

## Articles

# Exploring the Skills and Activities of Animal-Assisted Therapy and its Compatibility within Occupational Therapy in Stroke Rehabilitation

The following is a summary of the primary research conducted by Kerry Townsend, for her MScOT (pre-reg) dissertation at Sheffield Hallam University

### Introduction

The idea of animals improving human wellbeing began in the early times of hunter-gatherers via their beliefs in animals' supernatural powers, and has continued throughout history [1]. This therapeutic use of animals was particularly true at the York Retreat [2], which is credited as the birthplace of the moral treatment movement in the United Kingdom (UK) and in turn led to the occupational therapy (OT) profession we know today [3].

Modern animal-assisted therapy (AAT) began formally with the formation of the Delta Society in the United States in 1977 [1]. AAT is defined as:

*"A goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process. AAT is directed and/or delivered by a health/human service professional with specialised expertise and within the scope of practice of his/her profession. Outcomes are documented, measured and evaluated"* Society for Companion Animal Studies (SCAS) [4].

It is important to note that AAT is often confused with its less formal counterpart, animal-assisted *activities*, which are unstructured, social visits that are not incorporated as an integral part of a health/social care treatment plan. It is also crucial to clarify that AAT is *not* the same as a service animal (a working animal that lives with the client, such as a guide dog).

The most common animal used in AAT is a dog, although there is also anecdotal and research-based evidence supporting the efficacy of hippotherapy (AAT with horses), and a variety of other animals as well. Due to the limited scope of this dissertation, the research presented here is focused only on AAT with dogs.

### Stroke and OT

One particular population that seems to have little research into AAT is people who have had a stroke [5]. Stroke often leads to deficits in motor, visual and sensory, cognitive, perceptual, and psychosocial areas of functioning. It is these areas that occupational therapists address to help people who have had a stroke regain confidence, engage in daily occupations again, and regain a sense of identity through their occupations [6].

Stroke Rehab Dogs, a UK-based project, combines AAT (in collaboration with the charity Pets as Therapy), OT and stroke rehabilitation. Anecdotally, their evidence seems striking, despite not yet having published research support. Unfortunately, Pets as Therapy was unable to assist in this research project but it is hoped that the results will provide evidence for work similar to theirs.

### Previous research

There is an overall lack of published research on AAT, though the 15 studies identified came from 9 countries and spanned both mental and physical health settings. At the time of writing the dissertation, 4 published studies were identified regarding AAT + OT and 2 studies regarding AAT + stroke rehabilitation, with none on the combination of AAT + OT + stroke rehabilitation. Unfortunately, none of the published AAT research comes from the UK, despite AAT being practised nationwide.

The results of the studies on AAT + OT demonstrated occupational therapists successfully using dogs to: improve motivation, physical abilities, social interactions, pain management, and cognition with elderly patients and patients in a hospice facility [7]; increasing feelings of calm and improving motivation with wounded members of the United States military as they completed an OT life skills programme [8]; improved quality of life for elderly residents with dementia living in care homes in Sweden

[9]; and reducing anxiety, increasing upper and lower limb function, decreasing social isolation and improving confidence in communication with children with physical and mental disabilities such as cerebral palsy [10].

