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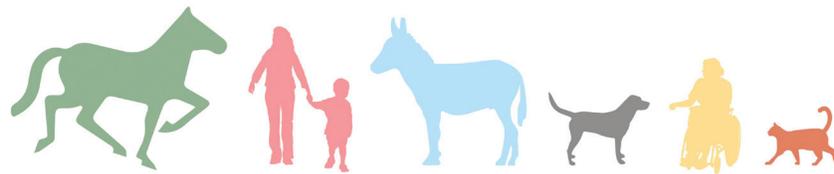
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Animal-Assisted Interventions: Relationship Between Standards and Qualifications

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Abstract: Ethical practice of animal-assisted interventions (AAI) requires appropriate qualifications and experience for all parties involved. Recently introduced and updated Standards of Practice emphasize the importance of AAI-specific training and qualification for different types of AAI, which should only be delivered within the scope of one's professional competence. The purpose of this study was (1) to explore how a self-selected group of practitioners delivering AAI describe their work in relation to recent attempts to develop a terminological consensus (IAHAIO, 2014, 2018), and (2) to describe how AAI best practice recommendations (AAIL, 2018) are implemented into professional practice among these AAI professionals working with dogs. The study employed an online survey that identified the participants' qualification level, AAI specific training background, level of AAI experience, and their compliance with recommended guidelines on the documentation and measurement of clients' progress. Data was collected from an international sample of 239 AAI professionals. A high proportion of respondents who were practitioners in a given field reported holding the necessary basic academic qualification for delivering animal-assisted education (AAE) (82.1%) or animal-assisted therapy (AAT) (91.4%). A substantial proportion delivered specific types of AAI that were beyond their scope of professional practice. A large proportion of respondent practitioners reported that they do not document (27.5%) or measure (28.5%) their clients' progress as recommended by the professional standards. Experience in AAI was not a significant predictor of compliance with the recommended guidelines on documentation and measurement of clients' progress; however, professional experience was related to their AAI experience. It is suggested that limitations in the provision of AAI-specific training and awareness of recently updated best practice recommendations influence the quality of AAI across practitioners. Overcoming these issues is essential to further professionalize AAI practice and enhance the quality of intervention programs.

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Introduction

Definitions of Animal-Assisted Intervention

The varied and ambiguous use of specific terms to describe the different types of AAI (e.g., pet therapy, pet psychotherapy, pet-facilitated therapy, animal-assisted therapy, pet-oriented psychotherapy; LaJoie, 2003) and the lack of precise or detailed description of the treatment programs (Kazdin, 2015) have created confusion over the purpose and applicability of AAI within the field and research (Fine et al., 2015; Kruger & Serpell, 2006). As a result, AAI programs described in the research literature are hard to compare and replicate (Bert et al., 2016; Palley et al., 2010; Serpell et al., 2017). Overcoming these misconceptions is essential in order to protect client and animal welfare while ensuring precise clinical applicability, efficacy, and validity of different types of AAI (e.g., Kazdin, 2015). Indeed, over recent decades, numerous organizations (e.g., Pet Partners [formerly known as Delta Society], Society for Companion Animal Studies) have attempted to promote standardized definitions to specify the differences between distinct types of AAI, such as animal-assisted activity (AAA) and animal-assisted therapy (AAT) and animal-assisted education (AAE) (Kruger & Serpell, 2010).

There is a growing consensus that AAI should be considered an umbrella term used to describe all programs that incorporate animals into the therapeutic or ameliorative process to enhance the quality of life of clients (Glenk, 2017; Kruger & Serpell, 2010), with subcategories, including AAA, AAT, and AAE. AAA is defined as an activity that provides “motivational, educational, recreational and/or therapeutic benefits to enhance quality of life” (Kruger & Serpell, 2010, p. 34) and can be delivered in a variety of environments (e.g., schools, hospitals, care homes, etc.) by specially trained professionals, paraprofessionals, and/or volunteers with the participation of specially trained animals (Pet Partners, 2018). AAT is a more formal intervention; it should be a goal-oriented, planned, and structured therapeutic intervention directed by a health and/or human service provider within the scope of his/her profession. AAT

can “focus on enhancing physical, cognitive, behavioural and/or socio-emotional functioning of clients” (IAHAIO, 2014, p. 4). The progress of clients should be measured and documented (AII, 2019; Kruger & Serpell, 2010). AAE is a “goal-oriented, planned, and structured intervention directed by a general or special education professional (i.e. qualified teacher for the educational group). The focus of the activities is on academic goals, prosocial skills, and cognitive functioning with students’ progress being both measured and documented” (AII, 2019).

