



**HAL**  
open science

## French handlers' perspectives on Animal-Assisted Interventions

Alice Mignot, Karelle de Luca, Gérard Leboucher, Véronique Servais

► **To cite this version:**

Alice Mignot, Karelle de Luca, Gérard Leboucher, Véronique Servais. French handlers' perspectives on Animal-Assisted Interventions. *Complementary Therapies in Clinical Practice*, 2021, 44, pp.101356. 10.1016/j.ctcp.2021.101356 . hal-03484132

**HAL Id: hal-03484132**

**<https://hal.science/hal-03484132v1>**

Submitted on 24 May 2023

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution - NonCommercial 4.0 International License

# French handlers' perspectives on Animal-Assisted Interventions

---

Authors :

Alice Mignot<sup>1, 2, 3\*</sup>, Karelle de Luca<sup>3</sup>, Gérard Leboucher<sup>2</sup>, Véronique Servais<sup>1</sup>

<sup>1</sup> Laboratoire d'Anthropologie Sociale et Culturelle, Université de Liège, France

<sup>2</sup> Laboratoire Ethologie, Cognition, Développement, Université Paris Nanterre, France

<sup>3</sup> R&D Lyon, Boehringer Ingelheim Animal Health, Saint Priest, France

\*Corresponding Author:

Alice Mignot, MSc in Clinical psychology, Ph.D student

Laboratoire éthologie, cognition, développement

Université de Nanterre, Batiment Charlotte Delbo (ex BSL) 1er étage

200, avenue de la République

92001 Nanterre Cedex 14

[alice.mignot@parisnanterre.fr](mailto:alice.mignot@parisnanterre.fr)

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Competing interests: None

Word count: 3734

# 1 French handlers' perspectives on Animal- 2 Assisted Interventions

---

3 This research did not receive any specific grant from funding agencies in the public,  
4 commercial, or not-for-profit sectors.

5 Competing interests: None

6 Word count: 3914

## 7 **Abstract (321)**

8 *Background:* Animal-Assisted Interventions (AAI) are well implemented in human  
9 healthcare, in France as elsewhere; yet there are still difficulties in characterizing these  
10 practices and misconceptions about their mechanisms - little is known about the French  
11 practice of AAI and about the human-animal team.

12 *Objectives:* This study aims to characterize AAI by exploring their specificities through  
13 French handlers' perspectives.

14 *Material and method:* An online survey addressed to French handlers working in AAI with  
15 mainly one dog was carried out. This research included questions about their practice in AAI  
16 (registration status, beneficiaries, and animals) and their background (training in AAI, training  
17 in the medico-social field, training in animal behavior). We then examined a  
18 phenomenological understanding of handlers' definitions of their practice in AAI, their  
19 motivations to work with these approaches, and the expectations of the human-animal team.  
20 We used an open coding strategy and created major themes from their answers.

21 *Results:* 111 handlers participated in this study. The quantitative data highlighted a

22 heterogeneity of handlers' profiles and professional backgrounds, although most profiles had  
23 previous training in healthcare. Five themes characterizing AAI emerged from the qualitative  
24 analysis: (1) AAI as additional approaches to care settings, (2) AAI as person-centered  
25 approaches, (3) the complementarity between handlers and their animal(s), (4) the shared role  
26 of mediator, and (5) handlers' beliefs about the human-animal relationship related to their  
27 personal experiences. This survey allowed us to understand how the French use AAI and its  
28 role in the care system.

29 *Conclusion:* The benefits of AAI are numerous both for care settings and for the caregivers  
30 mainly by making the care more humane. AAI seem to put the wellbeing of beneficiaries and  
31 the relationship with the caregiver at the center of the care. The complementarity of the  
32 human-animal team is the common feature of these practices and is critical to their success.  
33 Future interdisciplinary studies are required to explore the particularities of these interspecific  
34 approaches and the differences between countries.

## 35 1. Introduction

36 Practices utilizing the human-animal bond in healthcare settings are commonly designated by  
37 the term Animal-Assisted Interventions (AAI). They are defined as *“a goal oriented and  
38 structured intervention that intentionally includes or incorporates animals in health,  
39 education and human services (e.g., social work) for the purpose of therapeutic gains in  
40 humans. It involves people with knowledge of the people and animals involved”* [1]. AAI  
41 include several sub categories such as Animal-Assisted Therapies (AAT), Animal-Assisted  
42 Activities (AAA), Animal-Assisted Education (AAE) and Animal-Assisted Coaching (AAC)  
43 [1]. These methods are receiving increased attention within the medical and paramedical  
44 fields because of their benefits on a large range of health-related problems [2]. The  
45 interactions with animals in care settings have positive impacts on human health such as the

46 decrease of anxiety [3–5] and depression [6,7] as well as the improvement of social skills [8–  
47 10] and self-esteem [11,12]. As a result, the benefits of animals on human health represent a  
48 significant scientific research field that continues to grow [13]; yet there is still difficulty to  
49 characterize AAI. Even if there is a professionalization of the field, there is still a lack of  
50 standards and inconsistencies about the terms and definitions of AAI [14–17], specifically,  
51 regarding the French AAI where there is a lack of data about these seemingly heterogeneous  
52 practices [18]. It could be linked to the absence of governmental regulation and mandatory  
53 training to practice AAI [16,19]. Furthermore, most research on AAI has been focused on  
54 proving the efficiency of animals on the beneficiaries [20]. However, the complementarity of  
55 the human-animal dyad is central in AAI for the influence and mutual benefits it has during  
56 sessions [21–23]. Handlers are regularly excluded from studies and little is known about their  
57 perspectives and their roles [24,25]. There are still misconceptions about AAI, such as the  
58 thinking that petting the animals is sufficient to get the reward [14].

