

2023

Who Is the Good Boy/Girl? Perspectives of French Handlers in AAI on the Selection of Their Dogs

Alice Mignot

Universite Paris Nanterre (Paris X), comportementcanin@outlook.com

Gérard Leboucher

Université Paris Nanterre, gerard.leboucher@parisnanterre.fr

Véronique J. Servais

University of Liege, v.servais@uliege.be

See next page for additional authors

Follow this and additional works at: <https://docs.lib.purdue.edu/paj>



Part of the [Quantitative, Qualitative, Comparative, and Historical Methodologies Commons](#), and the [Zoology Commons](#)

Recommended Citation

Mignot, Alice; Leboucher, Gérard; Servais, Véronique J.; and de Luca, Karelle (2023) "Who Is the Good Boy/Girl? Perspectives of French Handlers in AAI on the Selection of Their Dogs," *People and Animals: The International Journal of Research and Practice*: Vol. 6 : Iss. 1, Article 9.

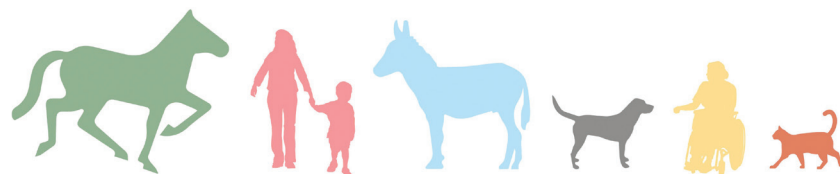
Available at: <https://docs.lib.purdue.edu/paj/vol6/iss1/9>

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact epubs@purdue.edu for additional information.

Who Is the Good Boy/Girl? Perspectives of French Handlers in AAI on the Selection of Their Dogs

Authors

Alice Mignot, Gérard Leboucher, Véronique J. Servais, and Karelle de Luca



People and Animals: The International Journal of Research and Practice

Volume 6 | Issue 1 | ISSN: 2575-9078

(2023)

Who Is the Good Boy/Girl? Perspectives of French Handlers in AAI on the Selection of Their Dogs

Alice Mignot,^{1,2,3} Gérard Leboucher,¹ Véronique J. Servais,² Karelle de Luca³

Keywords: working dogs, animal-assisted interventions, animal welfare, animal behavior, one welfare

Abstract Animal-assisted interventions (AAI) are well implemented in various health care settings; however, there is little data on the characteristics of the mediation dogs and their selection, which can influence the well-being of both the dogs and the beneficiaries. This study aims to gain a better understanding of the characteristics of French mediation dogs and the context in which they are selected to guide future research working on behavioral criteria for mediation dogs and help provide a basis for better selection of dogs in the field. To this end, we interviewed 111 French handlers in AAI, who work with at least one dog, through an online questionnaire about their professional backgrounds, the characteristics of their mediation dogs, and their views of the favorable and prohibitive criteria for a mediation dog. We also examined handlers' representations of the context of selection of their mediation dog(s). Our data highlighted that (1) mediation dogs do not represent a homogeneous category regarding the age they started to work in AAI, their current ages, their certifications, and their breeds; and that (2) this may be related to the fact that the process of selecting mediation dogs includes the variability of the therapeutic settings as well as the professional backgrounds of the handlers and their personal affinities for a type of dog. There was also variability in handlers' representations of the favorable and prohibitive criteria for the mediation dogs but with a convergence toward a sociable dog with self-control. The selection of mediation dogs in France requires an individual choice that considers each human-dog team in their relationship and in the context of their work.

Introduction

Practices including animals in human health care are commonly named animal-assisted interventions (AAI),¹ which is defined as “a goal oriented and

structured intervention that intentionally includes or incorporates animals in health, education and human services (e.g., social work) for the purpose of therapeutic gains in humans. It involves people with knowledge of the people and animals involved”

(1) Université Paris Nanterre, (2) University of Liege, (3) Boehringer Ingelheim

(IAHAIO, 2019). Regarding mediation animals,² dogs are the most represented animal species because of their availability, trainability, and predictability (Glenk, 2017), the mutual positive physiological and psychological effects of the human–dog interactions (i.e., Cirulli et al., 2011; Nagasawa et al., 2009; Odendaal & Meintjes, 2003), and the reciprocity in the human–dog bond (Beetz, 2017; Menna et al., 2019). In contrast to the large body of science that continues to develop on the benefits of AAI on human health (i.e., Flynn et al., 2020; Holman et al., 2020; Wijker et al., 2020), studies focusing on mediation dogs are still in their infancy (i.e., Glenk, 2017; King et al., 2011; Marinelli et al., 2009; Winkle et al., 2020). However, the selection of the *right* dog is a key determinant of therapeutic success (Piva et al., 2008; Verga & Michelazzi, 2009) because not all dogs are cut out for AAI even if they are good companion dogs (IAHAIO, 2019; Mongillo et al., 2015). Consequently, the growing interest in selecting mediation dogs emerged in the 1990s (Fredrickson-MacNamara & Butler, 2006) but the variability of settings complicates the application of a selection standard (Winkle et al., 2020). The certification of mediation dogs is a current concern because it determines the ability of a dog to work in AAI, but it is not officially regulated (Cavalli et al., 2018; Serpell et al., 2020; Winkle et al., 2020). However, it is important to frame the selection of mediation dogs because it could affect the welfare and safety of both the dogs and the beneficiaries (Rooney et al., 2016; Winkle et al., 2020).

There are common criteria for a “good” mediation dog such as obedience, absence of aggressiveness, and sociability (A.A.I.I., 2019; Lucidi et al., 2005; Mongillo et al., 2015; Pet Partners, 2016); however, since AAI are heterogeneous, it is important to think about the selection of mediation dogs in terms of the fit between a dog and a work setting (Wycoff, 2013). Currently, as there is no regulation of the practice or systematic selection or training required for mediation dogs (Cavalli et al., 2018), handlers are the only persons responsible for the selection of their dog(s). Knowing more about the context in which mediation dogs are selected as well as handlers’ representations of the behavioral profile for a “good”

mediation dog is crucial to better understand and frame this process.

The aim of this study was to gain a better understanding of the characteristics of French mediation dogs and the context in which they are selected to guide future research working on behavioral criteria for mediation dogs and help provide a basis for better selection of dogs in the field.

Method and Analysis

Participants and Recruitment

This study is included in doctoral research investigating the French practice of AAI. We have interrogated 111 French handlers in AAI who volunteered to answer an online questionnaire diffused on AAI-specialized social media accounts and sent by email from April 2018 to May 2019. Our inclusion criteria were to be active in AAI and to work with at least one dog. Handlers had the possibility of answering the questionnaire regardless of their professional background and affiliation with AAI associations. We focused mainly on canine-assisted interventions, and we have chosen to separate our data into different articles to specifically address each topic. This article, therefore, focuses only on the items concerning the characteristics and the selection of French mediation dogs.

Characteristics of Handlers’ Professional Background and Practices in AAI

Most handlers in our sample had specific training in AAI (83.78%; $N = 93$) and a minority had specific training in animal professions (37.84%; $N = 42$). Almost half of the interrogated handlers worked with only one species (47.75%; $N = 53$); so, in this case, with dogs. The characteristics about beneficiaries indicated that handlers worked with a mean of 1.92 pathologies, mostly elderly with dementia (28.81%; $N = 51$) and people with mental and/or motor disability (22.60%; $N = 40$).

Ethics

Before accessing the questionnaire, handlers were required to complete a consent form that included

an explanation of the study framework, objectives, and the research ethics features. Signing this consent form guaranteed the confidentiality of their responses, the possibility of interrupting the research, respect for their integrity, and their rights in accordance with the research ethics. The collection, processing, and storage of personal data complied with the rules laid down by the General Data Protection Regulation (Voigt & Von dem Bussche, 2017).

