other notable benefits for handlers concerned their *relationship with their dog*, spending time with the *students* and *sharing, helping, and expressing kindness*. Additional notable benefits for the dog reported by their handlers included *affection* and a sense of *purpose*.

Participants reported an extensive array of rewards associated with their volunteer experiences including but not limited to, *social interaction with students*, the *impact on students*, and *general benefits* (e.g., seeing people happy and excited). Still, the most commonly reported reward for volunteering was the *impact on students* with participants quoting examples such as "First year university was a very dark and trying time, if we can help kids who find themselves in the same places then that is rewarding." Rewards pertaining specifically to volunteering with a university student population as clientele included *social connections, community, story swapping, and helping others* as key themes. Examples of these common themes included "Building connections with them and watching them grow, develop, succeed – it's pretty magical and very rewarding" and "to provide empathy, understanding, and the knowledge that they are not alone [...] I love it all."

When asked to list challenges associated with volunteering in the B.A.R.K. program, participants most commonly reported *no challenges, scheduling and availability, and personal challenges* (e.g., "I'm an introvert so that in itself can be challenging"). More specifically, almost three-quarters of the handlers indicated that there were no challenges associated with volunteering with a university



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student population, but a small proportion reported *student inexperience with dog* or *a fear of dogs*, and *language or cultural barriers* as issues.

#### Motivations

A summary of the findings pertaining to the theme *motivations* are provided in Table 2. Factors that initially drew them to volunteer in the B.A.R.K. program were predominantly *aspects of the program* including the “innovative, exciting, and important contribution to UBC campus” and their desire to “be part of something impactful.” Participants also cited the *importance of the program* and their desire to *help others* as motivations to volunteer. More specifically, when describing what drew them to volunteer supporting university students, participants’ responses reflected their *understanding of the demands, pressures and needs* that students face (e.g., “I know what the experience is like, I had a hard time in my first year.”) or their own prior university experience. One participant noted, “It is needed. I am aware of the high-incidence of self-harm and stress amongst this population.”

When asked about volunteering in general, many participants referred to several roles that volunteering played in their lives, including the following common themes: *a way to bring benefit to others through volunteering* (e.g., “It keeps me socially connected,” “A break from work,” “It warms my heart.”), and a *general way to give back*. Specifically, factors that kept them volunteering in the B.A.R.K. program, included *benefits to themselves as volunteers*, to their *dog*, and to *clients and social connections and community*. The most common response, *benefits to the volunteer*, saw responses such as “the feeling of warmth that spreads throughout my body and carries me for weeks after.”

#### Personal insights

A summary of the findings pertaining to the theme *personal insights* are provided in Table 3. To describe how they felt after a CAI session, participants predominantly used positively valenced descriptors ( $M = 0.82$ ,  $SD = 0.55$ ). Words with a positive valence were offered 90% of the time ( $n = 154$ ), whereas words with a negative or neutral valence were offered 7.6% ( $n = 13$ ) and 2.3% ( $n = 4$ ) of the time, respectively. The most commonly reported descriptors for participants’ feelings after a CAI included *happy, tired, and fulfilled*. Overall, participants used positively valenced descriptors (Mean ( $M$ ) = 0.41, Standard Deviation ( $SD$ ) = 0.90) to describe how their dogs felt after a CAI session. Words with a positive valence were offered 69.1% of the time ( $n = 154$ ), whereas words with a negative or neutral valence were given 28.0% ( $n = 49$ ) and 2.8% ( $n = 5$ ) of the time, respectively. Common descriptors for dogs’ feelings after a CAI session included *happy, tired, and loved*.

With regards to essential skills and qualities of a good canine-handler, participants most commonly listed *having good awareness of the dog*, such as “knowing their strengths and weaknesses,” and “read their body language.” Other skills that were frequently reported included *being able to manage a dog’s needs and behaviors* and *having good communication skills*. In turn, volunteers noted that a good therapy dog should be *relaxed, calm, and respectful*, and *friendly, social, personable, and engaging*. Just under one-fifth of handlers also stated that a good therapy dog should *like physical touch*.

As part of the exploration of personal insights, handlers were asked to describe what they learned about themselves and their dogs by volunteering in the program. Participants stated that they learned *other aspects* about themselves such as “I’ve learned I always have more to learn” and “I have A LOT to offer.”