### 59 1.1. Theoretical framework

60 We aimed to apply the recommendations of changes in AAI research suggested by Delfour &  
61 Servais [26] that are: “the consideration of the animal as a subject; the restitution of their  
62 speech to handlers; and the development of attentive and creative methods of observation and  
63 investigation”. Consequently, the qualitative perspective respects these criteria since it  
64 “facilitates better understanding of factors that may influence the intervention  
65 implementation” [17]. As highlighted in the Shen et al. [28] review of qualitative studies,  
66 these studies can be a way to reveal possible mechanisms of AAI. However, they focused on  
67 the beneficiaries point of view [29–31]. Only a few of the studies were interested in handlers’  
68 opinions about their practices in AAI [24,32–36] and were principally focused on their  
69 knowledge and attitudes regarding specific practice [37]. This makes it essential to interview

70 handlers with different backgrounds and considerations towards the relationship between  
71 themselves and their animals to get a better understanding of AAI.  
72 The aim of the present research is to contribute to increasing the body of knowledge  
73 surrounding AAI by integrating handlers' opinions.  
74 To this end, we focused on two axes through handlers' answers to four questions. The first  
75 axis concerned the main features of AAI that we obtained through interviewing handlers  
76 about their definition of their own practice in AAI. In addition, we assumed that handlers'  
77 professional backgrounds and motivations to work in AAI enabled them to understand the  
78 characteristics of these practices. The second axis concerned the interspecific  
79 complementarity of the human-animal team that we investigated through their views on their  
80 dedicated roles and the roles of their animals in AAI.

## 81 **2. Materials & Method**

### 82 **2.1. Participants & recruitment**

83 Our cohort was composed of 111 French handlers in AAI. Our inclusion criteria were to be  
84 active in AAI and to work with at least one dog because dogs constitute the most represented  
85 species in AAI [38–41]. Handlers were all volunteers and we had no selection criteria based  
86 on their professional backgrounds. We constructed an online questionnaire that was posted  
87 on AAI-specialized social media accounts and sent by email from April 2018 to May 2019. It  
88 was important for us to develop an online questionnaire for ease of use and timesaving  
89 reasons. Moreover, contrary to other qualitative research that focuses on small samples and/or  
90 specific groups, we aimed to interview a large panel of handlers.

### 91 **2.2. Ethics**

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

93 included an explanation of the study framework, objectives and the research ethics features.  
94 Signing this consent form guaranteed the confidentiality of their responses, the possibility of  
95 interrupting the research, respect for their integrity and their rights in accordance with the  
96 research ethics. The collection, processing and storage of personal data complied with the  
97 rules laid down by the European General Data Protection Regulation [42].

### 98       **2.3. Data collection**

99 The questionnaire was built based on a literature review [1,8,24,26,33,43–45] and informal  
100 interviews of handlers and scientific experts in the field. It was entirely written in French and  
101 was composed of four unequal sections for approximatively 20 minutes in total. We used a  
102 mixed method; therefore, some data was obtained through closed questions while other data  
103 was obtained through open questions. We chose to separate our data into specific articles;  
104 therefore, this one presents only data about the characteristics of AAI through handlers’  
105 perceptions.

### 106       **2.4. Analysis**

107 The data presented below are based on sociodemographic and open questions. Quantitative  
108 data were treated with the Software GraphPad Prism 8. These data concerned  
109 sociodemographic questions (gender, age), followed by questions about their current practice  
110 in AAI (their registration status, the populations and the animal species they work with) and  
111 questions about their professional background (their training in AAI and their education  
112 institution, their training in the medico-social field and their training in animal behavior).  
113 Descriptive characteristics of the cohort were calculated and presented as means averages for  
114 continuous variables and percentages for categorical variables.

115 The qualitative method was selected for four open questions:

- 116 •       How do you define your practice of AAI?

- 117 • What motivated you to work in AAI?
- 118 • For you, what is the role of the animal in AAI?
- 119 • For you, what is the role of the human actor (handler) in AAI?

120 We used a phenomenological method because it “describes the meaning for several  
121 individuals of their lived experiences of a concept or a phenomenon; describing what all  
122 participants have in common as they experience a phenomenon” [46]. Like Firmin et al. [24],  
123 we used an open coding strategy with a line-by-line analysis approach and developed clusters  
124 of meaning into themes. We wrote a description of the significant themes that emerged from  
125 our data [46] and illustrated them with citations (translated from French to English) of  
126 subjects with their anonymity number.

## 127 **3. Results**

### 128 **3.1. Demographic characteristics of our sample**

129 Our sample was composed of 111 handlers in AAI. They were mostly women (94.59%;  
130 N=105) with a mean age of 41 years (min 20 years; max 68 years). Handlers worked with a  
131 broad range of populations; based on the two first pathologies cited we analyzed data on 166  
132 answers. Beneficiaries were mostly elderly with dementia (30.12%; N=50), followed by  
133 people with mental and/or motor disability (22.29%; N=37), followed by Pervasive  
134 Developmental Disorders (13.85%; N=23) and people with various mental health problems  
135 (13.25%; N=22). Also, 47.75% (N=53) of the handlers in our sample only worked with dogs,  
136 the rest worked with two species on average (range 1 to 7), mainly small pets such as guinea  
137 pigs and rabbits (45.04%; N=50). Handlers’ professional backgrounds were different. 83.78%  
138 (N=93) of our sample were trained in AAI from different institutions that included both  
139 university training centers and private structures. 71.17% (N=79) of interviewed handlers had  
140 training in the medico-social field that represented various types of care professions. They



141 were mostly psychologists (24/05%;N=19), caseworkers (16.46%;N=13), nurses  
142 (13.92%;N=11) and psychomotor therapists and occupational therapists (12.66%;N=10). In  
143 addition, some of them had a background in the animal field (37.84%: N=42) which  
144 concerned mostly dog trainer (50%; N=21) and veterinary/assistant veterinary (19.05%;  
145 N=8).