Data Collection

A five-section questionnaire was constructed based on a literature review (Berget et al., 2013; Boizeau et al., 2017; Budahn, 2013; Delfour & Servais, 2012; Delta Society, 1996; Firmin et al., 2016; IAHAIO, 2019; King et al., 2011) and an exploratory study consisting of informal interviews and extensive observation with five individuals practicing AAI. As mentioned before, for this article, we focused our attention on 19 items:

Closed Questions

- About the handlers and their current practice in AAI: training in AAI, training in the medico-social field, training in animal professions, years of experience, and species, pathologies, and health care facilities with whom they work
- About mediation dogs: sex, sterilization, age, starting age, adoption age, certifications, if the dog is particularly adapted to a population

Open Questions

- Can you briefly explain why you chose this species to work with in AAI?
- Why did you decide to have this dog work with you in AAI? Why did you choose this dog?
- Criteria of selection: characteristics for a good mediator, qualities of their dog, defaults

Analysis

We used a mixed method; therefore, some data was obtained through closed questions while other data was obtained through open questions. Descriptive analysis about quantitative data had been performed

calculating means for numerous variables and frequencies for categorical variables with the software GraphPad Prism 9™. On second thoughts, we questioned the influence of the handler's training in AAI on the characteristics of their mediation dog(s) (age, starting age, adoption age, breed, sex, sterilization, certification, type of certification, and specific population), and we used an unpaired *t*-test to compare the numeric variables and the chi-square or Fischer test to compare categories. As handlers had the possibility of answering for one or two mediation dogs, we presented descriptive data separately for dog 1 and dog 2. For a better reading, we presented only the table with all statistical analyses for dog 1. We also compared dog 1 and dog 2 characteristics when handlers mentioned two dogs.

The section on the context of selection of mediation dogs included two questions: one about the selection of the animal species and one about the selection of this particular dog. To analyze these open questions, we used an open coding strategy with a line-by-line analysis approach and developed clusters of meaning into themes (Firmin et al., 2016). We wrote a description of the significant themes that emerged from our data (Creswell & Poth, 2016). Since in this article we have focused on the selection of mediation dogs, we only presented data on the canine species and mixed the answers between the questions mentioned before.

Results

Characteristics of the Mediation Dogs

As mentioned in the method section, handlers had the possibility of answering for one or two mediation dogs. As a result, 57 handlers responded for only one dog and 54 for two dogs, so we have chosen to present these data separately as “dog 1” and “dog 2” (complete data are shown in Table 1).

Dog 1 Regarding the dog 1 group, there was no gender specificity, but 87.50% ($N = 21$) females were sterilized whereas 56.67% ($N = 17$) males were neutered. Their mean age was 5.1 years old (± 0.3214);

Table 1. Characteristics of dogs (57 handlers answered for only one dog and 54 handlers for two dogs). Breeds cited by handlers were diverse; we classified them using the groups of the Société Centrale canine (SCC). CSAU: certificate of sociability and suitability for use.

	Dog 1 (<i>N</i> = 111)		Dog 2 (<i>N</i> = 54)		Total (<i>N</i> = 165)	
	N	%	N	%	N	%
Gender:						
Males	55	49.55%	17	31.48%	72	56.36%
Females	56	40.45%	37	68.52%	93	63.63%
Breeds:	<i>N</i> = 108		<i>N</i> = 53		<i>N</i> = 161	
Sheepdogs and Cattle dogs	26	24.07%	13	24.53%	39	24.22%
Hounds	1	0.93%	0	0%	1	0.62%
Pointing dogs	2	1.85%	1	1.89%	3	1.86%
Companion and Toy dogs	14	12.96%	8	15.09%	22	13.66%
Retrievers—Flushing dogs—Water dogs	37	34.26%	16	30.19%	53	32.92%
Sighthounds	8	7.41%	4	7.55%	12	7.45%
Molossers	6	5.56%	2	3.77%	8	4.97%
Spitz and primitive types	6	5.56%	3	5.66%	9	5.59%
Dachshunds	3	2.78%	2	3.77%	5	3.11%
Terriers	5	4.63%	4	7.55%	9	5.59%
Certification	53	47.74%	21	39.62%	74	44.85%
Type of Certification:						
AAI association	20	37.74%	6	28.57%	26	35.14%
Service dog	5	9.43%	1	4.76%	6	8.11%
Guide dog	1	1.89%	1	4.76%	2	2.70%
Visiting dog	10	18.87%	4	19.05%	14	18.92%
CSAU	8	15.09%	1	4.76%	9	12.16%
Veterinarian or dog trainer	9	16.98%	8	38.10%	17	22.97%
Particularly adapted to a population	82	73.87%	40	74.07%	122	73.94%
	M	SEM	M	SEM	M	SEM
Age (years)	5.1	0.3214	4.67	0.4647	4.951	0.2641
Starting age (months)	25.65	2.437	20.79	3.739	24.02	2.050
Adoption age (months)	8.279	0.9568	10.20	2.586	8.909	1.061

they had been adopted at around 8.279 months (± 0.9568) and started AAI at around two years (± 2.437). The most represented breed group was retrievers (34.26%; $N = 37$), followed by sheepdogs (24.07%; $N = 26$), companion and toy dogs (12.96%; $N = 14$), and sighthounds (7.41%; $N = 8$). Almost half the dogs were certified (47.74%; $N = 26$). These certifications were mostly given by private AAI

associations (37.74%; $N = 20$) and as visiting dogs (18.87%; $N = 10$). Finally, 73.87% ($N = 82$) of them were considered particularly adapted to a specific population by their handlers.

Dog 2 The dogs in the dog 2 group were mostly represented by females (66.07%; $N = 37$) and were mostly sterilized (62.50%; $N = 35$). Their mean age

Table 2. Comparison of the similarities between the characteristics of dog 1 and dog 2 when handlers mentioned two dogs; $N = 54$ handlers.

	Same	Different
	N (%)	N (%)
Dog's gender	27 (50%)	27 (50%)
Breed group	28 (51.85%)	26 (48.15%)
Breed	22 (40.74%)	32 (59.26%)
Age	16 (29.63%)	38 (70.37%)
Starting age	23 (42.59%)	31 (57.41%)
Adoption age	31 (57.41%)	23 (42.59%)
Certification	48 (88.89%)	6 (11.11%)
Type of certification ($N = 21$)	19 (90.48%)	2 (9.52%)

was 4.7 years old (± 0.4647); they had been adopted at around 9.9 months (± 2.622) and started AAI at around 1.75 years (± 3.739). The most represented breed group was retrievers (30.19%; $N = 16$), followed by sheepdogs (24.53%; $N = 13$), companion and toy dogs (15.09%; $N = 8$), and equally sight-hounds and terriers (7.55%; $N = 4$). Of these dogs, 39.62% were to be certified, mostly by a veterinarian or a dog trainer (38.10%; $N = 8$) and by private AAI associations (28.57%; $N = 6$). Finally, 74.07% ($N = 40$) were considered particularly adapted to a specific population by their handlers.

When handlers had two dogs, the characteristics of the two dogs tended to be similar for their sterilization ($N = 38$; 70.37%) and the fact that they were certified ($N = 48$; 88.89%). When both dogs were certified, the certification came mostly from the same institution ($N = 19$; 90.48%) (Table 2).

Influence of Handlers' Professional Backgrounds on Dogs' Characteristics

Dog 1

Handlers' Training in AAI. There was a significant influence of handlers' training in AAI on the certification of mediation dogs with a predominance of noncertified dogs when handlers were not

trained in AAI (77.78%; $N = 14$) ($X^2 = 5.611$, 1; $p = 0.0179$) (Table 3).

Handlers' Years of Experience in AAI.