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Question	Response Rate (%)	Dominant Themes	Iota	Percentage of Respondents % (n)
What are the benefits to participating in this program for you?	97	Social	0.48	64 (37)
		Relationship with Dog		31 (18)
		Sharing/Helping/Expressing Kindness		31 (18)
		Students		31 (18)
What are the benefits to participating in this program for your dog?	97	Socialization	0.55	55 (32)
		Affection		50 (29)
		Job/Purpose		17 (10)
What aspects of volunteering in the program do you find especially rewarding?	97	Impact on Students	0.92	33 (19)
		General Benefits		21 (12)
		Social Interaction with Students		19 (11)
Do you encounter any challenges in being a B.A.R.K. volunteer?	97	No Challenges	1.00	34 (20)
		Scheduling/Availability		24 (14)
		Personal Challenges		16 (9)
What aspects of volunteering with university students do you find especially rewarding?	98	Helping Others	0.84	36 (21)
		Social Connection/Community/Story Swapping		36 (21)
		Other Aspects		19 (11)
		Student Dispositions/Outlook		19 (11)
Do you encounter any challenges volunteering with university students?	98	No Challenges	1.00	73 (43)
		Student Inexperience with Dogs		8 (5)
		Language Barriers		5 (3)



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**Table 1. Most commonly reported themes for questions related to the benefits and challenges of volunteering in the B.A.R.K. program**

Question	Response		Iota	Respondents % (n)
	Rate %	Dominant Themes		
What initially drew you to volunteering in the program?	97	Aspects of the Program	0.83	36 (21)
		Helping Others		28 (16)
		Importance of the Program		22 (13)
What keeps you volunteering in this program?	98	Benefit to Volunteer	0.94	44 (26)
		Benefit to Dog		30 (18)
		Benefit to Client		24 (14)
		Social Connections/ Community		24 (14)
What role generally does volunteering play in your life?	95	Way to Bring Benefit to Volunteer	0.85	39 (22)
		Big Role in Life		37 (21)
		General Way to Give Back		33 (19)
What initially drew you to volunteering with University Students?	98	Understand Demands/Pressures/ Need	0.94	28 (17)
		Other		22 (13)
		Personal University Experience		20 (12)

**Table 2. Most commonly reported themes for questions related to participants' motivations to volunteer**

They also reported learning that their dogs are *calm, relaxed, patient and adaptable* and *social, friendly, and loving*, and that volunteering has developed their knowledge about their own *dog-handler relationship*. Lastly, participants reported learning that students are stressed as the most common insight about the university student population. To illustrate, one participant reported that “they are experiencing more stress than I realized.” Other insights offered by participants included: *other aspects* (e.g., students love a good distraction, students are open) and that the *program benefits students* and helps them cope with the stressors students face.

#### Quantitative Findings

Means and standard deviations for our sample and the comparative samples across each measure are presented in Table 4.

Effect sizes and significance levels for the independent samples *t* tests are reported in Figure 1 (See **Appendix C** for a detailed review of statistical analyses). What is apparent from this figure is a trend that saw canine handlers report significantly greater scores (illustrated by positive Cohen's *d* effect sizes) on positively valenced measures and subscales than populations and samples to which they were compared. Positively valenced measures and subscales (i.e., assessing positive constructs) include: Flourishing Scale, Friendship Scale,



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Question	Response Rate (%)	Dominant Themes	Iota	Respondents % (n)
A good or strong canine handler must be able to...	97	Good Awareness of Dog	0.93	48 (28)
		Ability to Manage Dogs' Needs or Behaviors		40 (23)
		Good Communication Skills		28 (16)
In your view, what makes a good therapy dog?	97	Relaxed/Calm/Respectful	0.92	66 (38)
		Sociable/Personable/Engaging/Friendly		62 (36)
		Likes Physical Touch		19 (11)
What three words describe how you feel after a session?	95	Happy	1.00	61 (35)
		Tired		19 (11)
		Fulfilled		19 (11)
What three words describe how you think your dog feels after a session?	98	Happy	0.89	71 (42)
		Tired		66 (39)
		Loved		29 (17)
What have you learned about yourself in being a B.A.R.K. volunteer?	93	Other Aspects	1.00	27 (15)
		Dog-Handler Relationship		18 (10)
What have you learned about your dog in being a B.A.R.K. volunteer?	97	Calm/Relaxed/Patient/Adaptable	0.89	26 (15)
		Social/Friendly/ Loving		21 (12)
		Has Limits		16 (9)
		Other Aspects		16 (9)
What have you learned about students and stress in being a B.A.R.K. volunteer?	98	Students are Stressed	0.72	46 (27)
		B.A.R.K./C.A.I.s Benefit(s) Students		37 (22)
		Other Aspects		32 (19)

**Table 3. Most commonly reported themes for questions related to participants' personal insights about the canine handler volunteering experience**



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MDORS - S1, MDORS - S2, PANAS PA, SCS-R, SCS-SF, SHS, and SWLS. Handler volunteers in this study reported being more socially connected (see results of the SCS-R), having greater self-compassion (see results of SCS-SF), feeling more satisfied with life (see results of SWLS), engaging in more dog-owner interactions (see results of MDORS - S1: Dog-owner interaction), and having greater positive affect (See results of PANAS - PA).