Standardized Definitions, Guidelines, and Standards of Practice

The most current and detailed definitions were agreed and published by the International Association of Human-Animal Interaction Organizations (IAHAIO) in 2014, as *The IAHAIO Definitions for Animal Assisted Intervention and Guidelines for Wellness of Animals Involved* (http://iahaio.org/wp/wp-content/uploads/2018/04/iahaio_wp_updated-2018-final.pdf), providing examples of specific types of AAI and essential information about the welfare and well-being of participating clients and animals in AAI, which was updated in 2018. Human aspects of the guidelines involve the consideration of safety measures and risk reduction for clients (e.g., screening for allergies, checking medical records, being aware of the needs of specific populations, respecting cultural differences and religion) as well as the need for prior training of people working with AAI. Animal aspects include detailed descriptions on how the welfare of participating animals could be protected (e.g., handlers should be responsible for the appropriate training, regular behavioral and temperament evaluations and health checks of their animals). It is also emphasized that people delivering AAI sessions need to receive prior training in animal behavior to be able to detect subtle signs of stress and discomfort and understand the boundaries of the animal’s ability. Although there is a notable absence of reference to the scientific literature concerning how this should be done, Hall et al. (in press) have recently developed a validated instrument to assess the welfare

of dogs around children. While many of these considerations apply to other species' involvement in AAI, this paper focuses on dogs.

Working with AAI requires sufficient knowledge and experience by people involved in any types of AAI (VanFleet & Faa-Thompson, 2017). It was recently suggested that standards must be in place to ensure that professionals working in the field have functional knowledge of the principles of AAI, understand animal behavior and body language, and can be an advocate on behalf of the animal to be able to successfully integrate the scope of AAI into practice safely and competently (Fine et al., 2015; Shue et al., 2018). Additionally, in 2011 the organization Animal-Assisted Intervention International (AII) published minimum standards of practice in AAI which were revised and updated in 2019 (AII, 2019). AAI organizations adhering to the AII standards and competencies are required to take responsibility for their members' competencies, aptitudes, attitudes, and standards. Similar standards have been introduced by European organizations, such as the International Society for Animal Assisted Therapy (ISAAT) and the European Society for Animal Assisted Therapy (ESAAT). European standards also extend to the accredited continuing education programs these organizations provide for professionals. The AII Standards of Practice only apply to people delivering AAA, AAT, and AAE specifically with dogs on a volunteer and/or professional basis, while the European standards are extended to AII with other domesticated species (e.g., rabbits, guinea pigs, mice, rats, cats, and horses). AII (2019) has proposed detailed standards of practice for the health, welfare, and well-being of dogs, for dog handlers (those working with AAA and/or animal support, and practitioners working with AAT and/or AAE) for the ethical treatment and welfare of participants, and for AAA, AAT, and AAE separately.

Required Training, Qualification for Humans Involved in AAI

AII Standards of Practice (2019) contain a comprehensive summary of the recommendations people

involved in AAI need to adhere to when delivering AAI. These include having relevant experience and knowledge of dog behavior, training methods, and breed-specific and individual traits in addition to relevant expertise relating to the clients' physical and/or developmental disabilities and mental health. The AII Standards of Practice also summarize the basic knowledge and training requirements for people working with dogs during AAI sessions; for example, it is recommended that they must take part in formal training and assessment before they start practicing, and they need to have at "least 10 hours of formal continuing education (e.g. workshops, webinars, books, formal coursework, conferences, internship etc.) every year in the topic of AAI, dog training and/or dog behaviour" (AII, 2019, p. 13). AAT human/health service providers and AAE providers must have at least college-level qualifications or equivalent, according to the AII Membership Requirements (<https://aai-int.org/membership/fields-and-criteria/>). The AII Standards of Practice also suggest that all staff involved in AAI should have adequate knowledge to understand the clear goals, objectives, and therapy process of the AAI program to maximize benefits for clients (VanFleet & Faa-Thompson, 2017). Staff should also be aware of liability issues and be able to provide information about the risks associated with taking part in AAI (Baumgartner & Cho, 2014). These recommendations mentioned above also form an essential part of the ISAAT and ESAAT accreditation programs.

Despite the clear guidelines on qualifications and specialized training for professionals delivering AAI, there appears to be a general lack of understanding about the importance of previous formal training before starting to practice and lack of knowledge about the benefits of different types of AAI among professionals internationally (Smith & Dale, 2016). Indeed, Black, Chur-Hansen, and Winefield (2011) found that among Australian psychologists, most participants conducting AAI did not take part in formal training in this aspect and built their knowledge of AAI through self-learning (i.e., via personal experience, observation, or self-motivated research). Similar findings were found among a small population