## 146 3.2. Qualitative analysis

147 Five themes were identified as important characteristics of AAI: (1) AAI as additional  
148 approaches in care settings, (2) the person-centered approach, (3) the complementarity  
149 between handler and their animal(s), (4) the shared role of mediator and (5) handlers' beliefs  
150 about the human-animal relationship related to their personal experiences. A brief description  
151 of each theme supported with illustrative citation of participant data is presented for every  
152 result of the study.

### 153 3.2.1. AAI as additional approaches in care settings

154 Handlers alluded that AAI bring benefits to various care settings. They mentioned objectives  
155 that concern a diverse set of domains (therapeutic, educative, social, pedagogical etc.). Most  
156 of them referred to the introduction of AAI to mitigate the limits of conventional care. More  
157 specifically, care professionals referred to AAI as additional approaches to support their work  
158 and some of them distinguished themselves from other handlers by the therapeutic value of  
159 their AAI. Regardless of their initial training, handlers mentioned the benefits that AAI  
160 brought to themselves, such as being able to specialize in a new approach or even a career  
161 change.

162 s1: "The inadequacies of "conventional" approaches"

163 s32: "It is a practice with a therapeutic aim (by virtue of my function)"

164 s46: "It is a "way" to achieve an objective that cannot be achieved with conventional  
165 tools"

166 s70: “Another string to my bow”

167 s109: “Doing the work for which he [the handler] was trained, for me as a  
168 psychologist, with an additional tool that is the dog”

169 3.2.2. Person-centered approaches

170 The construction of the objectives seemed to be flexible and adapted to each patient.  
171 Therefore, the beneficiary appeared to regain an active role in his or her care. The most  
172 frequently cited objectives concerned the well-being of beneficiaries and the creation of bonds  
173 between beneficiary and caregiver. When handlers described their relationship with  
174 beneficiaries, they used words associated with positivity and warmth (i.e. “*link*,” “*alliance*,”  
175 “*trust*,” “*affection*,” “*tenderness*,” and “*empathy*”). For most handlers, their animals were  
176 seen as assistants that take an immersive role in these relationships.

177 s5: “My practice is created according to my patients: they are the ones who initiate the  
178 process and propose activities around the dog most often”

179 s50: “[...] sometimes there is also a therapeutic interest, but this is not the primary  
180 goal”

181 s73: “humane and playful”

182 s99: “The goal is to increase interactions with humans through interactions with  
183 animals”

184 3.2.3. Complementarity of the human-animal team

185 Handlers pointed out the central role of animals into enriching the actual care. They spoke  
186 about the common intrinsic attributes of animals such as their absence of judgement, their  
187 neutral attitude toward human pathologies, and the absence of verbal communication.  
188 Handlers referred to their main role as optimizing the effects of the animal and to guarantee  
189 safety. That implies a work upstream to construct the project, downstream to evaluate  
190 objectives and adapt the next sessions and the adjustment of what is emerging during

191 sessions. They also mentioned a major responsibility in their animals' welfare by observing  
192 their behavior such as their signs of fatigue and stress. Finally, they highlighted a teamwork  
193 with their animals.

194 s14: "He can be himself! Not being programmed. To offer with one's naturalness a  
195 well-being to people, as well as efforts without realizing it"

196 s39: "a partnership relationship with my dog"

197 s48: "I am the guarantor of the framework and safety during the session"

198 s61:" Define, organize, adjust, readjust, guide, evaluate the sessions [...]"

199 s79: "Create situations to enrich patient/animal exchanges, frame the work"

200 s83: "Protecting your animal and listening to them to see when they have had  
201 enough"

202 s97: "The animal is a precious help for the handler, they offer them/us a multitude of  
203 possibilities to enter into a relationship, to consolidate a relationship, to make people  
204 work on so many different objectives"

#### 205 3.2.4. The shared role of mediators

206 Handlers seem to not make any difference between the animal species involved, however  
207 dogs seemed to be considered more proactive in the interactions. The most common term  
208 used to talk about the animal's role is "mediator", acting as a link between handler and  
209 beneficiary, but also between objectives and beneficiary. Some handlers went beyond this,  
210 suggesting that the animal is the intermediary that allows the establishment and/or  
211 reinforcement of the care relation. Handlers were also referring to themselves as mediators  
212 between the animal-beneficiary interactions and objectives. It was their duty to intervene in  
213 specific ways in order to influence the behavior of the animal offering support so as to guide  
214 the interactions and reach the objectives. Then, they can stimulate or calm beneficiaries  
215 according to what is happening during the interactions.

216 s38: “An added value to the relationship of committed help and a precious mediator  
217 because it is alive and offers a diversity of emotions”

218 s39: “It depends, sometimes I am the mediator of the meeting with the animal,  
219 sometimes it is him who allows the patient to access the care and to come to meet me”

220 s48: “It is the use of the animal presence as a media in the caring relationship”

221 s73: “Accompany the patient-dog pairing to work on the patient's own objectives”

222 3.2.5. Beliefs about the human-animal relationship related to their personal experiences  
223 Handlers directed themselves to AAI because they had beliefs about the benefits of the  
224 human-animal relationship. Their beliefs were mostly linked to their personal experiences  
225 with animals more than the theory around the human-animal bond. They believed that the  
226 introduction of animals into care would benefit other humans. In addition, they had a passion  
227 for animals and the care of other humans. AAI were therefore a good compromise to work  
228 with both humans and animals.

