

Citable notes

References

Animal assisted Therapies and well being.

“Service animals are defined as dogs that are individually trained to do work or perform tasks for people with disabilities. Examples of such work or tasks include guiding people who are blind, alerting people who are deaf, pulling a wheelchair, alerting and protecting a person who is having a seizure, reminding a person with mental illness to take prescribed medications, calming a person with Post Traumatic Stress Disorder (PTSD) during an anxiety attack, or performing other duties. Service animals are working animals, not pets. The work or task a dog has been trained to provide must be directly related to the person’s disability. Dogs whose sole function is to provide comfort or emotional support do not qualify as service animals under the ADA.

This definition does not affect or limit the broader definition of “assistance animal” under the Fair Housing Act or the broader definition of “service animal” under the Air Carrier Access Act.

Some State and local laws also define service animal more broadly than the ADA does. Information about such laws can be obtained from the relevant State attorney general’s office.”

ADA.gov. (2010). ADA requirements: Service animals <https://www.ada.gov/resources/service-animals-2010-requirements/>.

This Article brings a systematic review of research over the last 20 years concerning the role of animal assisted therapy (AAT) and the rehabilitation of individuals with mental health

disorders. With many traditional treatments not helping with depression, PTSD, anxiety, and schizophrenia, the need for new methods such as AAT. The benefits of psychological and physiological effects on individuals who are using AAT is discussed in highlighted sections. The findings of this review are focused on the potential of AAT as a complementary treatment for individuals with mental health disorders.

Studies have indicated the use of Animal Assisted Therapy (AAT) brought improvement to mental health outcomes for people diagnosed with PTSD, schizophrenia, depression and anxiety. It has been found that there was a reduction in cortisol levels, increased levels of oxytocin, lowered blood pressure, and an increase in social engagement, and emotional engagement have been associated with interactions with therapy animals. It was noted of the many benefits associated with ATT, these ranged from reduced symptoms of anxiety, PTSD, depression, as well as having an improved social functioning and quality of life. It is mentioned that ATT can be a form of nonpharmacological treatment, it has provided a sense of comfort, improved the individual's moods, and is a complementary method of treatment for some mental health disorders.

Like all methods of therapy, there are some challenges associated with ATT, there are some ethical concerns, not all individuals are able to be around animals due to allergies, the individuals preferences to animals, fears of animals, as well as other logistical issues of concern.

Arsovski, D. (2024). The Role of Animal Assisted Therapy in the Rehabilitation of Mental Health Disorders: A Systematic Literature Review. *Perspectives on Integrative Medicine*, 3(3), 142–151. <https://doi.org/10.56986/pim.2024.10.003>.

This article looks at the nature of Animal Assisted Therapy (AAT) and its relationship to feelings associated with individuals awaiting Electroconvulsive Therapy (ECT). The AAT used did help reduce the feelings of fear before the ECT.

Barker, S. B. , Pandurangi, A. K. & Best, A. M. (2003). Effects of Animal-Assisted Therapy on Patients' Anxiety, Fear, and Depression Before ECT. *The Journal of ECT*, 19 (1), 38-44. <https://oce.ovid.com/article/00124509-200303000-00008/HTML>.

“Cat owners (n = 17) were with their cats during approximately 14 of the 42 instances (M = 33.31%, SD = 27.07) which took place at home (97.8%) or another person’s house (2.2%). For pet owners overall, within all instances .

where any type of pet was present, the most frequent activities were activities of daily living, media consumption, mental activities, and socializing activities; purposeful pet interaction comprised only 9.2% of these instances.

For dog owners specifically, the activities most frequently indicated during which a dog was present were also activities of daily living, media consumption, mental activities, and socializing activities; pet interaction was the primary purpose for 8.2% of instances, and physical activities 9.0% (Figure 2). This general pattern of activity was also observed for cat owners.

Relationships between percent frequency of pet, dog, and cat presence during the study and indicators of psychological wellbeing, average perceived mood state, and average self efficacy across all sampling instances were examined (Table 4). For all pet owners combined, frequency of pet presence was moderately negatively associated with depression, anxiety, stress, and ULS-R loneliness scores. Frequency of pet presence was also moderately negatively

associated with participants' mean level of perceived detachment, and positively associated with participants' mean level of perceived sociability and self-efficacy. Many other relationships approached significance at 0.05.