There was an influence of the number of years of experience in AAI on the dogs' age. When handlers were experienced (> 5 years), dogs were two years older (Mann-Whitney $U = 860$; $p = 0.0259$).

Dog 2

Handlers' Training in AAI. There was a significant influence of handlers' training in AAI on dogs' breeds based on the training in AAI ($X^2 = 15.86$, 8; $p = 0.0444$). The breeds most represented in the trained group were sheepdogs and cattle dogs (34.09%; $N = 15$) and rapporteurs \rightarrow retrievers (27.27%; $N = 12$), whereas the breeds most represented in the untrained group were equally pet dogs and terriers (33.33%; $N = 3$).

Handlers' Representations of the Favorable and Prohibitive Criteria for Mediation Dogs

Favorable Criteria Since these were open questions, we categorized the answers and grouped them in 9 categories. In total, we had 328 expected qualities cited by handlers for a good mediation dog and

Table 3. Descriptive and statistical analysis for questions about the influence of handlers’ backgrounds (training in AAI, medico-social field, or animal professions; years of experience in AAI) on the characteristics of the mediation dogs. This table concerns the first dog mentioned in our study. An asterisk marks significant differences between our groups. Breeds cited by handlers were diverse; we classified them using the groups of the Société Centrale canine (SCC). CSAU = certificate of sociability and suitability for use.

Training in AAI	Trained (N = 93; 83.78%)	Not trained (N = 18; 16.22%)	X ² (df)	z	p
	N (%)	N (%)			
Dog’s gender (females)	46 (29.46%)	10 (55.56%)	0.2240(1)	0.6360	0.4733
Dog’s sterilization	61 (65.59%)	14 (77.78%)	1.022(1)	1.011	0.3120
Breeds			13.58 (9)	0.1341	
Sheepdogs and Cattle dogs	22 (24.18%)	4 (23.53%)			
Hounds	1 (1.10%)	0			
Pointing dogs	1 (1.10%)	1 (5.88%)			
Companion and Toy dogs	11 (12.09%)	3 (17.65%)			
Retrievers–Flushing dogs–Water dogs	33 (26.26%)	4 (23.53%)			
Sighthounds	6 (6.59%)	2 (11.76%)			
Molossers	6(6.59%)	0			
Spitz and primitive types	6(6.59%)	0			
Dachshunds	3 (3.30%)	0			
Terriers	2 (2.20%)	3 (17.65%)			
Dog’s certification*	49 (52.69%)	4 (22.22%)	5.611(1)	2.369	0.0179
Type of certification			4.371(5)		0.4974
AAI association	20 (40.82%)	0			
Service dog	4 (8.16%)	1 (25%)			
Guide dog	1 (2.04%)	0			
Visiting dog	8 (16.33%)	2 (50%)			
CSAU	7 (14.29%)	1 (25%)			
Veterinarian or dog trainer	9 (18.37%)	0			
Adapted to a specific population	67 (72.04%)	15 (83.33%)	0.9960(1)	0.9980	0.3183
	M (SEM)	M (SEM)	Min-Max	U	p
Dog’s age (years)	5.081 (0.3389)	5.194 (0.9524)	1-16	802.5	0.7846
Starting age (months)	24.72 (2.633)	30.59 (6.469)	2-120	653	0.324
Adoption age	8.344 (1.055)	7.944 (2.319)	1-36	830.5	0.9592
Training in Animal Professions	Trained (N = 42; 37.84%)	Not trained (N = 69; 62.16%)	X ² (df)	Z	p
	N (%)	N (%)			
Dog’s gender (females)	21 (50%)	35 (50.72%)	0.005484 (1)	0.07406	0.9410
Dog’s sterilization	30 (71.43%)	45 (65.22%)	0.4596 (1)	0.6780	0.4978

(continued)

Table 3. (Continued)

Training in Animal Professions	Trained (<i>N</i> = 42; 37.84%)	Not trained (<i>N</i> = 69; 62.16%)	<i>X</i> ² (df)	<i>Z</i>	<i>p</i>
	<i>N</i> (%)	<i>N</i> (%)			
Breeds			7.790 (9)		0.5554
Sheepdogs and Cattle dogs	10 (24.39%)	16 (23.88%)			
Hounds	0	1 (1.49%)			
Pointing dogs	2 (4.88%)	0			
Companion and Toy dogs	5 (12.20%)	9 (13.43%)			
Retrievers—Flushing dogs—Water dogs	13 (31.71%)	24 (35.82%)			
Sighthounds	4 (9.76%)	4 (5.97%)			
Molossers	1 (2.44%)	5 (7.46%)			
Spitz and primitive types	3 (7.32%)	3 (4.48%)			
Dachshunds	2 (4.88%)	1 (1.49%)			
Terriers	1 (2.44%)	4 (5.97%)			
Dog's certification	24 (57.14%)	29 (57.97%)	2.390(1)	1.546	0.1221
Type of certification*			12.85 (5)		0.0248
AAI association	5 (20.83%)	15 (51.72%)			
Service dog	2 (8.33%)	3 (10.34%)			
Guide dog	0	1 (3.45%)			
Visiting dog	9 (37.50%)	1 (3.45%)			
CSAU	3 (12.50%)	5 (17.24%)			
Veterinarian or dog trainer	5 (20.83%)	4 (13.79%)			
Adapted to a specific population	33 (78.57%)	49 (71.01%)	0.7725 (1)	0.8789	0.3794
	<i>M</i> (SEM)	<i>M</i> (SEM)	Min-Max	<i>U</i>	<i>p</i>
Dog's age (years)*	6.107 (0.5212)	4.486 (0.3928)	1–16	1017	0.0079
Starting age (months)*	33.65 (4.701)	21.20 (2.537)	2–120	965.5	0.0151
Adoption age	8.952 (1.690)	7.870 (1.152)	1–36	1419	0.8492
Training in MS	Trained (<i>N</i> = 79; 71.17%)	Not trained (<i>N</i> = 32; 28.83%)	<i>X</i> ² (df)	<i>z</i>	<i>p</i>
	<i>N</i> (%)	<i>N</i> (%)			
Dog's gender (females)	42 (53.16%)	14 (43.75%)	0.01773(1)	0.1331	0.8941
Dog's sterilization	55 (69.62%)	20 (62.5%)	0.4252(1)	0.650	0.5144
Breeds			10.78 (9)		0.2909
Sheepdogs and Cattle dogs	21 (26.92%)	5 (16.67%)			
Hounds	1 (1.28%)	0			
Pointing dogs	2 (2.56%)	0			
Companion and Toy dogs	9 (11.54%)	5 (16.67%)			
Retrievers—Flushing dogs—Water dogs	30 (38.46%)	7 (23.33%)			

(continued)

Table 3. (continued)