of Australian teachers who incorporated AAE into classroom settings with children on the autism spectrum where only 11% (2) of respondents were reported to have formal experience/training with AAE (Smith & Dale, 2016). Moreover, in a sample of U.S. play therapists, it was found that 48/83 (58%) of play therapists did not have any specialized training associated with involving animals in their work. Within this sample 58% of the respondents also indicated that their animal did not have any specific or formal training before involving them AAI (VanFleet, 2007). Furthermore, Shue, Winkle, and Mulcahey (2018) assessed how AAI best practice recommendations were implemented into practice by a small group of pediatric occupational therapists (OT) who used animal-assisted occupational therapy (AAOT) in the United States. It was found that 14/21 respondents (66%) did not have any formal training in AAOT, or the type of training they took part in did not meet the AAT Standards of Practice. Additionally, De Santis et al. (2018), in a study on AAI use among 201 Italian service providers (93% delivering AAA, 82% AAE, and 70% AAT), found that 91% of handlers and trainers took part in AAI-related training while 75% of therapists and 66% of medical practitioners completed AAI training. However, it was noted that these numbers might be overestimated due to recent changes in national guidelines on the classification of different types of AAI programs.

Another factor that might affect how AAI Standards of Practice recommendations (e.g., on documentation and measurement of clients' progress) are implemented into professional practice is the professional's self-efficacy. Within this context self-efficacy has been defined as the "counselor's beliefs or judgments about his or her capacities to effectively counsel a client in the near future" (Larson & Daniels, 1998, p. 237). Previous findings indicate a strong link between self-efficacy and counselling performance (e.g., Johnson et al., 1989; Melchert et al., 1996). Furthermore, a strong association has been reported between self-efficacy and counselling competencies in Animal-Assisted Play Therapy® (Hansing, 2014). Specifically, Hansing (2014) found that years

of counseling experience was closely related to the counselor's ability to perform different tasks while delivering AAPT sessions (e.g., employ appropriate counseling techniques and skills tailored to the client's needs to facilitate discussion of problems).

As animal-assisted intervention is becoming more popular as a supplementary intervention program, there also appears to be a parallel increase in the misuse of terminology among practitioners. However, objective studies have not been conducted to assess how professionals use terminology to describe their intervention programs and whether these intervention programs are within their professional scope. Moreover, the effect of training background and their level of experience on compliance with recommended international guidelines (AAII) has yet to be explored. Anecdotally, although AAI is growing in popularity around the world, it seems many service providers have not received formal training specific to the type of AAI they conduct (Black et al., 2011). However, due to the small number of participants and the limited geographical distribution of those surveyed to date, it remains unclear whether this is a local or global problem.

Research Questions

Considering the wide range of definitions historically used to describe AAI and its subcategories, considerable variation can be expected in the programs offered by AAI professionals. Therefore, this study aimed to evaluate the relationship between professionals delivering different types of AAI programs and the recommended necessary qualifications and adherence to recommended standards of practice on documentation and monitoring of client progress. Based on previous research, it was hypothesized that some professionals will not hold a college- and/or degree-level qualification for the type of AAI they claim to conduct and/or lack prior AAI-specific training. Moreover, it was predicted that compliance with guidelines on the documentation and measurement of client progress can be related to years of AAI practice (as a measure of AAI experience). Years of AAI practice could be related to training

background, years of professional experience, and the number of different AAI people claim to deliver.

Method

Instrument

An online survey was created in Qualtrics™ to evaluate how AAA, AAT, and AAE were used and how professionals' background (e.g., degreed/licensed educator or health/human service provider) was related to their compliance with the recommended guidelines on the documentation and measurement of clients' progress in AAE and AAT. The questionnaire development process followed the design procedure of Schoenfeld-Tacher et al. (2017) to ensure the validity of the questionnaire. The questionnaire was designed, reviewed, and evaluated by the co-investigators at the University of Lincoln and the International Institute for Animal-Assisted Play Therapy® (IIAAPT). To ensure that the responses reflect a detailed view of the professional use of AAI, community-based service providers (special educational needs teachers, therapists, animal handlers/trainers who either use AAI in their work or train animals to AAI work) were also involved in the design process. They were asked to provide feedback on the survey structure, content, questions, and answer options. The feedback provided by the community members was reviewed by the co-investigators and this process was repeated until an agreement was reached between the investigators and the community members.

The questionnaire had two distinct sections. In the first part, participants were asked to provide basic demographic information about themselves (e.g., age, gender, permanent place of residency, profession, etc.), while the second set of questions focused on their AAI background, involving questions about the type of AAI they delivered, the level of experience they had with the chosen AAI, the clientele, type of animals used in sessions, and the length, frequency, and size of sessions. Questions were also formulated to assess the AAI training background of participants, relevant to the type of AAI they were working with. Participants' adherence to AAT/AAE guidelines on

documentation and measurement of client progress were also assessed.

Definitions of the different types of AAI (AAA, AAE, and AAT, based on the definitions provided by Pet Partners) were provided to participants before completion of the questionnaire.