For the 17 cat owners, moderate positive associations were identified between frequency of cat presence and satisfaction with personal health and personal safety (Table 4). Frequency of both dog and cat presence were negatively related to feelings of detachment in their respective owners.

For cat owners, although a smaller sample ($n=17$), the previous regression procedure was applied to estimate the utility of frequency of cat presence in accounting for satisfaction with personal health and personal safety. A significant overall effect of cat presence upon these indices was observed (Wilks' $\lambda = 0.61$, $F(2, 14) = 4.45$, $p = 0.032$, $\eta^2 = 0.39$). Percentage frequency of cat presence significantly contributed unique variance to higher levels of Bennett et al. satisfaction with personal health ($F(1, 15) = 6.27$, $p = 0.024$, $R^2 = 0.30$, $\beta = 0.54$) and satisfaction with personal safety ($F(1, 15) = 5.03$, $p = 0.040$, $R^2 = 0.25$, $\beta = -0.47$).

When signaled with their pet present, owners were predominantly at their place of residence. This was particularly true for cat owners who, not surprisingly, were at home on 97.8% of instances when their cat was present.

Mean scores on the DASS did not reveal statistically significant differences between any of our three categories of pet owners and non-owners on measures of depression, anxiety and stress, but raw scores on the three indices suggested that depression levels may be higher in pet owners than in non-pet owners, and particularly high in dog owners relative to non-dog owners. Yet frequency of pet presence contributed unique variance to reduced levels of depression, anxiety and stress in pet owners and in dog owners. Correlations between frequency of pet

presence and the DASS subscales ranged from -0.32 (cat presence \times anxiety) to -0.60 (dog presence \times depression), indicating that the frequent presence of a pet, particularly a dog, may be critical in reducing measures of poor mental health in this age group. Of course the causal nature of this effect requires further investigation, particularly in light of a recent report that pet ownership can be a response to loneliness as well as acting as a protective factor against loneliness in older women (Pikhartova et al. 2014). But, if a causal relationship does exist, it may be effectively obscured by focusing on pet ownership rather than the proportion of time spent in the presence of a pet.”

Bennett, P. C., Trigg, J. L., Godber, T., & Brown, C. (2015). An Experience Sampling Approach to Investigating Associations between Pet Presence and Indicators of Psychological Wellbeing and Mood in Older Australians. *Anthrozoös*, 28(3), 403–420.
<https://doi.org/10.1080/08927936.2015.1052266>.

This article shares the benefits and risks of Animal Assisted Therapy. Animal Assisted Therapy (AAT) is the integration of animals into the individual’s treatment as a means of improving their overall dimensions of psychological, physical, emotional and cognitive functioning. The introduction of animals into the therapeutic process has been debated for decades with several associations employing this intervention to improve care. While other interests in the scientific community can be seen through the vast number of articles published, and by trainings on how to integrate animals into therapy through several universities, where it is accepted and regulated by specific laws from American Disabilities Administration (ADA) and federal, state and local laws.

““Pet Partners” (an organization dedicated to improving people’s health through the interaction with animals) pointed out the differences between AAT and Animal Assisted Activity (AAA), less structured and mainly composed by pet visitation).”

The effectiveness of AAA is limited by its poor structure of primarily pet-visitations which may be spontaneous in a group of several patients and poorly organized with little interaction through the activities during the visit. On the contrary, AAT sessions utilized organized activities. AAT utilizes individualized goals and is conducted by specifically trained couples such as a handler and animal during visits. One downside is that there is too much confusion on naming these interventions therefore AAT, AAA and other names are used randomly. As a result of this confusion, it makes it even harder to compare the studies conducted using different. Most of the research conducted has been done with dogs, but generally every species can be employed.