Training in MS	Trained (N = 79; 71.17%)	Not trained (N = 32; 28.83%)	X ² (df)	z	p
	N (%)	N (%)			
Breeds					
Sighthounds	3 (3.85%)	5 (16.67%)			
Molossers	4 (5.13%)	2 (6.67%)			
Spitz and primitive types	3 (3.85%)	3 (10.00%)			
Dachshunds	2 (2.56%)	1 (3.33%)			
Terriers	3 (3.85%)	2 (6.67%)			
Dog's certification*	44 (55.70%)	9 (19.98%)	6.939(1)	2.634	0.0084
Type of certification			4.371 (5)		0.4974
AAI association	16 (36.36%)	4 (44.44%)			
Service dog	5 (11.36%)	0			
Guide dog	1 (2.27%)	0			
Visiting dog	7 (15.91%)	3 (33.33%)			
CSAU	8 (18.18%)	0			
Veterinarian or dog trainer	7 (15.91%)	2 (22.22%)			
Adapted to a specific population	56 (70.89%)	26 (81.25%)	1.267 (1)	1.126	0.2602
	M (SEM)	M (SEM)	Min-Max	U	p
Dog's age (years)	4.690 (0.3548)	6.109 (0.6651)	1–16	979	0.0620
Starting age (months)*	20.61 (2.229)	38 (5.904)	2–120	769.5	0.0045
Adoption age	8.354 (1.130)	8.094 (1.826)	1–36	1263	0.9962
	> 5 years (N = 29; 26.13%)	< 5 years (N = 82; 73.87%)	X ² (df)	z	p
	N (%)	N (%)			
Years of Experience in AAI					
Dog's gender (females)	15 (51.72%)	41 (50%)	0.02548(1)	0.1596	0.8732
Dog's sterilization	54 (65.85%)	21 (72.41%)	0.4207 (1)	0.6486	0.5166
Breeds					
Sheepdogs and Cattle dogs	6 (21.43%)	20 (25%)	16.54 (9)		0.565
Hounds	0	1 (1.25%)			
Pointing dogs	1 (3.57%)	1 (1.25%)			
Companion and Toy dogs	5 (17.86%)	9 (11.25%)			
Retrievers—Flushing dogs—Water dogs	6 (21.43%)	31 (38.75%)			
Sighthounds	3 (10.71%)	5 (6.25%)			
Molossers	1 (3.57%)	5 (6.25%)			
Spitz and primitive types	3 (10.71%)	3 (3.75%)			
Dachshunds	3(10.71%)	0			
Terriers	0	5 (6.25%)			

(continued)

Table 3. (continued)

Years of Experience in AAI	> 5 years (<i>N</i> = 29; 26.13%)	< 5 years (<i>N</i> = 82; 73.87%)	χ^2 (df)	<i>z</i>	<i>p</i>
	<i>N</i> (%)	<i>N</i> (%)			
Dog's certification	15 (51.72%)	38 (46.34%)	0.2488(1)	0.4988	0.6179
Type of certification			3.199 (5)		0.06693
AAI association	5 (33.33%)	15 (39.47%)			
Service dog	1 (6.67%)	4 (10.53%)			
Guide dog	0	1 (2.63%)			
Visiting dog	5 (33.33%)	5 (13.16%)			
CSAU	2 (13.33%)	6 (15.79%)			
Veterinarian or dog trainer	2 (13.33%)	7 (18.42%)			
Adapted to a specific population	22 (26.83%)	60 (73.17%)	0.08040 (1)	0.2835	0.7768
	M (SEM)	M (SEM)	Min-Max	<i>U</i>	<i>p</i>
Dog's age* (years)	6.138 (0.6073)	4.732 (0.3719)	1–16	860	0.0259
Starting age (months)	19.65 (2.685)	25.58 (2.525)	2–132	2376	0.5390
Adoption age	7.552 (1.626)	8.537 (1.165)	1–36	1086	0.4764

QUALITIES EXPECTED IN MEDIATION DOGS

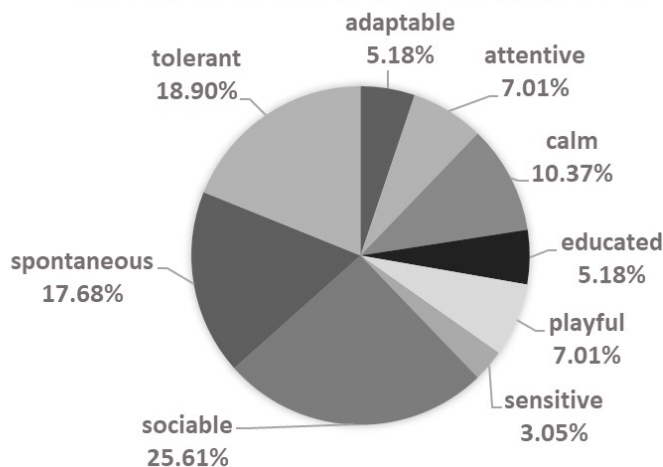


Figure 1. Handlers' representations of the favorable criteria that they expect for mediation dogs (*N* = 328).

322 qualities observed in their mediation dogs (Figures 1 and 2). The most cited *expected* favorable criterion for mediation dogs was the sociable dog (28.44%; *N* = 93), followed by the tolerant dog (18.96%; *N* = 62) and the spontaneous dog (17.74%; *N* = 58). The other favorable criteria expected concerned the calm

dog (10.40%; *N* = 34), the playful and attentive dog (7.03%; *N* = 23), and the adaptable and trained dog (5.20%; *N* = 17).

Regarding the favorable criteria *observed* in their dogs, we analyzed 325 answers. The sociable dog was also the most cited favorable criterion (29.54%;

QUALITIES OBSERVED IN MEDIATION DOGS

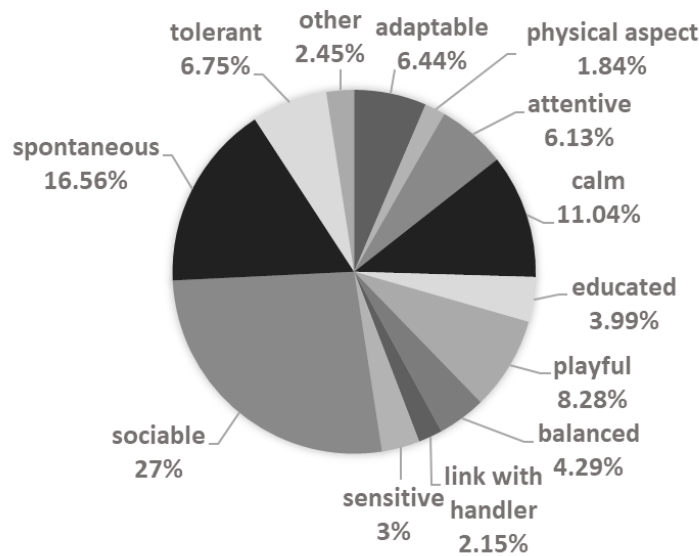


Figure 2. Handlers' representations of the favorable criteria for mediation dogs that they observed in their own dogs ($N = 325$).

PROHIBITIVE CRITERIA FOR MEDIATION DOGS

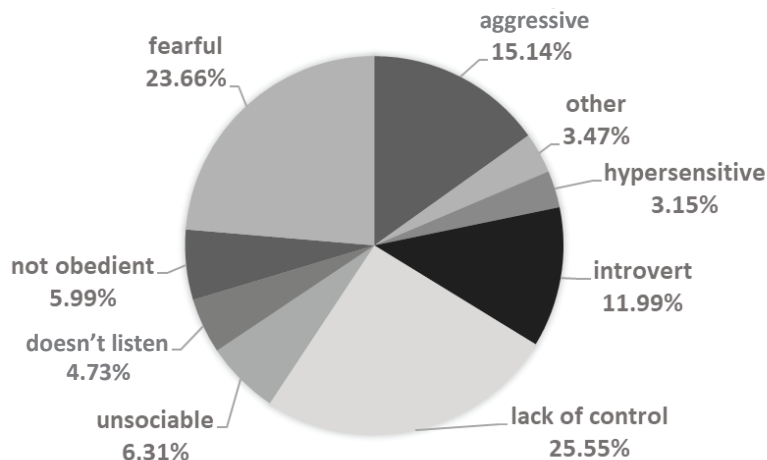


Figure 3. Handlers' representations of the prohibitive criteria for the selection of mediation dogs ($N = 317$).

$N = 96$), followed by the spontaneous dog (16.62%; $N = 54$) and the calm dog (11.08%; $N = 36$). The other favorable criteria concerned the attentive dog (8.62%; $N = 28$), the playful dog (8.31%; $N = 27$), the tolerant dog (6.77%; $N = 22$), and the adaptable dog (6.46%; $N = 21$). Finally, the balanced and the educated dog were cited by less than 5%.