229 s8: “Combining my passion for dogs with my job”

230 s85: “It's natural because I've always shared my life with dogs [...]”

231 s108: “The conviction that the animal can bring things to humans”

## 232 4. Discussion

233 The purpose of this study was to gain insight into the representations of handlers in AAI,  
234 focusing on their definitions of their practices, their motivations to work in AAI and the roles  
235 of the human-animal team. Our research suggests that AAI include numerous methods  
236 because of the variety of handlers' professional backgrounds and the possibility of adding  
237 AAI to various settings. Even though there is a wide heterogeneity of practices, we found  
238 common features to all handlers. Some characteristics concur on the more “humane” care, the

239 convictions of handlers based on their personal experiences with animals and the  
240 complementarity of the human-animal team.

241 The goal of the present research was to contribute to the body of knowledge surrounding AAI  
242 and representations of handlers via two axes. The first one concerned the main features of  
243 AAI. The second one concerned the interspecific complementarity of the human-animal team.

#### 244 4.1. The characteristics of the French practice of AAI

245 Our first aim was to highlight the main features of the French practice of AAI. Handlers  
246 defined AAI as holistic approaches that allow a wide cross-section of applications in human  
247 health (psychological, motor, speech, cognitive, social). Therefore, handlers reported to work  
248 in AAI with various populations and animal species. This is consistent with the common  
249 French application of AAI that is defined as a set of heterogeneous practice [18], contrary to  
250 the US model that is more categorized. To underline the main features of AAI, we assumed  
251 that the interview about handlers' professional backgrounds would give us information.  
252 Indeed, it highlights various profiles in handlers that correspond to a variety of settings.  
253 Furthermore, handlers were trained in various fields and in various institutions. As mentioned  
254 before by Kruger et al. [11], it could explain the heterogeneity of AAI because handlers will  
255 practice AAI according to their initial professions. The variety of their professional  
256 backgrounds can be explained by their motivations to work in AAI, which were mostly based  
257 on their personal positive experiences with animals. Handlers introduced AAI because of their  
258 convictions that AAI brought something new to care, which is consistent with Michalon [47].  
259 AAI can therefore concern people with various professional backgrounds who have the  
260 willingness of compromise between care work and love for animals in common. In this sense,  
261 AAI are chosen because of handlers' intrinsic convictions more than their theoretical  
262 knowledge of the human-animal bond. Another feature that we can underline about handlers'  
263 professional backgrounds is a distinction between handlers that were care professionals and

264 others who were not. Care professionals incorporated their initial training first to define their  
265 practices in AAI, which is consistent with another recent French report [19]. Consequently,  
266 most participants of our sample can be considered as AAT handlers because they are care  
267 professionals working within the scope of their professions [1,35]. However, it seems that the  
268 common US model can hardly be applied to the French practice of AAI because the French  
269 practice is more heterogeneous than a distinction between care professionals and the non-care  
270 professionals. This is consistent with previous studies that highlighted the difficulty in  
271 exporting the US model to other countries [35,48]. Finally, we wanted to underline that some  
272 handlers work in AAI without any training, which can expose the practice to certain abuses.  
273 This diversity of handlers' backgrounds points out the need of standards to ensure: i) the  
274 quality of sessions, ii) the welfare of animals and iii) the welfare of beneficiaries as proposed  
275 by the Italian model [49]. Efforts should be made on the regulation of these practices in  
276 France mostly concerning the necessary minimal training of handlers to ensure quality and  
277 safety within AAI sessions.

#### 278 4.2. Reintroducing some care in the cure

279 The most common trait of AAI mentioned by handlers was that its practices contrast with  
280 classical approaches. The differences cited by handlers are consistent with previous studies,  
281 though more research is needed to increase our understanding of the mechanisms. Contrary to  
282 conventional medicine, the objectives cited mostly focus on the well-being of beneficiaries  
283 during sessions, which is consistent with the theme "mood improvement" found in 6  
284 qualitative studies about AAI in the review of Shen et al.[28]. More specifically, handlers  
285 referred to AAI as a moment where the disease is no longer central in the care, which is  
286 consistent with the theme "fostering feeling of normalcy" highlighted in the review of Shen et  
287 al. [28]. Therefore, the relationship between caregiver and patient was central and handlers  
288 gave importance to creating an alliance, almost an affectionate relationship with beneficiaries,

289 which was redundant in other qualitative researches [24,31,35]. This was first highlighted by  
290 Levinson [37] who reported AAI as allowing the change from “patient” to individual. We can  
291 assume that AAI are close to “person-centered approaches” that are defined as “putting the  
292 person with the human’s worth and uniqueness, as well as the person’s interests and lived  
293 experience, at the center of the caring process” [51]. It is interesting also to note that AAI give  
294 some benefits to handlers, too, with the positive emotions of the beneficiaries giving them joy  
295 and a sense of usefulness [35,52]. Handlers also mentioned that AAI help them to overcome  
296 the impasse with traditional tools and the possibility of spending time with their animals [32].  
297 Therefore, the benefits of AAI seem to be due to their differences with classical medicine that  
298 focuses on curing the patient first. The introduction of animals in care settings could allow  
299 another form of care work, a more humane care regarding the objectives but also the  
300 consideration of patients as individuals. Further investigations need to focus on limits of the  
301 current care and the fact that animals bring more humanity.