This same trend was not found for negatively valenced measures and subscales, which include the MDORS - S3, the PANAS NA, the PAQ (both subscales), the PSS, and the UCLA Loneliness Scale. Participants only scored significantly lower in emotional closeness to pets (see results of MDORS - S2: Emotional closeness) and avoidant attachment to pets (see results of PAQ avoidant) when

Measure	Our Sample			Comparative Sample
	Minimum	Maximum	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Flourishing Scale	33	56	49.02 (4.7)	44.97 (6.56)
Friendship Scale	10	24	20.2 (3.96)	20.26 (3.73)
GQ-6	26	42	38.42 (4.01)	36.9 (4.92)
MDORS - S1: Dog-owner interaction	32	45	39.27 (2.96)	36.35 (4.76)
MDORS - S2: Emotional closeness	24	50	42.59 (5.51)	44.70, (5.27)
MDORS - S3: Perceived cost	26	45	38.6 (5.12)	38.18 (4.98)
PANAS - NA	10	32	16.19 (4.9)	16 (5.9)
PANAS - PA	25	48	39 (5.17)	31.31 (7.65)
PAQ - Anxiety	1	3	2.25 (0.79)	2.44 (0.91)
PAQ - Avoidant	1	4.23	1.29 (0.37)	1.99 (0.77)
PSS	3	27	12.71 (5.76)	13.5 (6.51)
SCS-R	49	120	98.1 (15.39)	88.02 (16.82)
SCS-SF	16	60	41.41 (9.26)	36 (7.33)
Subjective Happiness Scale	3	7	5.63, (0.94)	5.62 (0.96)
SWLS	9	35	26.82 (5.34)	23 (6.4)
UCLA Loneliness Scale (version 3)	10	35	17.28 (5.84)	19.22 (5.11)
VFI - Career	5	32	16.8 (8.82)	17.33 (8.24)
VFI - Enhancement	10	35	24.33 (5.96)	19.74 (7.59)
VFI - Protective	5	30	18.36 (6.59)	13.3 (6.77)
VFI - Social	5	33	20.72 (7.12)	18.85 (7.48)
VFI - Understanding	15	35	28.76 (4.98)	24.46 (6.96)
VFI - Values	16	35	31.39 (3.43)	27.78 (6.02)

**Table 4. Means and standard deviations for the comparative sample and for our sample across each measure**



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compared to a corresponding comparative sample.

However, a trend that saw higher scores across the subscales of the VFI was found. Specifically, our sample indicated being more motivated to volunteer for the following reasons: to help the ego grow and develop (Enhancement factor), to protect the ego from the difficulties of life (Protective Motives factor), to gain knowledge, skills, and abilities (Understanding factor), and to express their altruistic and humanitarian values (Values factor). These results were statistically significant. Our sample also indicated greater motivation to volunteer to develop and strengthen social ties (Social factor) and lower motivation to volunteer to improve career prospects (Career factor); however these differences were not statistically significant. These findings are discussed below.

### DISCUSSION

Recall that the aim of this study was to elucidate the experience of volunteer handlers working in an on-campus CAI program to reduce student stress and to create a well-being profile to better understand the benefits they might garner