Data Collection

A snowball sampling method was used to reach AAI professionals across the world. Participants were recruited online with the help of AAI organizations (e.g., Animal-Assisted Intervention International, International Institute for Animal-Assisted Play Therapy®, Pet Partners, and Dogwood Therapy Services) and with the help of social media, for example, groups interested in human-animal interaction (e.g., Companion Animal Psychology, Do You Believe in Dog?), who shared the survey with their members. To be eligible to take part in the survey, people had to be involved in AAI regularly. All data were collected anonymously.

Data Analysis

Analyses were completed using IBM Statistical Package for Social Sciences (SPSS) version 25 and Stata version 15. A directed acyclic graph (DAG) (Textor et al., 2016) was also used to explore the relationship between the variables and to select the relevant confounding variables for the regression analyses.

Participants were divided into two groups: (1) practitioners who reported leading AAT and/or AAE sessions with or without their own animal, and (2) handlers who self-reported being trained and evaluated with an animal (mainly dogs) in order to assess their ability and suitability for involvement in AAI programs, and who also reported taking part, but not leading, programs in various environmental settings. The relationship between participant self-reported involvement in AAI (i.e., practitioner versus handler status) and whether they held a relevant postsecondary-level qualification to underpin AAE/AAT was assessed using a chi-squared test of association. A similar analysis was used within the practitioner group (i.e.,

educators and therapists) to compare self-reported activity within AAE/AAT and relevant qualification, that is, whether the educators held the relevant postsecondary-level qualification (e.g., educator, special education needs teacher, etc.) and therapists held the relevant postsecondary-level qualification (e.g., occupational therapist, play therapist, etc.).

The types of AAI-specific (i.e., AAA, AAT, AAE) training programs undertaken by the participants were evaluated from frequency distribution analysis. Based on respondents' answers, training background was divided into two categories, formal- and non-formal training. Formal training was comprised of those courses that involved summative assessment at the end of the course (e.g., courses provided by AAI organizations and/or continuing education [CE]/continuing professional development [CPD] courses), while nonformal training was classified as courses that did not include an assessment at the end of the training, including self-study programs.

To determine whether practitioners' qualification background (i.e., qualified versus nonqualified practitioners delivering either AAE/AAT) or previous training experience (i.e., formal versus nonformal training) were associated with compliance with guidelines on either the documentation or the measurement of clients' progress, chi-squared tests were also used. As this was an initial exploratory study with a relatively small sample size, where the risk of identifying spurious relationships was outweighed by the risk of failing to identify potentially important relationships for future study, no statistical correction was applied for multiple testing in accordance with the recommendations of Perneger (1998).

Based on previous research (Hansing, 2014) and the recommendation provided by the AAI Standards of Practice (2019), a single predictor, years of AAI practice (less than 10 years in practice, more than 10 years in practice) while accounting for various potential confounds (the participants' years of professional experience, i.e., years worked as an educator and/or a therapist; the number of different types of AAI participants reported delivering; and AAI-specific training background, i.e., formal vs. nonformal training) was included in a logistic regression analysis to

explore whether it predicts practitioners' compliance with guidelines on either documentation and/or measurement of client's progress; confounding variables were based on the minimal sufficient adjustment set for estimating the total effect of year of AAI practice on the compliance with the guidelines.

The participants' permanent place of employment was also taken into consideration to explore whether there are any differences in the compliance with guidelines among European and U.S. professionals.

Results

Demographics

A total of 239 participants who actively used AAI in their work, aged from 21 to 88 years old ($M = 58.82$, $SD = 13.93$), responded to the survey. There was a strong female bias ($N = 212$, 88.7%), with only 27 (11.3%) male respondents. In terms of AAI work, there were no restrictions on the nature of AAI work that they were involved in, the type of animal they used, and the age ranges of clients they worked with. Participants from all around the world had access to the online questionnaire, but 95.82% of the sample were from the United States ($N = 179$) and Europe ($N = 50$) while the remaining 4.18% ($N = 10$) indicated that they worked and lived in Africa, Asia, Australia, or Canada.

Practitioner Background and AAI Use Among Participants

There were 51 educators (21.3%), 68 therapists (28.5%), and 120 handlers (50.2%) in the sample. The distribution of the types of AAI participants reported using is illustrated in Figure 1.

Type of Animals Participating in AAI

The vast majority of participants worked with dogs ($N = 205$, 88.4%) as animal partners while the rest of the respondents reported that they worked with horses/donkeys ($N = 14$, 6%), or cats, small or aquatic animals ($N = 6$, 2.6%) or "other animals"

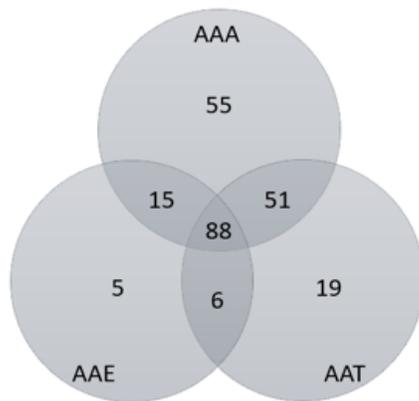


Figure 1. The distribution of self-reported AAI use among participants.