#### 302 4.3. The complementarity of the human-animal dyad

303 Our second goal was to question separately the roles of handlers and animals to understand  
304 the specificity of the interspecific teamwork. The centrality of animals in these practices are  
305 indeed recognized since they are critical to the identity of AAI [53]. Though, the interviews of  
306 the handlers highlight the importance of the interspecific collaboration in AAI [35]. Handlers  
307 mentioned the intrinsic qualities of animals, such as their absence of judgment and their  
308 unconditional love [54]. However, animals are also actors in the therapeutic setting that  
309 facilitate contact between humans and facilitate the establishment of a therapeutic relationship  
310 [40,55–59]. Still, it is important to highlight that the relationship between beneficiary and  
311 animal is not a substitute to the relationship between handler and beneficiary [60]. Handlers  
312 referred to their roles as mediators and as “good” caregivers who succeed in creating a  
313 positive relationship with beneficiaries. They are also the spokesperson for their animals and

314 need to ensure their well-being and appropriate interactions [18,61]. Therefore, handlers and  
315 their skills are necessary to build the framework around AAI, such as ensuring the good  
316 conditions of interactions and the evaluation of objectives. This data clarifies the fact that  
317 studies must take in account both handlers and animals to understand the mechanisms of AAI,  
318 whereas most research is focused on proving the benefits of animals [20]. Moreover, it would  
319 be interesting to clarify the aspects related to the different modalities of interspecific  
320 relationships based on the animal species involved. Indeed, dogs are the most common  
321 species in AAI because they are well adapted to therapeutic settings because of their  
322 availability, trainability and predictability [62]. Some authors point out that dogs allow for a  
323 more therapeutic work with more reciprocity than other species [22,58]. It may be due to their  
324 outstanding skills to communicate and their ability to create relationships with humans [63].  
325 They are also easier to train for therapy [64]. Other species, such as small pets, are  
326 increasingly introduced in AAI on the other hand because of their small size and toy-like  
327 appearance that can allow for the development of other forms of relationships [65].

#### 328 4.4. Limits

329 This research presents some limits that can be palliated in further studies. First, our sample  
330 was mostly composed of handlers that were initially care professionals, which can be a bias  
331 for the representativeness of our study. Further studies can focus on handlers without a  
332 background in the medico-social field to observe the pertinence of their answers vis-à-vis of  
333 those with a medical professional background. Secondly, our cohort concerned handlers that  
334 worked with dogs and other species, but we focused on dogs. Other specific studies on other  
335 animal species introduced into AAI could bolster the knowledge. Finally, our study concerned  
336 the French practice of AAI; other studies in various European countries can be useful to  
337 understand the importation of the US model to France.



## 338 5. Conclusion

339 The aim of this study was to underline handlers' perspectives on Animal-Assisted  
340 Interventions in order to contribute to the body of knowledge surrounding AAI. To this end,  
341 we focused on the main features of AAI and the interspecific complementarity of the human-  
342 animal team that we interviewed. Our study underlined that AAI in France are heterogeneous  
343 because they are complementary approaches to various care settings. This is also linked to the  
344 fact that handlers will work in accordance to their initial training, which represent a wide  
345 scope of fields. Moreover, handlers' profiles are heterogeneous because these practices  
346 concern people who want to include their passion of animals in their work. It seems that AAI  
347 allow a more "humane" care through the presence of animals. This point needs more  
348 consideration to question the actual care and its limits for both patients and caregivers.  
349 Finally, the human-animal dyad must be considered as a teamwork. The animal is here to "be  
350 himself" and the handler to bear the benefits of the beneficiary-animal relationship to fulfil  
351 the objectives. Consequently, this exploratory study highlights the heterogeneity of AAI and  
352 the need to focus on individual considerations [2,66–68].

353

## 354 Acknowledgments

355 The researchers would like to thank the handlers who took the time to answer the  
356 questionnaires.

## 357 References

358 [1] IAHAIO, The IAHAIO Definitions for Animal Assisted Intervention and Guidelines for  
359 Wellness of Animals Involved in AAI, in: *Handb. Anim.-Assist. Ther.*, Elsevier, 2019:  
360 pp. 499–504. <https://doi.org/10.1016/B978-0-12-815395-6.15001-1>.