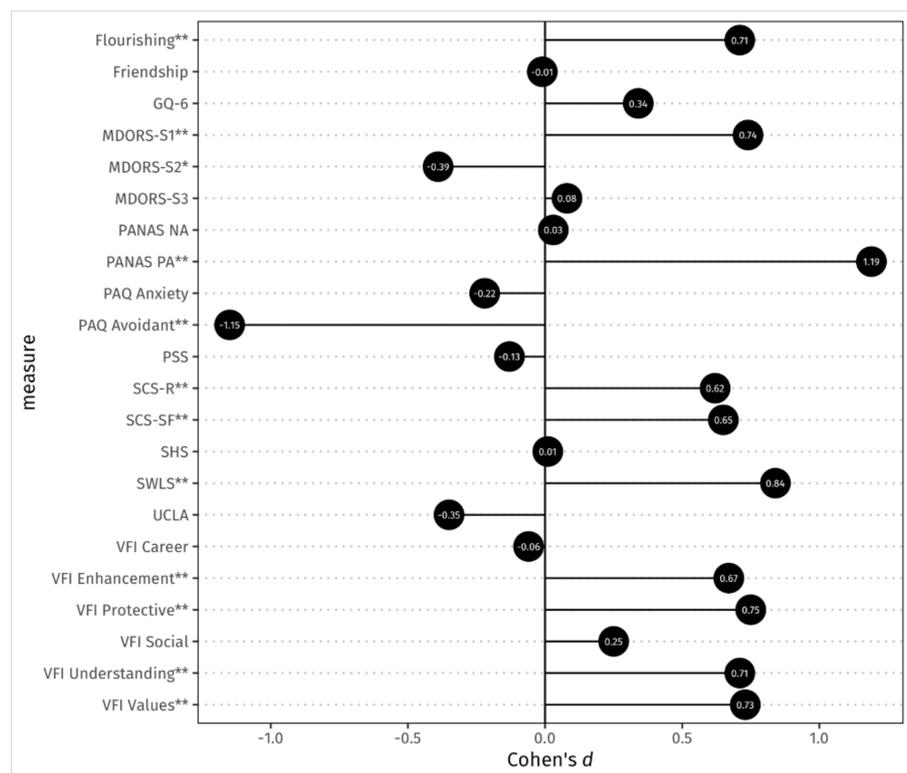


Figure 1. Cohen's *d* effect sizes of *t* tests comparing mean scores on well-being measures between the dog handler volunteers in our study and comparable samples taken from the literature. All *p* values were adjusted using Bonferroni correction for 22 significance tests.



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from their volunteer work. Although research has been conducted examining the effects of CAIs on clients or visitors to programs (Binfet 2017; Dell et al. 2015; Pendry and Vandagiff 2019) and more recently researchers have examined the experience of therapy dogs working in CAIs (Glenk 2017; Silas et al. 2019), we know very little about volunteer canine handlers. Qualitative data from responses to a series of open-ended prompts revealed that handlers in this study identified many benefits to volunteering for both themselves and for their dog, yet few reported challenges associated with volunteering as a canine handler. When challenges were recognized, handlers predominantly identified availability and scheduling conflicts, students lacking experience interacting with dogs, and language barriers. This is not surprising in light of the timings of the programs and the multicultural student population. Still, identifying challenges that handlers encounter as they interact directly with students allows CAI program directors and coordinators to ensure that handlers are provided appropriate training to work with the populations they support.

Insights gleaned from participants in this study also advance our understanding of the elements that may draw handlers to volunteer in on-campus CAIs. Findings hold promise to enhance the structure and delivery of CAIs and to inform CAI programs seeking to recruit and retain volunteer handlers. By giving a voice to handlers and learning about how they experience CAI programs, we can better support the needs of these individuals who are the driving force behind many of these community-based initiatives. When queried about their motivation to volunteer, the quality of the CAI program and altruistic concerns for others rose to the forefront as reasons drawing handlers into this volunteering context. Our findings further suggest that the opportunity to socialize, for both handlers and dogs, plays a key factor in the retention of handlers in our program. The benefits our handlers identified mirror the benefits identified by Reece (2012) who found canine handlers reported feeling joy, a sense of pride, and opportunities to interact with others as key reasons for volunteering.

Across participants, handlers reported a common feeling of being tired after a session – both for themselves and for their dog. Even though being tired was commonly listed, exertion was not perceived as a challenge associated with volunteering. In this way, handlers did not report feeling tired as a challenge or something negative but rather as an accepted outcome. In light of the fatiguing nature of this work, new handlers might profit from shorter initial sessions to build capacity and avoid over fatiguing themselves or their dogs.

To the objective of assessing handlers' perceptions of their well-being, quantitative findings revealed that, on average, participants reported greater levels of well-being than the normative populations or samples to which they were compared, especially in regard to their positive affect. However, participants surprisingly reported lower levels of emotional closeness to their dog than the comparative sample. In part, this finding might be explained by the "on-task relationship" that handlers and their dogs share in the context of the CAI, wherein handlers are often focused on encouraging social and emotional connections between their dogs and the students. Future research is needed to determine if lower levels of closeness between handlers and their dogs extends outside of the CAI context. Conversely, on measures of ill-being (i.e., loneliness, stress, and avoidant or anxious attachment), participants reported lower (non-significant) levels of ill-being. It appears generally that, across measures, volunteers in the on-campus CAI had greater levels of well-being and lower levels of ill-being than comparative samples.