($N = 7$, 3%), including ball pythons, pot-bellied pigs, chickens, ducks, and goats.

Necessary Qualification Level for AAT and AAE

Eighty-five practitioners out of 107 (79.4%) who self-reported AAE/AAT use held a relevant qualification level for the reported types of intervention program, whereas a significantly higher proportion of handlers (75 out of 78: 96.2%) who self-reported AAE/AAT participation did not hold this level of qualification ($\chi^2(1) = 10.78, p < .001$).

Within the practitioner group 60 participants reported conducting AAE sessions; however, only 39 (65%) of participants held a relevant qualification (e.g., teacher, SEN teacher, etc.) for AAE. Moreover, 90 practitioners indicated delivering AAT sessions, though only 58 (64.4%) held a relevant qualification (e.g., psychologist, occupational therapist, play therapist, etc.) for this type of AAI. The likelihood of holding the relevant professional qualification was not related to practitioner group ($\chi^2(2) = 0.005, p = 0.944$). The distribution of self-reported AAI use among practitioners is illustrated in Figure 2.

Many AAI practitioners worked in more than one area. AAT was self-reported by 32 qualified educators (82%), but only 6 of these (18.7%) met the relevant qualification criteria for conducting AAT; likewise, AAE activity was self-reported by

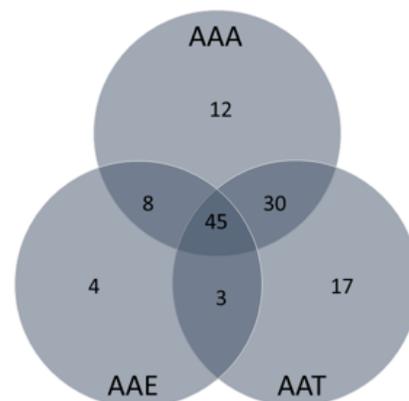


Figure 2. The distribution of self-reported AAI use among practitioners. People who self-reported that they worked only with AAA were excluded from the analysis.

21 (36.2%) qualified therapists, but only 1 (5%) had the qualification for conducting AAE.

AAI Training Background of Practitioners

Of the practitioners who reported conducting AAE/AAT, 32 out of the 39 educators (82.1%) had relevant AAE training, while 53 out of 58 therapists (91.4%) indicated taking part in AAT-specific training.

Out of the 105 practitioners who commented on their training background, 82 people were assigned to the formal training group, while 23 participants were allocated to the nonformal training group. There was no information about the training background of 14 participants, who were excluded from the subsequent analysis.

Measurement and Documentation of Progress

Within the practitioner sample, 101 people who reported delivering AAE/AAT sessions commented on their documentation and measurement techniques. Seventy-two practitioners out of 101 (71.3%) indicated that they make diaries and/or video/audio recordings of their sessions to document clients' progress. An additional 5 practitioners (5%) reported other methods, for example, taking photos during the sessions as a form of documentation technique.

However, 24 practitioners (23.7%) indicated that they do not document their clients' progress.

In terms of measurement techniques 30 practitioners out of 101 (29.7%) reported that they either make observations or analyze their notes and diaries. Additionally, 10 practitioners (9.9%) stated that they rely on the feedback they get from clients' carers (e.g., parents). Using various psychometric test batteries and evaluation tools as a progress measurement technique was reported by 8 practitioners (7.9%). However, the majority of participants ($N = 32$; 31.7%) used more than one measurement technique to track the progress of the clients. Only 1 practitioner (1%) reported using another progress measurement technique: analyzing the photographs they made during sessions; 20 practitioners (19.8%) indicated that they do not measure the progress of their clients.

Compliance with Guidelines Based on Training Background

Sixty-one out of 72 practitioners (84.7%) with relevant qualifications working in AAT/AAE both documented and measured clients' progress, and 6 out of 9 practitioners (66.7%) without relevant qualifications did documentation and measurement of clients' progress from session to session ($\chi^2(1) = 1.82, p = 0.183$).

When considering training background, 57 out of 71 practitioners (80.3%) with, and 16 out of 20 practitioners (80%) without a formal training background documented their clients' progress ($\chi^2(1) = 0.001, p = 1.000$). The same pattern was found with the measurement of clients' progress and training background of practitioners: 61/ 71 (85.9%) with a formal training background and 17/20 (85%) without formal training ($\chi^2(1) = 0.011, p = 1.000$).

AAI and Professional Experience Among Participants

Eighty professionals (80.8%) had less than 10 years of AAI practice experience and 19 professionals (19.2%) had more than 10 years of AAI practice experience. It was shown that 45 professionals (54.3%)

had less than 15 years of professional experience, while 38 professionals (45.7%) had over 15 years of professional experience. As for the number of forms of AAI practiced, 45 (37.8%) professionals indicated they conducted all types of AAI, 41 (34.5%) professionals reported using 2 different types of AAI, while 33 (27.7%) professionals indicated they used only one type of AAI in their practice.