Prohibitive Criteria We asked handlers about the prohibitive criteria for being a mediation dog. In total, 317 prohibitive criteria were cited (Figure 3). The most cited prohibitive criterion was lack of control (25.55%; $N = 81$), followed by the fearful dog (23.66%; $N = 75$). In a minor percentage, handlers evoked the unsociable dog (18.30; $N = 58$) and the

aggressive dog (15.14%; $N = 48$). The other defaults concerned the disobedient dog (6.31%; $N = 20$), the dog that doesn't listen (4.73%; $N = 15$), and the hypersensitive dog (3.15%; $N = 10$). The "other" category included criteria linked to the dog's physical aspect (tall, hair texture), the dirty dog, the dog that is sick in the car, or the greedy dog.

Context of Selection

Four major themes emerged from handlers' answers: the influence of their personal affinity for dogs, the suitability of the dog for the job, and the dog's morphological and temperamental characteristics.

Personal Affinity for the Canine Species Handlers regularly cited the influence of their personal affinity on the selection of their mediation dogs. They mentioned the fact of being comfortable with the canine species and being able to create a relationship of complicity with them. This was mainly linked to sharing life and positive experiences with the canine species, which gave them the impression that they knew this species well enough to work with. Therefore, they mentioned their willingness to consolidate their relationship and the mutual understanding with their dog(s) by sharing these moments of work with them. In contrast, some handlers specified the need to complement this personal knowledge with specific training on canine behavior.

Suitability for Work The suitability of the canine species and of each dog for AAI was a criterion regularly mentioned by the handlers. Regarding the canine species, they mentioned the simplicity of integrating dogs into AAI. Some cited the dog's dependence on humans, which implies an ease in taking him to different human environments but also in teaching him tricks that can be useful for AAI. In addition, handlers evoked the choice of the canine species because most of the population has been in contact with a dog, which allows the emergence of memories and emotions. Regarding the suitability of the dog for particular work, some handlers have chosen their dog as part of the AAI project. This decision

was based on perceived demand in the field, outside advice, or on their own expectations of a "good" mediation dog. On the other side, some handlers mentioned a good relationship with their dog and the observation of qualities that can correspond to AAI; so, their dog goes from sharing life to sharing work. Finally, handlers referred to the possibility of better answering the needs of certain settings by working with dogs with different morphologies (size, hair, etc.) or different temperaments (cuddly vs. dynamic).

Morphological Characteristics The physical aspect of the mediation dog was regularly cited in reference to the first impression that the dog gives: "a cuddly side," "a dog that looks nice." Some handlers evoked the desire for a certain originality in the breed of their dog (hunting, primitive) or a breed that fits the positive image of service dogs (golden retriever and Labrador retriever), or even breeds that are known for their work aptitudes (sheepdogs). The dog's size was an important criterion for handlers since it will not mobilize the same behaviors. For instance, handlers reported that a small dog can be put on knees or beds, whereas a large dog is at hand level for people in wheelchairs. Dog hair also seemed to be noticeable for handlers by its texture and color, which do not provoke the same tactile sensations and visual perceptions in beneficiaries. It is also necessary to note that a few handlers had chosen a breed because it corresponds to their daily life.

Temperamental Characteristics The dog's temperament was regularly cited as an important factor in the selection process. Sociability, such as being friendly with humans and enjoying contact with them, was the most cited temperament trait by handlers. The other criteria differed from one handler to another. Some handlers were looking for a sensitive dog, others for a dog that could adapt to different environments, still others for a dog that would exhibit tolerance and the ability to remain calm even in stressful situations, and some for a more dynamic and playful dog. Also, some handlers used the term "worker" about their dog, referring to a motivated dog who likes to learn new things. How the dog

manages his stress was also an essential characteristic for handlers: they mentioned a dog who can remain calm, who will not be impressed by aggressive behaviors, who will show confidence. Some handlers worked with dogs that were trained to be service dogs, therefore bred and trained to be close to humans and adaptable. Finally, some handlers worked with shelter dogs who therefore do not have a “basis” for being a mediation dog, but whose history makes it possible to reach the beneficiaries.

Discussion

The aim of this study was to gain a better understanding of the characteristics of the French mediation dogs and the context in which they are selected to provide a basis for future research and regulation. Our results underlined that (1) the French mediation dogs represented a heterogeneous category, (2) which is linked to the variability of the professional backgrounds of handlers as well as of the AAI settings, but also the personal affinity of each handler, and (3) the selection criteria of mediation dogs may vary from one handler to another but converge toward a sociable and nondangerous dog to guarantee the quality and safety of AAI for both beneficiaries and dogs.

Characteristics of Mediation Dogs

Regarding the characteristics of mediation dogs, our results highlighted that French mediation dogs do not represent a homogeneous category considering their age, their starting age in AAI, their breed, their gender, whether they are certified, and how they are certified.

Certification In our cohort, despite the absence of regulation of AAI in France, 44.85% of the mediation dogs were certified, underlining a form of autonomous regulation by French handlers (also emphasized in Boizeau et al., 2017; Mignot, 2021). It can indicate a willingness of handlers to “officially” validate the selection of their dog to guarantee the safety of sessions or to reinforce the professional

aspect of their practice. Also, our data highlighted that those handlers trained in AAI are more likely to certify their mediation dogs, which may be linked to the directive in their trainings. The fact that half the dogs were not certified can raise concerns because not all handlers may have the necessary knowledge to properly select their mediation dog. Indeed, only few interrogated handlers had specific training in canine behavior. Another question put forward in our study was that these certifications came from a variety of sources involving different disciplines and environments (i.e., a veterinarian’s office is different from an observation in a nursing home), as well as different selection criteria for the mediation dogs (Boizeau et al., 2017; Mignot, 2021). Furthermore, the AAI training of veterinarians and dog trainers is not automatic in France, which can lead to misunderstandings about the expectations for these dogs. In addition, the appropriateness of introducing dogs into AAI that are initially certified as assistance dogs should be evaluated because there are differences in their training and in the expectations placed on them (i.e., Winkle et al., 2020).

Dog’s Age In our study, there was a strong dispersion regarding the age and the AAI starting age of the mediation dogs. The influence of handlers’ years of experience on the dog’s age may be related to a gradual introduction of their dogs into their practice. It is important to note that a lot of mediation dogs started to work before their first year, whereas the age of social maturity in dogs is around two years (McGreevy et al., 2012) and their emotional maturity is around three years (McConnell & Fine, 2010). At the opposite end, some mediation dogs in our sample were over 10 years old. There is no mandatory retirement age but working schedules should be adapted as the age of the dog changes (Chartier, 2014) and in association with cognitive and physical impairments (Barker et al., 2019; Serpell et al., 2010). As working too young or being too old can influence the dogs’ well-being in AAI, more studies are needed on this topic.

Dog’s Breed As in another French study (Boizeau et al., 2017), there was a wide scope of dog breeds in

our sample, although breeds were mostly represented by retriever dogs and sheepdogs, which is consistent with the results of other studies (Crowley-Robinson et al., 1996; Marx et al., 2010). More specifically, Labradors and golden retrievers were mostly represented, which can be linked to their morphology and temperament adapted to work with humans (Burghardt, 2003; Uetake et al., 2007), resulting in their common selection as assistance dogs (McConnell & Fine, 2010). Moreover, a recent study by Addonizio (2020) underlined that beneficiaries rate “good reputation dog breeds” significantly higher on perceived therapeutic qualities compared to dogs with bad or neutral reputations. The influence of dog’s breed on therapeutic settings needs further investigation because breeds vary in their morphology and temperament, which could impact the activities that they can readily perform (Fredrickson-MacNamara & Butler, 2006; Hart, 2006; Lucidi et al., 2005; Thompson, 2009). However, beyond breed, each individual animal has its own characteristics, so it is important to consider that a preselection based on breed will only be a probability (Chartier, 2014; Fadel et al., 2016; McConnell & Fine, 2010).