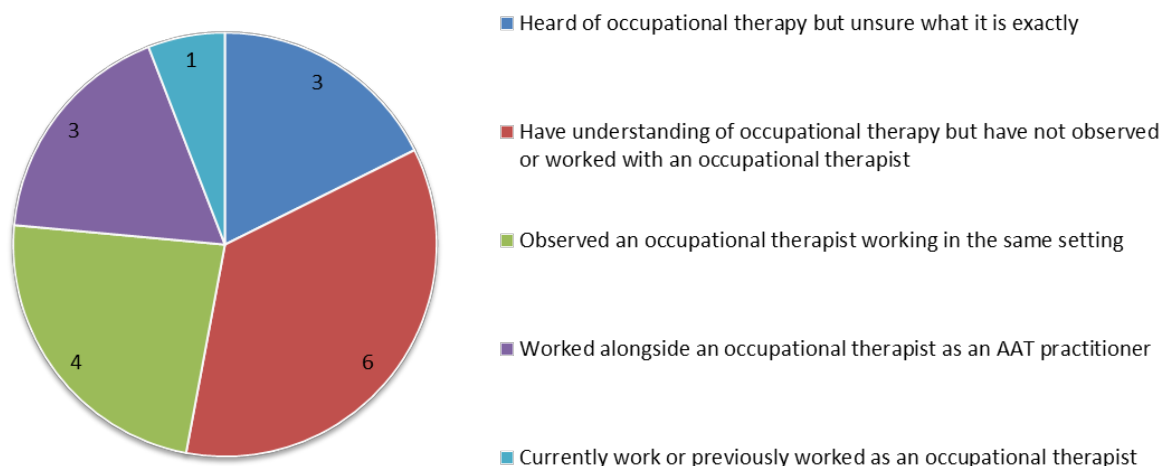
The results of the studies on AAT + stroke rehabilitation demonstrated speech-language therapists' ability to successfully use dogs to achieve speech-related therapeutic goals and improve patient confidence and engagement in therapy [11]. From a physiotherapy perspective, Rondeau et al. [12] found improvements in gait retraining when using a dog compared to a cane.

**Dissertation research project**

The dissertation research project therefore aimed to examine the skills and activities addressed by people who conduct AAT in the UK, comparing them to those addressed by occupational therapists in stroke rehabilitation.

This cross-sectional study featured an online questionnaire with demographic questions

about the participants' knowledge and experience of AAT, of OT, and of stroke rehabilitation, and questions based on frequency with which participants use their dog to address 21 of the skills/activities commonly addressed by occupational therapists in stroke rehabilitation (adapted from Edmans 2010). These 21 skills/activities questions were organised into 3 broad categories: cognitive/perceptual, psychosocial, and neurophysical. The online questionnaire was made available to AAT practitioners via UK-based human-animal interaction charities and seventeen (17) participants meeting the inclusion criteria (completed more than 3 AAT sessions using a dog, in the UK) completed the questionnaire. Analysis of the participants' demographic information showed an array of AAT experience across a variety of settings and with clients of all age groups, with 6 participants reporting having previously conducted AAT with a client who had a stroke. The participants' responses of their knowledge and experience of OT are displayed in the following figure:



Descriptive statistical analysis of the responses to the questions about the skills/activities addressed by AAT sessions with a dog showed that the participants as a group address all of the OT-based stroke rehabilitation skills/activities, especially the cognitive/perceptual and psychosocial items. The most frequently-addressed skill/activities were: communication; memory; mood; motivation; and social skills. Within the neurophysical category of skills/activities,

upper limb items (reach or grasp; finger movements; use both arms/hands) were the most frequently-addressed. Secondary statistical analyses involving odds ratios were conducted but due to a limited sample size, none of these results were statistically significant.

One figure of the combined-frequency responses to the skills/activities questions from the dissertation is presented here:

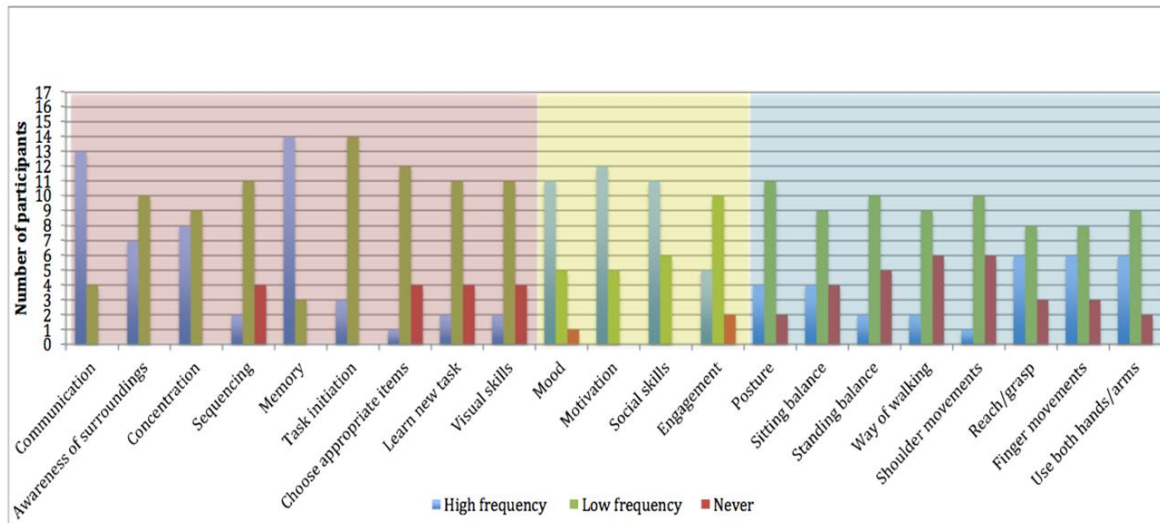


Figure 4.13. Number of participants who address the 21 OT skills/activities with 3 levels of frequency. "Always" + "Often" = High frequency; "Sometimes" + "Rarely" = Low frequency; Pink background = cognitive/perceptual skills and activities, yellow background = psychosocial skills/activities, teal background = neurophysical skills/activities

Overall, the results of the research suggest a relationship between AAT + OT + stroke rehabilitation. This proposed relationship means that occupational therapists working in stroke rehabilitation could judiciously incorporate AAT into their therapeutic programme under their (OT) perspective. It should be emphasised that AAT is being discussed as an addition or supplement to existing stroke rehabilitation interventions, rather than an alternative to traditional OT.

AAT would add value to OT practice in stroke rehabilitation by helping to increase client-centeredness of a stroke rehabilitation intervention, improving client motivation to engage in therapy sessions, and as a supplement to promote the engagement of those who may be seen as "incapable" [13 p10] of engaging in traditional stroke rehabilitation interventions (e.g. elderly patients living in care homes with comorbidities such as cognitive impairment or depression). Additionally, the results demonstrate that AAT can be used to address skills/activities across all domains of stroke rehabilitation and thus is an adaptable tool.

The results also have implications for the most appropriate settings along the UK's stroke pathway in which AAT could be successfully incorporated into OT-based stroke rehabilitation programmes. The combined demographic results of where the participants practice and the skills/activities they address support the idea that AAT may be most applicable in community-based settings (particularly in residential/nursing homes)

compared to inpatient settings (especially acute physical hospital settings).

While the results of this study demonstrate that the participating AAT practitioners do address comparable skills/activities as occupational therapists working in stroke rehabilitation, they do not show whether the AAT practitioners are addressing these OT skills/activities from the same perspective as an occupational therapist. In fact, provided the participants' overall low knowledge and experience of collaborating with occupational therapists, it is more likely to be incidental that these practitioners address so many of the same skills/activities as occupational therapists. AAT itself is a specific type of intervention or tool, rather than a stand-alone therapy, so AAT practitioners should adopt the perspective of the health or social care professional with which they are working. For AAT + OT + stroke rehabilitation, that means the occupational therapists should guide the interventions and it is the role of the therapist to convey the OT principles and professional focus to the AAT practitioner.

It is important for the therapist to ensure that the AAT practitioner understands how the AAT session's therapeutic activities relate to the client's specific goals. For example, brushing a dog could address the grip, motion, pressure sensation, depth perception, and proprioception required to brush, which can then be applied to a client's goal of self-care needs. It is not realistic to expect all AAT practitioners to fully understand the OT models and theories that define the

profession, but the therapist should ensure the AAT practitioner has a basic understanding of the functional, goal-oriented principles of OT to allow the AAT + OT + stroke rehabilitation relationship to work efficiently and with maximum benefit to the client.

### Future research

Future research should address the efficacy of AAT within OT stroke rehabilitation interventions. Like Macauley [11] and Rondeau et al. [12], this future research should begin with pilot or case studies. There are several UK-based organisations and charities that could be relevant resources with which to start (e.g. Canine Concern Scotland Trust; Society for Companion Animal Studies; Stroke Rehab Dogs; Pets as Therapy). Additionally, Kazdin [14] specifically writes about research methods best suited to building an evidence base for AAT, which can be used to address questions on the efficacy of AAT within OT interventions in stroke rehabilitation.

### Acknowledgements

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If you have questions about the research project, please contact Kerry at [KerryLTownsend@gmail.com](mailto:KerryLTownsend@gmail.com).

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