This holds implications for the handler's ability to support the well-being of



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others. Handlers who are not themselves struggling to maintain optimal well-being are better positioned to help augment the well-being of students seeking comfort by attending an on-campus CAI. The robust well-being of handlers also holds implications for the welfare of the therapy dogs themselves. When handlers are characterized by strong social and emotional well-being it is less likely that emotional contagion or the emotional spillover of negative affect might travel down the leash, negatively affecting the welfare of dogs (Huber et al. 2017; Silas et al. 2019).

The quantitative findings provide support for qualitative insights in at least three ways. First, handlers have reported a trend in elevated well-being across self-report scales. Indeed, results of the Flourishing Scale suggest handlers have elevated levels of psychological well-being and access to psychological resources. In this way, these quantitative findings resonate with and support personal and emotional psychosocial benefits articulated by participants regarding benefits and motivations to volunteer for themselves and their dog (e.g., "Sharing the joy and happiness I feel with Remy [handler's dog] in my life with others."). Second, across all VFI factors, the group mean was highest for the Values factor, reflecting motivations to volunteer to express altruistic and humanitarian values. This finding parallels the reflections of the participants on rewarding aspects of volunteering and motivations to volunteer, as handlers in this study largely articulated motivation to volunteer to help others. Third, self-reported elevated levels of social connectedness on the SCS-R are consistent with the thematic recurrence of social aspects (e.g., "Opportunity to give back to the community, and feeling good about being a positive difference.") in responses to open ended questions about benefits of volunteering for themselves and their dog. Additionally, social motivations were underprovided from the commonly reported themes for questions related to participants' motivations to volunteer, and this is consistent with the results on the VFI Social factor. Handlers reported being less motivated to volunteer to develop and strengthen social ties. In this way, it seems that handlers do not engage in CAIs for the social aspects, but they are some of the leading benefits of this volunteering context. Combined, the qualitative and quantitative findings provide insight into the experiences of CAI volunteer handlers in this program, and a measure of comparison for future research exploring the well-being profile of this population.

#### *Limitations and Future Directions*

First, the handlers in this study were recruited from the same CAI program delivered on one university campus where the CAI program is very structured and has a rigorous assessment process for prospective canine handlers. We acknowledge that these requirements may not be representative of CAI programs across other university campuses. Nonetheless, the sample of this study reflects a large, diverse group of individuals with different levels of volunteer experience and socio-economic backgrounds. Future research could examine a broader group of handlers from multiple programs across varied contexts or how handlers' level of experience or time spent volunteering might impact their well-being or insights as handlers. Second, future research should also consider using independent raters to reduce confirmation bias in the analysis of participant responses, as this was not addressed in the present study. Last, as we did not include a comparison group, we compared our results to normative data or a comparable sample in the literature when norms were unavailable. This exploratory study is the first to lay the foundations of evidence-based knowledge about canine handlers' well-being. Recall that the quantitative analyses in the present study comparing our sample to comparative



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or normative data from the literature are intended to establish a groundwork of knowledge on how well volunteer handlers participating in CAIs are situated in well-being. Accordingly, the profile of well-being presented here should be used as a foundation to pave different pathways toward more comprehensive examinations of handler well-being. Future research might also consider comparing results to a comparable control group of volunteers across all measures of well-being, pet attachment, and motivations to volunteer.

## CONCLUSION

This exploratory study is the first to explore underrepresented stakeholders in CAIs through a mixed methods design. Our findings suggest that volunteer canine handlers have unique insights into their role as volunteers in CAIs and overall high levels of well-being. Canine handlers are especially attuned to the impact that participation in a CAI has on themselves and their therapy dog and report overwhelmingly favorable views and insights regarding volunteering as a canine handler. As is evidenced by the burgeoning literature examining how spending time with therapy dogs impacts client well-being, it is important to remember to look up the leash at canine handlers – they are, after all, the driving force that make all CAIs possible.