- 361 [2] F. Cirulli, M. Borgi, A. Berry, N. Francia, E. Alleva, Animal-assisted interventions as  
362 innovative tools for mental health, *Ann. Dell'Istituto Super. Sanità.* (2011).  
363 [https://doi.org/10.4415/ANN\\_11\\_04\\_04](https://doi.org/10.4415/ANN_11_04_04).
- 364 [3] S.B. Barker, K.S. Dawson, The effects of animal-assisted therapy on anxiety ratings of  
365 hospitalized psychiatric patients, *Psychiatr. Serv.* 49 (1998) 797–801.
- 366 [4] K.M. Cole, A. Gawlinski, N. Steers, J. Kotlerman, Animal-assisted therapy in patients  
367 hospitalized with heart failure, *Am. J. Crit. Care.* 16 (2007) 575–585.
- 368 [5] T.C. Waite, L. Hamilton, W. O'Brien, A meta-analysis of animal assisted interventions  
369 targeting pain, anxiety and distress in medical settings, *Complement. Ther. Clin. Pract.*  
370 33 (2018) 49–55.
- 371 [6] K. Koukourikos, A. Georgopoulou, L. Kourkouta, A. Tsaloglidou, Benefits of Animal  
372 Assisted Therapy in Mental Health, *Int. J. Caring Sci.* 12 (2019) 1898.
- 373 [7] C. Ambrosi, C. Zaiontz, G. Peragine, S. Sarchi, F. Bona, Randomized controlled study  
374 on the effectiveness of animal-assisted therapy on depression, anxiety, and illness  
375 perception in institutionalized elderly, *Psychogeriatrics.* 19 (2019) 55–64.
- 376 [8] C. King, J. Watters, S. Mungre, Effect of a time-out session with working animal-  
377 assisted therapy dogs, *J. Vet. Behav.* 6 (2011) 232–238.  
378 <https://doi.org/10.1016/j.jveb.2011.01.007>.
- 379 [9] J.L. Becker, E.C. Rogers, B. Burrows, Animal-assisted social skills training for children  
380 with autism spectrum disorders, *Anthrozoös.* 30 (2017) 307–326.
- 381 [10] K. Hediger, S. Thommen, C. Wagner, J. Gaab, M. Hund-Georgiadis, Effects of animal-  
382 assisted therapy on social behaviour in patients with acquired brain injury: a randomised  
383 controlled trial, *Sci. Rep.* 9 (2019) 1–8.
- 384 [11] K.A. Kruger, S.W. Trachtenberg, J.A. Serpell, Animal-Assisted Interventions in  
385 Adolescent Mental Health:, (2004) 38.
- 386 [12] S.E. Schuck, H.L. Johnson, M.M. Abdullah, A. Stehli, A.H. Fine, K.D. Lakes, The role  
387 of animal assisted intervention on improving self-esteem in children with attention  
388 deficit/hyperactivity disorder, *Front. Pediatr.* 6 (2018) 300.
- 389 [13] Fine, Beck, Ng, The State of Animal-Assisted Interventions: Addressing the  
390 Contemporary Issues that will Shape the Future, *Int. J. Environ. Res. Public. Health.* 16  
391 (2019) 3997. <https://doi.org/10.3390/ijerph16203997>.
- 392 [14] N. Parish-Plass, Order Out of Chaos Revised: A Call for Clear and Agreed-Upon  
393 Definitions Differentiating Between Animal-Assisted Interventions, (2014) 37.
- 394 [15] A. Santaniello, F. Dicé, R. Claudia Carratú, A. Amato, A. Fioretti, L.F. Menna,  
395 Methodological and Terminological Issues in Animal-Assisted Interventions: An  
396 Umbrella Review of Systematic Reviews, *Animals.* 10 (2020) 759.  
397 <https://doi.org/10.3390/ani10050759>.
- 398 [16] M.-J. Enders-Slegers, K. Hediger, A. Beetz, B. Jegatheesan, D. Turner, Animal-assisted  
399 interventions with in an international perspective: Trends, research, and practices, in:  
400 *Handb. Anim.-Assist. Ther. Found. Guidel. Anim.-Assist. Interv.*, Elsevier, 2019: pp.  
401 465–477.
- 402 [17] J. López-Cepero, Current Status of Animal-Assisted Interventions in Scientific  
403 Literature: A Critical Comment on Their Internal Validity, *Animals.* 10 (2020) 985.
- 404 [18] J. Michalon, *Panser avec les animaux: Sociologie du soin par le contact animalier*,  
405 Presses des Mines, Paris, 2014.
- 406 [19] F. Boizeau, A. Courcoul, M. Hamon, H. Ladreyt, S. Lefebvre, Institut d'Etudes  
407 Politiques de Lyon, (2017) 176.
- 408 [20] V. Servais, Du surnaturel au malentendu Pour une approche interactionnelle des  
409 systèmes de communication homme/animal., in: *6ème Congrès Européen de Science des*  
410 *Systèmes*, 2005.