Why Are Mediation Dogs So Different?

The interrogation of the context of selection of mediation dogs helped to underline three factors influencing the selection of mediation dogs and therefore their diversity: the suitability of the mediation dog for work, the representations of handlers on the dog’s temperament, and the personal affinity of handlers.

Suitability for Work and Temperamental Characteristics Regarding the canine species, interrogated handlers evoked their capacity to adapt to different environments and the variety of morphology and temperament within the same species. In addition, most humans have lived with or been around a dog.

Regarding the dog as an individual, most handlers mentioned the importance of the suitability of their dogs for the expected work. Suitability is the fourth criterion for the certification by Pet Partners

and can be defined as “the selection of the right animal for the right job” (Fredrickson-MacNamara & Butler, 2006). As handlers do not have the same background, they would not have the same practice in AAI (Kruger et al., 2004) and would not expect the same morphological and temperamental characteristics in their mediation dogs, which explains the heterogeneity of their characteristics. Consequently, as mentioned by MacNamara et al. (2015), “animals employed in mental health applications should be selected on the basis of how well their skills and capabilities fit what they are expected to do with, and for, the clients with whom they will interact.” Indeed, in our study, there was variability in handlers’ representations about the favorable and prohibitive criteria for mediation dogs, and we found some opposite criteria among handlers such as calm/playful or educated/spontaneous.

Handlers’ Affinity As in the study by de Villers (2016), the handlers’ affinity to a species and some breeds seemed to be the decisive criterion in the selection of their animal work partner. In our study, handlers mentioned that positive experiences and life sharing with dogs have created an affinity for the canine species, giving them confidence about their knowledge of dogs. Therefore, the place of affinity in the selection of the mediation dogs moves away from the selection model of assistance dogs that are first selected for working aptitudes. Handlers will choose a dog for work, but the dog must also be suitable for their lives (Thompson, 2009); this does not impinge on the fact that it is a rigorous choice (de Villers, 2016). Consequently, there is a need to ensure compatibility between the personal needs of both dog and handler and the working environment (Winkle et al., 2020), which is why some certification organizations, such as Pet Partners, only certify human–dog teamwork after six months of living together (Pet Partners, 2016).

Handlers’ Representations of Favorable and Prohibitive Criteria for Mediation Dogs As we mentioned before, the suitability for work, handlers’ expectations of temperamental traits, and

their affinity leads to a heterogeneity of dogs. However, the temperamental characteristics mentioned by handlers converged toward a sociable and non-dangerous dog, which is linked to the welfare of both mediation dogs and beneficiaries during AAI.

The sociable dog was the most common favorable criterion expected and observed by handlers. Sociability, defined as “the tendency to approach and interact with people” (Svartberg, 2005), has already been highlighted as an important criterion for mediation dogs both in the literature (Lucidi et al., 2005; Mongillo et al., 2015; Winkle et al., 2020) and in organizations (A.A.I.I., 2019; Pet Partners, 2020). The handlers mentioned the importance of a mediation dog liking humans and being comfortable interacting with them, which corresponds to the main expectations for mediation dogs (Fredrickson-MacNamara & Butler, 2006; Rigot, 2019). In this sense, McConnell and Fine (2010) refer to the “affiliate” criterion, which they define as “a dog that gives the impression of loving humans.” This trait can be related to “spontaneity,” such as a dog that takes the initiative to interact with beneficiaries, which was an important criterion for handlers.

On the other hand, the prohibitive criteria most cited by handlers were lack of control, being fearful, and being unsociable, which can represent a danger for the sessions but also for the dog’s well-being. The notion of self-control is also present in the Pet Partners (2020) guide with the “controllability” criterion, which expresses the fact that the dog’s behavior can be interrupted, guided, or managed by the handler. It is then necessary to look at the dog’s coping style, which is the behavioral and physiological way in which an animal will respond to a stressful situation (Koolhaas et al., 1999). As a result, in the favorable criteria for mediation dogs, handlers cited the calm/balanced dog, which are related to expectations that the dog can control its emotions, even in stressful situations. This is also in line with the study by Cavalli et al. (2018), who pointed out that AAA dogs would be less impulsive than pet dogs. Therefore, handlers evoked the quality of “tolerance,” which has several meanings such as being indulgent toward faults but also bearing with patience or enduring inappropriate

behaviors/uncomfortable situations. However, in our study, tolerance was an important criterion in expectations of the mediation dog, whereas it was less often observed in their own dogs. This may be related to a desire on the part of handlers to be able to leave a margin of control to their mediation dogs in session, rather than forcing them to remain in an uncomfortable situation. Finally, it is important to notice that aggressiveness was in third place in handlers’ answers, but it was the first criterion that clearly differentiates whether dogs adapted or not in preceding studies (Lucidi et al., 2005; Mongillo et al., 2015).

Limits

The representativeness of our sample could be questioned because the handlers who chose to answer our questionnaire were concerned by their practice in AAI and the selection of their mediation dog. It is possible to have stronger disparities between trained and untrained handlers and certified and uncertified mediation dogs in the set of French AAI handlers. Given the diversity of certification centers, it is necessary to study their similarities and differences in their expectations about mediation dogs and their assessment tools. In addition, it would be interesting to question whether the recommendations for the French selection of mediation dogs could be exported to other countries.

Conclusion

The interviews of handlers underlined that the selection of mediation dogs must be based on the certification of a pairing that is functional both in daily life and at work. Indeed, mediation dogs in France represent a heterogeneous category, which can be related to the diversity of settings encountered in AAI but also to the affinity of each handler. Therefore, as underlined in our study, the criteria expected in a “good” mediation dog may vary between handlers but there is a convergence on the sociability and self-control of the dog. Indeed, these two criteria seem essential to

guarantee the well-being of the dog and the beneficiaries. The heterogeneity of characteristics of mediation dogs, such as AAI practices and handlers' personalities, spotlight that each dog must be considered as an individual who fits (or not) in some setting(s). This is in line with the proposition of a certification combining behavioral assessment and situational training that has been mentioned in the literature (Lucidi et al., 2005; Mongillo et al., 2015), whereas most evaluation procedures are not carried out in the setting or with the beneficiaries with which the team will interact (Fredrickson-MacNamara & Butler, 2006). In this vein, the Wycoff (2013) certification model is pertinent since it starts from the dog's skills and then assesses the work to which they can be adapted. Finally, in our research, it was found that half of the responders interviewed voluntarily certified their dogs, since this is not mandatory, but in different certification settings. Consequently, it is important to state the professions (veterinarians, dog trainers/behaviorists, ethologists, and trained handlers) that can be involved in the selection of mediation dogs and train them on the expectations placed on these dogs.

Summary for Practitioners

Dogs are the most represented animal species because of their capacities to interact with humans, the mutual positive physiological and psychological effects of human–dog interactions, and the reciprocity in the human–dog bond. However, the selection of the *right* dog is crucial for therapeutic success because not all dogs are cut out for AAI even if they are good companion dogs. The certification of mediation dogs determines the ability of a dog to work in AAI, but it is not officially regulated and handlers are the only persons responsible for the selection of their dog(s). Therefore, there are common criteria for a “good” mediation dog such as obedience, absence of aggressiveness, and sociability; but, facing the variety of AAI settings, we must think about the selection of mediation dogs in terms of a good fit between a dog and a work setting. The aim of our study was to gain a better understanding of the characteristics

of French mediation dogs and the context in which they are selected to guide future research working on behavioral criteria for mediation dogs and help provide a basis for better selection of dogs in the field.

Our results underlined that (1) French mediation dogs represented a heterogeneous category, (2) which is linked to the variability of the professional backgrounds of handlers as well as of the AAI settings, but also the personal affinity of each handler, and that (3) the selection criteria of mediation dogs may vary from one handler to another but converge toward a sociable and nondangerous dog to guarantee the quality and safety of AAI for both beneficiaries and dogs.