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## REFERENCES

- Barker, S. B., Barker, R. T., McCain, N. L., and Schubert, C. M. 2016. A randomized cross-over exploratory study of the effects of visiting therapy dogs on college student stress before final exams. *Anthrozoös* 29(1): 35-46. <https://doi.org/10.1080/08927936.2015.1069988>
- Binfet, J. T. 2017. The effects of group-administered canine therapy on university students' wellbeing: A randomized controlled trial. *Anthrozoös* 30(3): 397-414. <https://doi.org/10.1080/08927936.2017.1335097>
- Binfet, J. T., Draper, Z. A., and Green, F. L. L. (in press). Stress reduction in law enforcement officers and staff through a canine-assisted intervention. *Human Animal Interaction Bulletin*.
- Binfet, J. T., and Hartwig, E. K. 2019. Canine-assisted intervention team assessment. In *Canine-assisted interventions: A comprehensive guide to credentialing therapy dog teams* (1st ed., pp. 130-154) Milton: Routledge. <https://doi.org/10.4324/9780429436055-7>
- Binfet, J. T., and Passmore, H. A. 2016. Hounds and homesickness: The effects of an animal-assisted therapeutic intervention for first-year university students. *Anthrozoös* 29(3): 441-454. <https://doi.org/10.1080/08927936.2016.1181364>
- Binfet, J. T., Passmore, H. A., Cebry, A., Striuk, K., McKay, C. 2018. Reducing university students' stress through a drop-in canine-therapy program. *Journal of Mental Health* 27(3): 197-204. <https://doi.org/10.1080/09638237.2017.1417551>



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Cable, A., and Pulcini, B. 2018. Therapy dog handler perspectives on animal-assisted therapy with children. (Unpublished dissertation, Utica College). Available from ProQuest Dissertations and Theses Global database. (UMI 10824114)

Clark, S. D., Martin, F., McGowan, R. T., Smidt, J. M., Anderson, R., Wang, L., ... and Mohabbat, A. B. 2020. Physiological State of Therapy Dogs during Animal-Assisted Activities in an Outpatient Setting. *Animals* 10(5): 819. <https://doi.org/10.1016/j.psychres.2020.113223>

Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., and Miene, P. 1998. Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology* 74(6): 1516. <https://doi.org/10.1037//0022-3514.74.6.1516>

Cobb, S. 1976. Social support as a moderator of life stress. *Psychosomatic Medicine* 38(5): 300-314. <https://doi.org/10.1097/00006842-197609000-00003>

Cohen, S., Kamarck, T., and Mermelstein, R. 1983. A global measure of perceived stress. *Journal of Health and Social Behavior* 24: 385-396. <https://doi.org/10.2307/2136404>

Collins, K. V. 2014. Animal-assisted therapy: Motives and rewards. (Unpublished dissertation, University of New Hampshire). Available from ProQuest Dissertations and Theses Global database. (ProQuest Number:10824114)

Crossman, M., and Kazdin, A. E. 2015. Animal visitation programs in colleges and universities: An efficient model for reducing student stress. In A. H. Fine (Ed.), *Handbook on animal-assisted therapy: Foundations and guidelines for animal-assisted interventions* (4th ed., pp. 333-337). New York: Elsevier.

Dell, C. A., Chalmers, D., Gillett, J., Rohr, B., Nickel, C., ... Brydges, M. 2015. PAWSing student stress: A pilot evaluation of the St. John Ambulance therapy dog program on three university campuses in Canada. *Canadian Journal of Counselling and Psychotherapy* 49(4): 332-359. <https://cjc-rcc.ucalgary.ca/article/views/61079>

Denzin, N. K., and Lincoln, Y. S. 2018. *The sage handbook of qualitative research* (Eds.). Washington, DC: Sage Publications, Inc.

Diener, E., Emmons, R. A., Larsen, R. J., and Griffin, S. 1985. The satisfaction with life scale. *Journal of Personality Assessment* 49: 71-75. <https://doi.org/10.1097/HTR.0000000000000004>

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., and Biswas-Diener, R. 2009. New measures of well-being: Flourishing and positive and negative feelings (pp. 143-156). In *Assessing well-being* (pp. 247-266). Springer, Dordrecht.

Dwyer, F., Bennett, P. C., and Coleman, G. J. 2006. Development of the Monash dog owner relationship scale (MDORS). *Anthrozoös* 19(3): 243-256. <https://doi.org/10.2752/089279306785415592>

Fine, A. H., and Weaver, S. J. 2018. The human-animal bond and animal-assisted intervention. In M. van den Bosch, and W. Bird (Eds.), *Nature and public health: The role of nature in improving the health of a population*. Oxford, UK: Oxford Press, p. 132-138.