- 411 [21] E. Payne, P. Bennett, P. McGreevy, Current perspectives on attachment and bonding in  
412 the dog&ndash;human dyad, *Psychol. Res. Behav. Manag.* (2015) 71.  
413 <https://doi.org/10.2147/PRBM.S74972>.
- 414 [22] L.F. Menna, A. Santaniello, M. Todisco, A. Amato, L. Borrelli, C. Scandurra, A.  
415 Fioretti, The Human–Animal Relationship as the Focus of Animal-Assisted  
416 Interventions: A One Health Approach, *Int. J. Environ. Res. Public. Health.* 16 (2019)  
417 3660. <https://doi.org/10.3390/ijerph16193660>.
- 418 [23] S. Kuzara, P. Pendry, N.R. Gee, Exploring the Handler-Dog Connection within a  
419 University-Based Animal-Assisted Activity, *Animals.* 9 (2019) 402.
- 420 [24] M.W. Firmin, J.E. Brink, R.L. Firmin, M.E. Grigsby, J.F. Trudel, Qualitative  
421 Perspectives of an Animal-Assisted Therapy Program, *Altern. Complement. Ther.* 22  
422 (2016) 204–213. <https://doi.org/10.1089/act.2016.29073.mwf>.
- 423 [25] M. Grandgeorge, M. Hausberger, Human-animal relationships: from daily life to animal-  
424 assisted therapies, *Ann. Dell'Istituto Super. Sanità.* (2011).  
425 [https://doi.org/10.4415/ANN\\_11\\_04\\_12](https://doi.org/10.4415/ANN_11_04_12).
- 426 [26] F. Delfour, V. Servais, L'animal dans le soin : entre théories et pratiques, (2012) 7.
- 427 [27] D. Shen-Miller, Qualitative Directions in Human–Animal Companion Research, in:  
428 *Psychol. Hum.-Anim. Bond*, Springer, 2011: pp. 361–382.
- 429 [28] R.Z.Z. Shen, P. Xiong, U.I. Chou, B.J. Hall, “We need them as much as they need us”:  
430 A systematic review of the qualitative evidence for possible mechanisms of  
431 effectiveness of animal-assisted intervention (AAI), *Complement. Ther. Med.* 41 (2018)  
432 203–207. <https://doi.org/10.1016/j.ctim.2018.10.001>.
- 433 [29] A.M. Lange, J.A. Cox, D.J. Bernert, C.D. Jenkins, Is Counseling Going to the Dogs? An  
434 Exploratory Study Related to the Inclusion of an Animal in Group Counseling with  
435 Adolescents, *J. Creat. Ment. Health.* 2 (2007) 17–31.  
436 [https://doi.org/10.1300/J456v02n02\\_03](https://doi.org/10.1300/J456v02n02_03).
- 437 [30] A. Schmitz, M. Beermann, C.R. MacKenzie, K. Fetz, C. Schulz-Quach, Animal-assisted  
438 therapy at a University Centre for Palliative Medicine – a qualitative content analysis of  
439 patient records, *BMC Palliat. Care.* 16 (2017) 50. <https://doi.org/10.1186/s12904-017-0230-z>.
- 441 [31] C. Lubbe, S. Scholtz, The application of animal-assisted therapy in the South African  
442 context: A case study, *South Afr. J. Psychol.* 43 (2013) 116–129.  
443 <https://doi.org/10.1177/0081246312474405>.
- 444 [32] K. Abrahamson, Y. Cai, E. Richards, K. Cline, M.E. O’Haire, Perceptions of a hospital-  
445 based animal assisted intervention program: An exploratory study, *Complement. Ther.*  
446 *Clin. Pract.* 25 (2016) 150–154. <https://doi.org/10.1016/j.ctcp.2016.10.003>.
- 447 [33] B. Berget, O.G. Aasland, S. Grepperud, B.O. Braastad, Animal-Assisted Interventions  
448 and Psychiatric Disorders: Knowledge and Attitudes among General Practitioners,  
449 Psychiatrists, and Psychologists, *Soc. Anim.* 21 (2013) 284–293.  
450 <https://doi.org/10.1163/15685306-12341244>.
- 451 [34] J. Bibbo, Staff Members’ Perceptions of an Animal-Assisted Activity, *Oncol. Nurs.*  
452 *Forum.* 40 (2013) E320–E326. <https://doi.org/10.1188/13.ONF.E320-E326>.
- 453 [35] A.F. Black, A. Chur-Hansen, H.R. Winefield, Australian psychologists’ knowledge of  
454 and attitudes towards animal-assisted therapy: Psychologists and animal-assisted  
455 therapy, *Clin. Psychol.* 15 (2011) 69–77. <https://doi.org/10.1111/j.1742-9552.2011.00026.x>.
- 457 [36] P. Crowley-Robinson, D.C. Fenwick, J.K. Blackshaw, A long-term study of elderly  
458 people in nursing homes with visiting and resident dogs, *Appl. Anim. Behav. Sci.* 47  
459 (1996) 137–148.

- 460 [37] S.V. Abate, *Nurse Leaders' Perspectives on Animal-Assisted Interventions*, Walden  
461 University, 2020.
- 462 [38] A. Hatch, *The View from All Fours: A Look at an Animal-Assisted Activity Program*  
463 *from the Animals' Perspective*, *Anthrozoös*. 20 (2007) 37–50.  
464 <https://doi.org/10.2752/089279307780216632>.
- 465 [39] M. Maurer, F. Delfour, J.-L. Adrien, *Analyse de dix recherches sur la thérapie assistée*  
466 *par l'animal : quelle méthodologie pour quels effets ?*, *J. Réadapt. Médicale Prat. Form.*  
467 *En Médecine Phys. Réadapt.* 28 (2008) 153–159.  
468 <https://doi.org/10.1016/j.jmr.2008.09.030>.
- 469 [40] J. Nimer, B. Lundahl, *Animal-Assisted Therapy: A Meta-Analysis*, *Anthrozoös*. 20  
470 (2007) 225–238. <https://doi.org/10.2752/089279307X224773>.
- 471 [41] Z. Ng, L. Morse, J. Albright, A. Viera, M. Souza, *Describing the Use of Animals in*  
472 *Animal-Assisted Intervention Research*, *J. Appl. Anim. Welf. Sci.* 22 (2019) 364–376.  
473 <https://doi.org/10.1080/10888705.2018.1524765>.
- 474 [42] P. Voigt, A. Von dem Bussche, *The eu general data protection regulation (gdpr)*, *Pract.*  
475 *Guide 1st Ed Cham Springer Int. Publ.* (2017).
- 476 [43] D. Society, *Standards of practice for animal assisted activities and animal assisted*  
477 *therapy*, Delta Society Renton (WA), 1996.
- 478 [44] F. Boizeau, A. Courcoul, M. Hamon, H. Ladreyt, S. Lefebvre, *La médiation animale -*  
479 *problématiques règlementaires et enjeux professionnels*, Institut d'Etudes Politiques de  
480 Lyon VetAgro Sup – Ecole Nationale des Services Vétérinaires, 2017.
- 481 [45] N.M. Budahn, *Effectiveness of Animal-Assisted Therapy: Therapists' Perspectives*,  
482 *Master Soc. Work Clin. Res. Pap.* (2013) 42.
- 483 [46] J.W. Creswell, C.N. Poth, *Qualitative inquiry and research design: Choosing among five*  
484 *approaches*, Sage publications, 2016.
- 485 [47] J. Michalon, *Les relations anthropozoologiques à l'épreuve du travail scientifique.*  
486 *L'exemple de l'animal dans les pratiques de soin*, *Sociétés*. 108 (2010) 75.  
487 <https://doi.org/10.3917/soc.108.0075>.
- 488 [48] D.K. Haubenhofer, S. Kirchengast, *Austrian and American approaches to animal-based*  
489 *health care services*, *Anthrozoös*. 19 (2006) 365–373.  
490 <https://doi.org/10.2752/089279306785415484>.
- 491 [49] M. Simonato, *The Italian Agreement between the Government and the Regional*  
492 *Authorities: National Guidelines for AAI and Institutional Context*, *People Anim. Int. J.*  
493 *Res. Pract.* 1 (2018) 13.
- 494 [50] B.M. Levinson, *The future of research into relationships between people and their*  
495 *animal companions*, *Int. J. Study Anim. Probl.* 3(4) (1982) 283–294.
- 496 [51] D. Edvardsson, P.O. Sandman, L. Borell, *Implementing national guidelines for person-*  
497 *centered care of people with dementia in residential aged care: effects on perceived*  
498 *person-centeredness, staff strain, and stress of conscience*, *Int. Psychogeriatr.* 26 (2014)  
499 1171–1179. <https://doi.org/10.1017/S1041610214000258>.
- 500 [52] E.D. Gundersen, B. Johannessen, *What motivates arrangements of dog visits in nursing*  
501 *homes? Experiences by dog handlers and nurses*, *Complement. Ther. Clin. Pract.* 31  
502 (2018) 104–110. <https://doi.org/10.1016/j.ctcp.2018.02.007>.
- 503 [53] L. Marino, *Construct Validity of Animal-Assisted Therapy and Activities: How*  
504 *Important Is the Animal in AAT?*, *Anthrozoös*. 25 (2012) 139–151.  
505 <https://doi.org/10.2752/175303712X13353430377219>.
- 506 [54] K. Wry Anderson, K. Wry-Anderson, D. Anderson, Alberta, *Alberta Children's*  
507 *Services, Chimo Project, Paws on purpose: implementing an animal-assisted aherapy*  
508 *program for children and youth, including those with FASD and developmental*  
509 *disabilities*, Chimo Project, Edmonton, 2008.