Logistic Regression Exploring the Factors Contributing to Professionals' Compliance with Guidelines on the Documentation of Clients' Progress

In the logistic regression models for the documentation and measurement of clients' progress, 62 professionals were included.

The results of the logistic regression showed that years of AAI practice was not a significant predictor of compliance with guidelines on documentation of clients' progress (odds ratio [OR] 4.68, 95% confidence interval [CI]: 0.47 – 49.11, $p > 0.05$). However, years of professional experience as a confounding variable had a significant effect on the years of AAI practice (OR 0.14, CI: 0.03 – 0.74, $p = 0.018$) suggesting that expertise in one's professional practice is related to their years of AAI practice. The other two confounding variables, that is, the number of different AAI sessions practitioners conduct and their training background, were not related to their years of AAI practice.

Logistic Regression Exploring the Factors Contributing to Professionals' Compliance with Guidelines on the Measurement of Clients' Progress

The results of the logistic regression showed that years of AAI practice was not a significant predictor of compliance with guidelines on measurement of clients' progress (OR 2.60, CI: 0.25 – 27.31, $p > 0.05$). However, years of professional experience as a confounding variable showed a prominent although statistically nonsignificant trend effect on the years of AAI practice (OR 0.19, CI: 0.03 – 1.19, $p > 0.05$). The other two

confounding variables, that is, the number of different AAI sessions practitioners conduct and their training background, were not related to their years of AAI practice.

Regional Differences in Compliance with Guidelines on Documentation and Measurement of Clients' Progress

Professionals' place of employment was also taken into consideration when their compliance with guidelines was assessed. All European professionals indicated that they fully complied with the guidelines on documentation and measurement of clients' progress, that is, all 28 participants reported using some kind of technique to comply with these guidelines.

However, the results from U.S. professionals differed from the responses of European participants. Within the U.S. sample, 23 out of 66 professionals reported not using any technique to document their sessions and 20 practitioners did not report any technique to measure their clients' progress from session to session.

Logistic regression analyses were run to assess whether years of AAI practice could predict U.S. professionals' compliance with the guidelines while also accounting for their professional experience. The results showed that years of AAI practice was not a significant predictor for either documentation of clients' progress (OR 9.32, CI: 0.81 – 107.21, $p > 0.05$) or the measurement of clients' progress (OR 4.19, CI: 0.37 – 47.83, $p > 0.05$). However, years of professional experience had a significant effect on years of AAI experience in the case of documentation (OR 0.14, CI: 0.02 – 0.82, $p = 0.029$) but not in the case of measurement (OR 0.19, CI: 0.03 – 1.33, $p > 0.05$).

Discussion

The aims of the current research were (1) to explore the extent to which practitioners appeared eligible for the type of AAI they self-reported to conduct based on their qualification and training background,

given current recommendations, and (2) to explore the underlying factors that might affect their compliance with recommended guidelines on the documentation and measurement of clients' progress. There were four main findings of the study. First, although a high proportion of practitioners reported holding the necessary qualifications for delivering AAE (65%) and AAT (64.4%), there was still a substantial number of them delivering specific types of AAI that were beyond their scope of professional practice. Second, the majority of AAE/AAT practitioners were reportedly complying with the recommended guidelines for recording clients' progress by using a wide variety of documentation and measurement techniques. However, a substantial percentage of them reported that they did not document (27.5%) or measure (28.5%) their clients' progress. Third, qualification level or training background were not associated with practitioners' compliance with guidelines on the documentation and measurement of progress. Last, it was found that the years of AAI practice (AAI experience) did not predict practitioners' compliance with the recommended guidelines on the documentation and measurement of clients' progress. However, the results suggested that practitioners' professional experience related to their AAI experience.

AAI recommended guidelines and Standards of Practice have been available from the IAHAIO (2014) for several years and emphasize the importance of relevant qualifications and AAI-specific training before people incorporate an animal partner in their sessions. Our findings add further weight to the concern that these recommendations might not be widely implemented into professional practice (e.g., De Santis et al., 2018; Shue et al., 2018). In our case, 82% of educators and 36.2% of therapists reported delivering AAI outside of their scope of professional practice. This might reflect the lack, until recently, of universal terminology to describe the different types of AAI programs, resulting in loose use of these terms (De Santis et al., 2018; Kruger & Serpell, 2010). Moreover, 36.8% of our international sample reported that they deliver all types of AAI sessions (87.4% reported doing AAA, 47.7% reported conducting AAE, and 68.6% claimed to

run AAT), though they might not hold a necessary qualification for all types, indicating the updated terminology and best practice recommendations are not part of the culture of practice yet (see also De Santis et al., 2018). Overcoming these problems is important because using inaccurate terminology to describe one's intervention and/or therapy program can be misleading for clients and undermine perceptions of the profession. Furthermore, clients' and animals' welfare might be affected if the practitioner delivering the AAI program does not hold the relevant qualification.