Friedmann, E., Galik, E., Thomas, S. A., Hall, S., Cheon, J., ...Gee, N. R. 2019. Relationship of behavioral interactions during an animal-assisted intervention in



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- assisted living to health-related outcomes. *Anthrozoös* 32: 221-238. <https://doi.org/10.1080/08927936.2019.1569905>
- Glenk, L. M. 2017. Current perspectives on therapy dog welfare in animal-assisted interventions. *Animals* 7(2): 7-24. <https://doi.org/10.3390/ani7020007>
- Grajfoner, D., Harte, E., Potter, L., and McGuigan, N. 2017. The effect of dog assisted intervention on wellbeing, mood and anxiety. *International Journal of Environmental Research and Public Health* 14(5): 483. <https://doi.org/10.3390/ijerph14050483>.
- Hatch, A., 2007. The view from all fours: A look at an animal-assisted activity program from the animals' perspective. *Anthrozoös* 20(1): 37-50. <https://doi.org/10.2752/089279307780216632>
- Hawthorne, G. 2006. Measuring social isolation in older adults: development and initial validation of the friendship scale. *Social Indicators Research* 77(3): 521-548. <https://doi.org/10.1007/s11205-005-7746-y>
- Hinic, K., Kowalski, M. O., Holtzman, K., and Mobus, K. 2019. The effect of a pet therapy and comparison intervention on anxiety in hospitalized children. *Journal of Pediatric Nursing* 46: 55-61. <https://doi.org/10.1016/j.pedn.2019.03.003>
- Hsieh, H. F., and Shannon, S. E. 2005. Three approaches to qualitative analysis. *Qualitative Health Research*, 15(9): 1227-1228. <https://doi.org/10.1177/1049732305276687>
- Huber, A., Barber, A. L. A., Farago, T., Muller, C. A., and Huber, L. 2017. Investigating emotional contagion in dogs (*Canis familiaris*) to emotional sounds of humans and conspecifics. *Animal Cognition* 20, 703-715. <https://doi.org/10.1017/s1007-017-1092-8>
- Hupcey, J. E. 1998. Clarifying the social support theory - research linkage. *Journal of Advanced Nursing* 27(6): 1231-1241. <https://doi.org/10.1046/j.1365-2648.1998.01231.x>
- International Association of Human-Animal Interaction Organizations (IAHAIO). 2014. IAHAIO white paper 2014: The IAHAIO definitions for animal assisted intervention and animal assisted activity and guidelines for wellness of animals involved. <http://iahaio.org/new/fileuploads/4163IAHAIO%20WHITE%PAPER-%20FINAL%20-%20NOV%2024-2014.pdf>.
- Janson, H., and Olsson, U. 2001. A Measure of Agreement for Interval or Nominal Multivariate Observations. *Educational and Psychological Measurement* 61(2): 277-289. <https://doi.org/10.1177/00131640121971239>
- Jones, M. G., Rice, S. M., and Cotton, S. M. 2019. Incorporating animal-assisted therapy in mental health treatments for adolescents: A systematic review of canine assisted psychotherapy. *PLOS ONE* 14(1): e0210761. <https://doi.org/10.1371/journal.pone.0210761>
- Kuzara, S., Pendry, P., and Gee, N. R. 2019. Exploring the handler-dog connection within a university-based animal-assisted activity. *Animals* 9(7): 402. <https://doi.org/10.3390/ani9070402>
- Lee, R. M., Draper, M., and Lee, S. 2001. Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: Testing a mediator model. *Journal of Counseling Psychology* 48(3): 310-318. <https://doi.org/10.1037/0022-0167.48.3.310>



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Zakary A. Draper  
Allison Maynard



Lyubomirsky, S., and Lepper, H. S. 1999. A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research* 46(2): 137-155. <https://doi.org/10.1023/A:1006824100041>

McCullough, M. E., Emmons, R. A., and Tsang, J. A. 2002. The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82(1): 112-127. <https://doi.org/10.1037//0022-3514.82.1.112>

Moorhead, J. 2012. Animal-assisted therapy: A volunteer's perspective. (Unpublished dissertation, Texas State University-San Marcos). Retrieved from <https://digital.library.txstate.edu/bitstream/handle/10877/4393/MOORHEAD-THESIS.pdf?sequence=1>

Ng, Z. Y. Pierce, B. J., Otto, C. M., Buechner-Maxwell, V. A., Siracusa, C., and Were, S. R. 2014. The effect of dog-human interaction on cortisol and behavior in registered animal-assisted activity dogs. *Applied Animal Behavior Sciences* 159: 69-81. <https://doi.org/10.1016/j.applanim.2014.07.009>