1. Regarding the characteristics of mediation dogs, our results highlighted that French mediation dogs do not represent a homogeneous category considering their age, their starting age in AAI, their breed, their gender, whether they are certified, and how they are certified. In our cohort, despite the absence of regulation of AAI in France, 44.85% of the mediation dogs were certified, and those handlers trained in AAI are more likely to certify their mediation dogs. This underlines a form of autonomous regulation by French handlers but also the willingness to “officially” validate the selection of their dogs. However, two points raise some concerns: the fact that half the dogs were not certified and that these certifications came from various sources involving different disciplines and environments, and were not necessarily trained/adapted to meet the expectations of a mediation dog. The age of the dogs in our study was scattered, which leads us to recall that the introduction of a dog less than one year old must be very progressive and positive. Also, working schedules should be adapted to the age of the dog and to any cognitive and physical impairments of the aging dog. Regarding the dogs' breeds, they were various, although mostly Labradors and golden retrievers were represented. As only one research study had focused on the impact of the breed on perceived therapeutic qualities, the influence of a

dog's breed on therapeutic settings needs further investigation. However, beyond the breed, each individual animal has his own characteristics, so handlers must choose an individual more than a breed.

2. The interrogation of the context of selection of mediation dogs helped to underline three factors influencing the selection of mediation dogs and therefore their diversity: the suitability of the mediation dog for work, the representations of handlers on the dog's temperament, and the personal affinity of handlers. Suitability, "the selection of the right animal for the right job," is important because of the diversity of settings. Consequently, it is important to think about the expectations of the work and whether the dog fits in this environment. In addition, handlers will choose a dog for work, but the dog must also be suitable for their lives. The place of handler's affinity is crucial in the selection of a dog, and it does not impinge on the fact that it is a rigorous choice.
3. The temperamental characteristics mentioned by handlers converged toward a sociable and nondangerous dog, which is linked to the welfare of both mediation dogs and beneficiaries during AAI. Sociability, meaning the dog's tendency to approach and interact with people, is a primary criterion for handlers, in the literature, and for organizations. On the other side, the prohibitive criteria most cited by handlers were lack of control, the fearful dog, and the unsociable dog, which can represent a danger for the sessions but also for the dog's well-being. Here again, these are general criteria; for the other criteria (i.e., calm vs. playful), the practitioner must make a selection according to the setting in which the dog will work as well as personal affinities for an individual animal.

Notes

1. As AAT and AAA are not differentiated in France, we use only AAI in this article (see Mignot, 2021).

2. It is common to see the term "therapy dogs" but we prefer the term "mediation dogs" since dogs are not the therapists in these practices, not all practices are "therapeutic," and it corresponds to the term "animal mediation" in French.

References

- A.A.I.I., M. (2019). *Animal assisted intervention international standards of practice*. Animal-Assisted Intervention International.
- Addonizio, A. M. (2020). *Perception of dog breeds in a therapeutic setting* [PhD thesis]. Western Carolina University.
- Barker, S., Vokes, R., & Barker, R. (2019). Animal-assisted interventions in health care settings: A best practices manual for establishing new programs: Volunteer manual template. *AAI*. <https://docs.lib.purdue.edu/aai/1>
- Beetz, A. (2017). Theories and possible processes of action in animal assisted interventions. *Applied Developmental Science, 21*(2), 139–149. <https://doi.org/10.1080/10888691.2016.1262263>
- Berget, B., Aasland, O. G., Grepperud, S., & Braastad, B. O. (2013). Animal-assisted interventions and psychiatric disorders: Knowledge and attitudes among general practitioners, psychiatrists, and psychologists. *Society & Animals, 21*(3), 284–293. <https://doi.org/10.1163/15685306-12341244>
- Boizeau, F., Courcoul, A., Hamon, M., Ladreyt, H., & Lefebvre, S. (2017). *La médiation animale—Problématiques réglementaires et enjeux professionnels* (p. 176). Institut d'Etudes Politiques de Lyon VetAgro Sup—Ecole Nationale des Services Vétérinaires.
- Budahn, N. M. (2013). Effectiveness of animal-assisted therapy: Therapists' perspectives [Master's thesis], 42.
- Burghardt, W. F. (2003). Behavioral considerations in the management of working dogs. *Veterinary Clinics of North America: Small Animal Practice, 33*(2), 417–446. [https://doi.org/10.1016/S0195-5616\(02\)00133-X](https://doi.org/10.1016/S0195-5616(02)00133-X)
- Cavalli, C. M., Carballo, F., Dzik, M. V., Underwood, S., & Bentosela, M. (2018). Are animal-assisted activity dogs different from pet dogs? A comparison of their sociocognitive abilities. *Journal of Veterinary Behavior, 23*, 76–81. <https://doi.org/10.1016/j.jveb.2017.12.001>
- Chartier, A. (2014). *Chien médiateur ou de thérapie. Le choisir et l'accompagner tout au long de sa vie*. Edilivre.
- Cirulli, F., Borgi, M., Berry, A., Francia, N., & Alleva, E. (2011). Animal-assisted interventions as innovative tools