Best practice recommendations also suggest that people delivering AAI sessions need to complete prior AAI-specific training and to undertake relevant continuing education programs annually (AII, 2019). Previous research in this area shows that practitioners tend to deliver AAT without undertaking specific training (Black et al., 2011; De Santis et al., 2018; Shue et al., 2018; Smith & Dale, 2016), suggesting that there is a lack of understanding of the importance of previous specialized AAI training. On the other hand, these findings are limited to specific practitioners (e.g., OT, AAE, play therapists) and locations (e.g., Australia, Italy, United States). Our findings support and expand previous work by showing that in a more internationally broad sample of both AAI therapists and educators there was huge variability in their training background, ranging from self-development to certification programs (e.g., by the IIAAPT[®]). Although 82 participants (78.1%) reported that they took part in AAI-specific formal training, in many cases they used a single type of training program as evidence that they are trained to deliver a range of different types of intervention programs, which were outside their scope of profession and likely to demand different skills. Moreover, 19% ($N = 20$) of practitioners reported that they did not take part in any prior AAI-related training, though they stated that they actively used/delivered AAI. Claiming to be self-taught for multiple types of AAI work raises serious concerns about the quality assurance of intervention programs. For instance, prior theoretical and practical experience and knowledge of AAI will affect how practitioners deliver the

sessions. Furthermore, theoretical knowledge gained through reading books or online sources on AAI is not comparable to supervised practical experience where both animals and the animals' caretakers are regularly evaluated. However, it must also be conceded that the quality of nonregulated private education might also be very variable. While ISAAT and ESAAT provide accredited training programs that require formal examination at a professional level, future studies should investigate how these standardized training programs affect AAI professionals' adherence to professional guidelines.

In terms of measurement techniques, only 30 practitioners out of 101 (29.7%) reported that they either make observations or analyze their notes and diaries. Additionally, 10 participants (9.9%) stated that they relied on the feedback they get from parents. Using various psychometric test batteries and evaluation tools as a progress measurement technique was reported by 8 participants (7.9%). The majority of participants ($N = 32$; 31.7%) used more than one measurement technique to track the progress of the clients. Only 1 participant (1%) reported using another progress measurement technique: analyzing the photographs they made during sessions. It is a concern that 20 participants (19.8%) indicated that they do not measure the progress of their clients, even though it was suggested that documentation was a requirement for this work in the definitions provided to allow them to self-classify their activity. Thus the recent best practice recommendations of the IAHAIO (2018) and the AII (2019) do not appear to be followed, and the methods that are used vary enormously from making session diaries/progress reports, audio/video recordings, and photographs as a form of documentation to analyzing notes, using psychometric test batteries, or obtaining parental feedback to keep track and measure the progress of their clients. We suggest that more specific guidelines be developed on what should be documented from both a professional and legal standpoint in relation to reasonable expectations for the public. Without appropriate documentation and precise measurement techniques to evaluate clients' progress, it is difficult to track the clients'

transitional change over time, establish efficacy, or resolve disputes over the impact of services provided to what is often a vulnerable demographic. It was also suggested that these results can be more related to participants' professional practice and the failure to document the sessions and track the progress of the clients can also reflect clinically inadequate practice resulting in inadequate AAT/AAE practice. Documentation is also important to protect animal welfare as handlers might fail to recognize behavior and health changes of the participating animal (as suggested in the Standards of Practice), which could increase both the efficacy of the program and the risk to the client as well as the long-term sustainability and quality of the work. Failure to document and measure progress also undermines the growing need for an evidence base to support the efficacy of AAI in various contexts and to improve service by identifying what does and does not work and in what contexts, which is critical given the highly individualized nature of the intervention.

It has previously been suggested that people have difficulty in accessing formal AAI-specific training, which might affect how they comply with the best practice recommendations and how they meet the standards of practice (Shue et al., 2018). However, our results show that practitioners' training background, that is, taking part in formal or nonformal training, was not related to practitioners' adherence to the standards of practice for documentation and measurement of clients' progress. Furthermore, similar proportions of qualified practitioners reported documenting (80%) and/or measuring (85%) the progress of their clients in both the formal and nonformal training background groups. This suggests that compliance with guidelines might be independent of training background. One possible explanation is that AAI organizations usually set their own recommendations for people delivering AAI sessions and this might include the requirement for documentation and measurement, that is, practitioners are required to implement this into professional practice regardless of their training background. However, the provision of standardized, accredited AAI training programs for professionals (Black et al., 2011)

will not only improve client and animal welfare but could also have a beneficial effect on the transparency of AAI programs delivered by different service providers.