Ng, Z., Albright, J., Fine, A. H., Peralta, J. 2015. Our ethical and moral responsibility: Ensuring the welfare of therapy animals. In A. H. Fine (Ed.) *Handbook on animal-assisted therapy: Foundations and guidelines for animal-assisted interventions* (4th ed., pp. 357-373). Burlington: Academic Press. <https://doi.org/10.1016/B978-0-12-801292-5.00026-2>

O'Haire, M. 2010. Companion animals and human health: Benefits, challenges, and the road ahead. *Journal of Veterinary Behavior: Clinical Applications and Research* 5(5): 226-234. <https://doi.org/10.1016/j.jveb.2010.02.002>

Paige, L. 2010. Kindred spirits: A phenomenological study of the experience of volunteering with a companion animal. (Unpublished dissertation, Pacifica Graduate Institute). Available from ProQuest Dissertations and Theses Global database. (UMI : 3406140)

Pendry, P., Carr, A. M., Roeter, S. M., and Vandagriff, J. L. 2018. Experimental trial demonstrates effects of animal-assisted stress prevention program on college students' positive and negative emotion. *Human-Animal Interaction Bulletin* 6(1): 81-97. <https://www.apa-hai.org/human-animal-interaction/haib>

Pendry, P., and Vandagriff, J. L. 2019. Animal Visitation Program (AVP) reduces cortisol levels of university students: A randomized controlled trial. *AERA Open* 5: 1-12. <https://doi.org/10.1177/2332858419852592>

Raes, F., Pommier, E., Neff, K. D., and Van Gucht, D. 2011. Construction and factorial validation of a short form of the self-compassion scale. *Clinical Psychology and Psychotherapy* 18(3): 250-255. <https://doi.org/10.1002/cpp.702>

Reece, C.M. 2012. A Phenomenological analysis of the lived experience of animal assisted therapy volunteers. Retrieved from ProQuest Dissertations Publishing. (UMI 3527964)

Rousseau, C. X., and Tardif-Williams, C.Y. 2019. Turning the page for Spot: The potential of therapy dogs to support reading motivation among young children. *Anthrozoös* 32(5): 665-677. <https://doi.org/10.1080/08927936.2019.1645511>

Russell, D. 1996. UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment* 66(1): 20-40. [https://doi.org/10.1207/s15327752jpa6601\\_2](https://doi.org/10.1207/s15327752jpa6601_2)

Saldana, J. 2009. *The coding manual for qualitative researchers*. Thousand Oaks, CA: Sage Publications, Inc.



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Schaefer, C., Coyne, J. C., and Lazarus, R. S. 1981. The health-related functions of social support. *Journal of Behavioral Medicine* 4(4): 381-406. <https://doi.org/10.1007/bf00846149>

Serpell, J. A., Coppinger, R., Fine, A. H., and Peralta, J. M. 2010. Welfare considerations in therapy and assistance animals. In A. H. Fine (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (3rd ed., pp. 481-503). New York: Elsevier.

Silas, H. J., Binfet, J. T., and Ford, A. T. 2019. Therapeutic of all? Observational assessments of therapy canine stress in an on-campus stress-reduction program. *Journal of Veterinary Behavior* 32: 6-13. <https://doi.org/10.1016/j.jveb.2019.03.009>

Ward-Griffin, E., Klaiber, P., Collins, H. K., Owens, R. L., Coren, S., and Chen, F. S. 2018. Petting away pre-exam stress: The effect of therapy dog sessions on student well-being. *Stress and Health* 34(3): 468-473. <https://doi.org/10.1002/smi.2804>

Watson, D., Clark, L. A., and Tellegen, A. 1988. Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology* 54(6): 1063-1070. <https://doi.org/10.1037/0022-3514.54.6.1063>.

Wilks, S. E., and Spivey, C. A. 2010. Resilience in undergraduate social work students: Social support and adjustment to academic stress. *Social Work Education* 29(3): 276-288. <https://doi.org/10.1080/02615470902912243>

Wolcott, H. F. 1990. *Transforming qualitative data: Description, analysis, and interpretation*. Thousand Oaks, Calif: Sage Publications.

Zilcha-Mano, S., Mikulincer, M., and Shaver, P. R. 2011. An attachment perspective on human-pet relationships: Conceptualization and assessment of pet attachment orientations. *Journal of Research in Personality* 45(4): 345-357. <https://doi.org/10.1016/j.jrp.2011.04.001>



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