- for mental health. *Annali Dell'Istituto Superiore Di Sanità*, 4. https://doi.org/10.4415/ANN_11_04_04
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.
- Crowley-Robinson, P., Fenwick, D. C., & Blackshaw, J. K. (1996). A long-term study of elderly people in nursing homes with visiting and resident dogs. *Applied Animal Behaviour Science*, 47(1–2), 137–148.
- Delfour, F., & Servais, V. (2012). L'animal dans le soin: Entre théories et pratiques. *ANAE: Approche Neuropsychologique des Apprentissages chez l'Enfant*, 24(117), 199–205.
- Delta Society. (1996). *Standards of practice for animal assisted activities and animal assisted therapy*. Delta Society Renton.
- de Villers, B. (2016). Choisir un chien: Sélection d'un chien pour des activités de médiation animale. In *La science (humaine) des chiens* (pp. 219–248). Le Bord de l'eau.
- Fadel, F. R., Driscoll, P., Pilot, M., Wright, H., Zulch, H., & Mills, D. (2016). Differences in trait impulsivity indicate diversification of dog breeds into working and show lines. *Scientific Reports*, 6(1), 1–10.
- Firmin, M. W., Brink, J. E., Firmin, R. L., Grigsby, M. E., & Trudel, J. F. (2016). Qualitative perspectives of an animal-assisted therapy program. *Alternative and Complementary Therapies*, 22(5), 204–213. <https://doi.org/10.1089/act.2016.29073.mwf>
- Flynn, E., Combs, K. M., Gandenberger, J., Tedeschi, P., & Morris, K. N. (2020). Measuring the psychological impacts of prison-based dog training programs and in-prison outcomes for inmates. *Prison Journal*, 100(2), 224–239.
- Fredrickson-MacNamara, M., & Butler, K. (2006). The art of animal selection for animal-assisted activity and therapy programs. In *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (pp. 121–147). Elsevier.
- Glenk, L. M. (2017). Current perspectives on therapy dog welfare in animal-assisted interventions. *Animals*, 7(12), 7. <https://doi.org/10.3390/ani7020007>
- Hart, L. A. (2006). Methods, standards, guidelines, and considerations in selecting animals for animal-assisted therapy. In *Handbook on animal-assisted therapy* (pp. 81–97). Elsevier. <https://doi.org/10.1016/B978-012369484-3/50007-4>
- Holman, L. F., Wilkerson, S., Ellmo, F., & Skirius, M. (2020). Impact of animal assisted therapy on anxiety levels among mentally ill female inmates. *Journal of Creativity in Mental Health*, 1–15.
- IAHAIO. (2019). The IAHAIO definitions for animal assisted intervention and guidelines for wellness of animals involved in AAI. In *Handbook on animal-assisted therapy* (pp. 499–504). Elsevier. <https://doi.org/10.1016/B978-0-12-815395-6.15001-1>
- King, C., Watters, J., & Mungre, S. (2011). Effect of a time-out session with working animal-assisted therapy dogs. *Journal of Veterinary Behavior*, 6(4), 232–238. <https://doi.org/10.1016/j.jveb.2011.01.007>
- Koolhaas, J. M., Korte, S. M., De Boer, S. F., Van Der Vegt, B. J., Van Reenen, C. G., Hopster, H., De Jong, I. C., Ruis, M. A. W., & Blokhuis, H. J. (1999). Coping styles in animals: Current status in behavior and stress-physiology. *Neuroscience & Biobehavioral Reviews*, 23(7), 925–935. [https://doi.org/10.1016/S0149-7634\(99\)00026-3](https://doi.org/10.1016/S0149-7634(99)00026-3)
- Kruger, K. A., Trachtenberg, S. W., & Serpell, J. A. (2004). *Animal-assisted interventions in adolescent mental health* (p. 38).
- Lucidi, P., Bernabò, N., Panunzi, M., Villa, P. D., & Mattioli, M. (2005). Ethotest: A new model to identify (shelter) dogs' skills as service animals or adoptable pets. *Applied Animal Behaviour Science*, 95(1–2), 103–122. <https://doi.org/10.1016/j.applanim.2005.04.006>
- MacNamara, M., Moga, J., & Pachel, C. (2015). What's love got to do with it? Selecting animals for animal-assisted mental health interventions. In *Handbook on animal-assisted therapy* (pp. 91–101). Elsevier. <https://doi.org/10.1016/B978-0-12-801292-5.00008-0>
- Marinelli, L., Normando, S., Siliprandi, C., Salvadoretti, M., & Mongillo, P. (2009). Dog assisted interventions in a specialized centre and potential concerns for animal welfare. *Veterinary Research Communications*, 33(S1), 93–95. <https://doi.org/10.1007/s11259-009-9256-x>
- Marx, M. S., Cohen-Mansfield, J., Regier, N. G., Dakheel-Ali, M., Srihari, A., & Thein, K. (2010). The impact of different dog-related stimuli on engagement of persons with dementia. *American Journal of Alzheimer's Disease & Other Dementias*, 25(1), 37–45. <https://doi.org/10.1177/1533317508326976>
- McConnell, P., & Fine, A. H. (2010). Understanding the other end of the leash. In *Handbook on Animal-Assisted Therapy* (pp. 149–165). Elsevier. <https://doi.org/10.1016/B978-0-12-381453-1.10009-1>
- McGreevy, P. D., Starling, M., Branson, N. J., Cobb, M. L., & Calnon, D. (2012). An overview of the dog-human dyad and ethograms within it. *Journal of Veterinary*

- Behavior*, 7(2), 103–117. <https://doi.org/10.1016/j.jveb.2011.06.001>
- Menna, L. F., Santaniello, A., Todisco, M., Amato, A., Borrelli, L., Scandurra, C., & Fioretti, A. (2019). The human–animal relationship as the focus of animal-assisted interventions: A one health approach. *International Journal of Environmental Research and Public Health*, 16(19), 3660. <https://doi.org/10.3390/ijerph16193660>
- Mignot, A. (2021). The state of animal-assisted interventions in France: Is the IAHAIO model relevant? *In press*.
- Mongillo, P., Pitteri, E., Adamelli, S., Bonichini, S., Farina, L., & Marinelli, L. (2015). Validation of a selection protocol of dogs involved in animal-assisted intervention. *Journal of Veterinary Behavior*, 10(2), 103–110. <https://doi.org/10.1016/j.jveb.2014.11.005>
- Nagasawa, M., Kikusui, T., Onaka, T., & Ohta, M. (2009). Dog's gaze at its owner increases owner's urinary oxytocin during social interaction. *Hormones and Behavior*, 55(3), 434–441. <https://doi.org/10.1016/j.yhbeh.2008.12.002>
- Odendaal, J. S. J., & Meintjes, R. A. (2003). Neurophysiological correlates of affiliative behaviour between humans and dogs. *Veterinary Journal*, 165(3), 296–301. [https://doi.org/10.1016/S1090-0233\(02\)00237-X](https://doi.org/10.1016/S1090-0233(02)00237-X)
- Pet Partners. (2016). *Team evaluator policies and procedures manual*. Pet Partners.
- Pet Partners. (2020). *Pet Partners international handler guide*. <https://petpartners.org/wp-content/uploads/2019/12/International-Handler-Guide-2020.pdf>
- Piva, E., Liverani, V., Accorsi, P. A., Sarli, G., & Gandini, G. (2008). Welfare in a shelter dog rehomed with Alzheimer patients. *Journal of Veterinary Behavior*, 3(2), 87–94. <https://doi.org/10.1016/j.jveb.2007.08.004>
- Rigot, M. (2019). *Etablissement d'un guide de bonnes pratiques pour l'utilisation du chien en médiation animale* [Veterinary thesis]. VETAGRO SUP.
- Rooney, N. J., Clark, C. C., & Casey, R. A. (2016). Minimizing fear and anxiety in working dogs: A review. *Journal of Veterinary Behavior*, 16, 53–64.
- Serpell, J. A., Coppinger, R., Fine, A. H., & Peralta, J. M. (2010). Welfare considerations in therapy and assistance animals. In *Handbook on animal-assisted therapy* (pp. 481–503). Elsevier. <https://doi.org/10.1016/B978-0-12-381453-1.10023-6>
- Serpell, J. A., Kruger, K. A., Freeman, L. M., Griffin, J. A., & Ng, Z. Y. (2020). Current standards and practices within the therapy dog industry: Results of a representative survey of United States therapy dog organizations. *Frontiers in Veterinary Science*, 7, 35. <https://doi.org/10.3389/fvets.2020.00035>
- Svartberg, K. (2005). A comparison of behaviour in test and in everyday life: Evidence of three consistent boldness-related personality traits in dogs. *Applied Animal Behaviour Science*, 91(1), 103–128. <https://doi.org/10.1016/j.applanim.2004.08.030>
- Thompson, M. J. (2009). Animal-assisted play therapy: Canines as co-therapists. In *Compelling counseling interventions: VISTAS 2009* (pp. 199–209).
- Uetake, K., Otsuka, N., Osada, S., Kanada, K., Miyamoto, S., Horii, T., Fukuzawa, M., Eguchi, Y., Ota, M., & Tanaka, T. (2007). Stress response of dogs repeatedly participated in animal-assisted activities at special nursing homes for elderly people. *Animal Behaviour and Management*, 43(4), 192–198.
- Verga, M., & Michelazzi, M. (2009). Companion animal welfare and possible implications on the human–pet relationship. *Italian Journal of Animal Science*, 8(sup1), 231–240. <https://doi.org/10.4081/ijas.2009.s1.231>
- Voigt, P., & Von dem Bussche, A. (2017). *The EU general data protection regulation (GDPR): A practical guide*. Springer International.
- Wijker, C., Leontjevas, R., Spek, A., & Enders-Slegers, M.-J. (2020). Effects of dog assisted therapy for adults with autism spectrum disorder: An exploratory randomized controlled trial. *Journal of Autism and Developmental Disorders*, 50(6), 2153–2163. <https://doi.org/10.1007/s10803-019-03971-9>
- Winkle, M., Johnson, A., & Mills, D. (2020). Dog welfare, well-being and behavior: Considerations for selection, evaluation and suitability for animal-assisted therapy. *Animals*, 10(11), 2188.
- Wycoff, K. L. (2013). *The selection and assessment of potential therapy animal candidates: Animal welfare and ethical considerations in animal assisted interventions* (p. 2).