Animal interventions have been researched, from mental disorders, cancer, interventions focused on frail patients such as elderly or children and implemented in multiple settings such as hospitals, nursing homes and schools. Animal-Assisted Interventions (AAI) are increasingly popular, especially among pediatric patients. Chur Hansen et al. conducted a critical review regarding AAI for children inpatients. “This review focused primarily on the methodology of the retrieved studies. Precisely, the authors concluded that the evidences regarding AAI are scant, and more standardized studies (in particular RCTs) about this topic are required. Another recent review considered only the available RCTs regarding AAT, retrieving overall eleven studies (published from 1990 to 2012). The authors outlined a relatively low quality of the recovered papers.”

Things to consider when AAT, the animals employed in these interventions were disparate, from dogs to dolphins or ferrets. “The authors identified some areas requiring further insights such as costs, reasons to refuse the intervention and potential adverse effects. Moreover, the authors highlighted how the description of the intervention in terms of length, activities and settings, in the studies included in the review, was not always obvious. The outcomes considered, to define the AAI benefits, are heterogeneous, incorporating subjective outcomes as the quality of life, but also objective parameters as vital signs, hemodynamic measures and nutritional intake.

A 2007 review and meta-analysis, firstly, assessed the quantitative effects of AAT. The meta-analysis included 49 studies, and suggested a significant improvement in the following examined areas: autism-spectrum symptoms, behavioral problems, and emotional well-being. The authors described the AAT as a worthy intervention, necessitating, however, further insights. Furthermore, the risks of implementing animal therapeutic interventions especially in hospitals are not negligible, and these hazards must be considered. An accurate knowledge of the effectiveness and risks of animal use in hospital is essential to implement effective strategies in this setting. Nevertheless, data considering animal interventions are often heterogeneous. To our knowledge, no previous reviews estimated the evidence on the use of animal-interventions for inpatients. The aim of this review was to focus on Animal Assisted Therapy/Activity for hospitalized patients, to provide a clearer view on the status of the evidence supporting this practice, as well as the potential risks.

Our review investigated the effectiveness and risks of animal assisted therapies in hospitals. Our search revealed extremely heterogeneous results, in terms of settings, target population, type of intervention and considered outcomes. However, most studies focused on

particularly frail population groups as children, psychiatric inpatients and elderly patients. The relationship with the animals can be extremely useful for these patients especially focusing on communication and social behaviours. In particular, considering psychiatric diseases, schizophrenic inpatients would benefit from animal contact considering schizophrenic symptoms, social relationships and aggressiveness. The reduction in aggressive behaviors was outlined, not only in psychiatric inpatients, but also considering general inpatients. The studies regarding adults were rare, but they considered different diseases including orthopaedic surgery and high-risk pregnancies.

Even if dogs are the most studied animals, also other species are considered as cats, fishes, cage birds and horses. The prevalent use of dogs is explained by the easier training for therapy; however, also other species can be potentially beneficial. Interestingly, the papers retrieved highlighted how “pet therapy” programs can be effectively implemented in a wide range of settings including Emergency Departments, long-term care facilities and hospital wards.”

Bert, F., Gualano, M. R., Camussi, E., Pieve, G., Voglino, G., & Siliquini, R. (2016). Animal assisted intervention: A systematic review of benefits and risks. *European Journal of Integrative Medicine.*, 8(5), 695–706. <https://doi.org/10.1016/j.eujim.2016.05.005>.

This article explores individuals with mental health problems and how the use of animals in therapy were being used to help them with their symptoms. “However, these approaches often fail to take into account the wider resources including material and social relationships in people’s domestic and local environments which form the latent and constituent part of systems of lay and community support. These are increasingly being recognized as holding significant

relevance for the management of long-term health conditions. Indication of the potential benefit that pets convey to the experience of mental health comes from evidence detailing the benefits of pet ownership in relation to stress reduction, improved quality of life, and pets as promoters of social and community interaction. Recent work has shed light on the relevance of pets in the social networks of people who have received a diagnosis of a severe and enduring mental health illness (e.g. Schizophrenia and Bipolar disorder) suggesting that pets can be considered alongside other human relationships. However, the evidence base for the benefit of pet ownership for those with diagnosable mental health conditions is fragmented and unclear.