Recent research suggests that experience in AAI might be a contributing factor to the development of practitioners' self-efficacy (Hansing, 2014), which could affect how practitioners manage their sessions and comply with the guidelines. The results of the current study do not support this suggestion as years of AAI practice (AAI experience) did not predict practitioners' compliance with the guidelines on documentation and measurement of clients' progress. However, our findings showed that years of professional experience is a significant contributing factor to their AAI experience, which might affect how they comply with the guidelines. Further research on the role of professionals' self-efficacy and experience is needed to assess the contributing factors that influence professionals' compliance with guidelines. Understanding these underlying factors could inform the development of effective evidence-based training programs and improve the quality of AAI practice.

The results also showed that there were regional differences in the compliance with the recommended guidelines among European and U.S. professionals. All European professionals reported fully complying with these guidelines. However, 34.8% of U.S. professionals reported not documenting and 30.3% reported not measuring the progress of their clients. Interestingly, although their AAI experience was not a significant predictor for the documentation and measurement of progress, years of professional experience was a contributing factor in case of documentation but not in the measurement of progress.

To our knowledge, this is the first study that provides empirical evidence for the inconsistent use of terminology among both educators and therapists who actively work with AAE/AAT around the world. Moreover, this study also shows that even though the majority of practitioners reported having training specialized for AAI, they might not be aware of the boundaries of the wide variety of available training programs. Our results suggest that professional

experience together with AAI experience may contribute to how practitioners comply with guidelines on documentation and the measurement of clients' progress. We suggest that priorities for future development are (1) to assess the content of available AAI-specific training and how the variability in the content of the AAI training affects compliance with the recommended guidelines, (2) to further investigate the underlying factors that might affect compliance with the updated standards of practice and best practice recommendations, and (3) to determine the factors that encourage practitioners to extend and continuously update their knowledge in AAI. This will enable the development of a sound pathway to encourage the uptake and implementation of best practice recommendations to enable the professionalization of the practice of AAI.

Limitations

This study had a few limitations for assessing AAE/AAT-related qualifications, training background, and experience. One such limitation is the small sample size in some of the analyses. Although 239 participants responded to the survey, smaller groups were used for analysis as participants were divided into groups based on their self-reported professional background, for example, qualification, AAI training, and experience level. Using self-reported measures might have underestimated the actual number of participants in each group since they could choose not to disclose this information. However, it is recognized that given the nature of this study, the sample is probably biased to overestimate quality since only the most enthusiastic might engage with such a survey, and therefore the results should be considered a best-case scenario, with only the strongest relationships apparent.

Another limitation is that the majority of the participants were from Western societies, for example, from the United States and Europe, suggesting that little is known about how AAI is implemented into professional practice elsewhere. Furthermore, the study only investigated the recently introduced and

updated international best practice recommendations and standards of practice (based on IAHAIO and AAI for dogs), while it is possible that national standards in the individual countries from which participants took part in the study have not been updated yet. Although participants were presented with the updated definitions by IAHAIO and AAI before answering the questions, in future studies participants need to be asked about their familiarity with recently updated standards of practice and the White Paper published by the IAHAIO.

Summary for Practitioners

There is rapidly growing interest in the field of AAI among education and therapy professionals. Because of the need to establish competent and ethical practice that ensures the best interests of clients as well as the assisting animals, a number of organizations and associations have published competencies and qualifications as well as standards of practice. The current study was designed to explore the state of AAI practice among professionals, awareness of scope of practice issues, and compliance with recommended practice.

This study explored the relationship between practitioners who currently deliver different types of AAI and their compliance with the recommended qualifications and standards of practice, with a specialized look at one such indicator, the monitoring and documentation of client progress. Two hundred thirty-nine AAI professionals responded to a carefully constructed survey of AAI current practice. The survey gathered information about qualification levels of professionals, levels of training and experience with specific forms of AAI, and compliance with recommended practices of AAI, and more specifically, the documentation and measurement of client progress when participating in AAI.

The results indicated that while many AAI practitioners had the general academic level recommended for AAI, far fewer had the requisite qualifications for delivering the specific forms of AAI that they were conducting. Furthermore, a surprising

number did not document client progress in a way that would comply with standards of AAI practice that have been developed. These gaps point to needs within the field of AAI in order to strengthen the professionalism of the field as well as ensuring that practitioners involved in AAI are within their scope of practice.

Practitioners need to become more aware of the professional standards of this field, the competencies recommended by an increasing number of professional bodies considered critical to the ethical practice of AAI, and the standards of practice that have been developed. AAI requires a great deal of knowledge and skill, accompanied by a positive attitude toward continuous learning as our knowledge and evidence base grows. Awareness of these efforts to strengthen and develop AAI as a professional endeavor needs to be heightened so that individuals, programs, and the field itself can ethically and effectively continue this work.

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