- 510 [55] A. Beetz, K. Kotrschal, D.C. Turner, K. Hediger, K. Uvnäs-Moberg, H. Julius, The  
511 Effect of a Real Dog, Toy Dog and Friendly Person on Insecurely Attached Children  
512 During a Stressful Task: An Exploratory Study, *Anthrozoös*. 24 (2011) 349–368.  
513 <https://doi.org/10.2752/175303711X13159027359746>.
- 514 [56] L.M. Glenk, A Dog’s Perspective on Animal-Assisted Interventions, in: M.R.  
515 Pastorinho, A.C.A. Sousa (Eds.), *Pets Sentin. Forecast. Promot. Hum. Health*, Springer  
516 International Publishing, Cham, 2020: pp. 349–365. [https://doi.org/10.1007/978-3-030-30734-9\\_15](https://doi.org/10.1007/978-3-030-30734-9_15).
- 517 [57] Y. Joye, Biophilia in Animal-Assisted Interventions—Fad or Fact?, *Anthrozoös*. 24  
518 (2011) 5–15. <https://doi.org/10.2752/175303711X12923300467249>.
- 519 [58] A.M. Beetz, Theories and possible processes of action in animal assisted interventions,  
520 *Appl. Dev. Sci.* 21 (2017) 139–149. <https://doi.org/10.1080/10888691.2016.1262263>.
- 521 [59] B. de Villers, V. Servais, La médiation animale : un concept fourre-tout?, in: Liège,  
522 Belgique, 2017: p. 9.
- 523 [60] C.K. Chandler, *Animal Assisted Therapy in Counseling*, Taylor & Francis, 2005.
- 524 [61] Z. Ng, J. Albright, A.H. Fine, J. Peralta, Our Ethical and Moral Responsibility, in:  
525 *Handb. Anim.-Assist. Ther.*, Elsevier, 2015: pp. 357–376. <https://doi.org/10.1016/B978-0-12-801292-5.00026-2>.
- 526 [62] L. Glenk, Current Perspectives on Therapy Dog Welfare in Animal-Assisted  
527 Interventions, *Animals*. 7 (2017) 7. <https://doi.org/10.3390/ani7020007>.
- 528 [63] L. Beck, E.A. Madresh, Romantic Partners and Four-Legged Friends: An Extension of  
529 Attachment Theory to Relationships with Pets, *Anthrozoös*. 21 (2008) 43–56.  
530 <https://doi.org/10.2752/089279308X274056>.
- 531 [64] F. Bert, M.R. Gualano, E. Camussi, G. Pieve, G. Voglino, R. Siliquini, Animal assisted  
532 intervention: A systematic review of benefits and risks, *Eur. J. Integr. Med.* 8 (2016)  
533 695–706. <https://doi.org/10.1016/j.eujim.2016.05.005>.
- 534 [65] K. Loukaki, P. Koukoutsakis, N. Kostomitsopoulos, Animal welfare issues on the use of  
535 rabbits in an animal assisted therapy program for children, *J. Hell. Vet. Med. Soc.* 61  
536 (2010) 220–225.
- 537 [66] J.A. Serpell, The Human-Animal Bond, in: L. Kalof (Ed.), *Oxf. Handb. Anim. Stud.*,  
538 Oxford University Press, 2017: pp. 80–97.  
539 <https://doi.org/10.1093/oxfordhb/9780199927142.013.31>.
- 540 [67] A.M. Beetz, Theories and possible processes of action in animal assisted interventions,  
541 *Appl. Dev. Sci.* 21 (2017) 139–149. <https://doi.org/10.1080/10888691.2016.1262263>.
- 542 [68] A. Colussi, B. Stefanon, C. Adorini, M. Sandri, Variations of salivary cortisol in dogs  
543 exposed to different cognitive and physical activities, *Ital. J. Anim. Sci.* 17 (2018) 1030–  
544 1037. <https://doi.org/10.1080/1828051X.2018.1453756>.
- 545  
546  
547