The enduring relationship between humans and domestic animals is well documented and there are an estimated 10 million cats (23% of households with one or more cat) and 11.5 million dogs (30% of households with one or more dog) kept as pets in the UK, with similar rates of ownership found across Europe, Australia, China and Japan. Despite this phenomenon, the potential benefits that owning a pet might confer specifically to mental health has received relatively little attention. Research has focused on formalized animal contact in closed settings such as Animal Assisted Therapy (AAT). Multiple reviews have considered AAT in a variety of fields including intellectual disability, autism, general healthcare and neurorehabilitation, but there are no systematic syntheses of the role and effects of the less structured animal contact provided by pet ownership in open settings for people with mental health conditions.

The provision of ongoing support in normalized everyday settings remains an aspiration of mental health policy but the mapping of the nature of resources available and how they are, and can be, deployed remains underexplored. This approach allows for an in-depth analysis of the role of pets in relation to the tasks that need to be done to manage mental health in the context of people's everyday lives to consolidate the evidence base in this regard. The importance of pets in

relation to the provision of emotional work was a recurrent theme in the numerous qualitative studies included in the review where people reported a profound connection with their pet sometimes preferring relationships with pets over relationships with other humans and viewing pets as replacement family members. The mechanisms through which pets made the perceived contribution to emotional work seemed to be the provision of a consistent source of comfort and affection. This constant presence meant that this provision was available instantaneously without request. Pets provided calming support and were perceived to have a ‘sense’ of when it was needed.

Pets were able to provide unique emotional support because of their ability to respond to their owners in an intuitive way, especially in times of crisis and periods of active symptoms. A related impact on loneliness was achieved through physical contact which reduced feelings of isolation, providing a source of physical warmth and companionship, and by providing opportunities for communication. The study by Ford found that people were able to confide in their pets when they were unable to open to other people”

Brooks, H. L., Rushton, K., Lovell, K., Bee, P., Walker, L., Grant, L., & Rogers, A. (2018). The power of support from companion animals for people living with mental health problems: A systematic review and narrative synthesis of the evidence. *BMC psychiatry*, 18, 1-12.
<https://link.springer.com/content/pdf/10.1186/s12888-018-1613-2.pdf>

The article covers therapeutic relationships with cats and male AIDS patients. People with disabilities suffer from greater levels of loneliness, separation from society and pets are a way to give them companionship that they desire and need. It was seen that having a companion

animal will help increase mental and physical wellness for some, while others may struggle with taking care of an animal depending on their disability. In this study it was determined that for men with Aids cats would be better support for them and it would be easier taking care of as they are less work. The hypothesis of dogs being less compatible with pets than cats to the individuals was supported. Cats were found to be more effective at eliciting love, being compassionate, and producing feeling needed than dogs according to the individuals in the study. It was found that men living alone with their pets felt less lonely than men living with someone else.

Castelli, P., Hart, L. A., & Zasloff, R. L. (2001). Companion Cats and the Social Support Systems of Men with Aids. *Psychological Reports.*, 89(1), 177–187.
<https://doi.org/10.2466/pr0.2001.89.1.177>.

Mostly dogs were used in the studies looked at and some horses, one study allowed for either cats or dogs. Some areas that were looked at were individuals suffering from a stroke, spinal cord injuries, multiple sclerosis, PTSD, dementia, and depression.

Charry-Sánchez, J. D., Pradilla, I., & Talero-Gutiérrez, C. (2018). Animal-assisted therapy in adults: A systematic review. *Complementary Therapies in Clinical Practice.*, 32, 169–180. <https://doi.org/10.1016/j.ctcp.2018.06.01>.

This is a systematic review of how cats have had a positive impact in the physical and psychological health of autists children and adults. The nature of the animal assisted intervention (AAI) would be the assistance of the animal as a companion as a therapeutic intervention. The

use of animals in homes for people with disabilities to improve outcomes of positive health has been on going for a long time. The use of animals for autistic individuals for promotion of increase emotional support and wellness is looked at in this article. The article hits on cat-human interactions, cat-assisted therapeutic interventions, cats as companion animals, cat attitudes and finding the right cat for the person, cats as a substitute for human interactions, positive and negative effects of cats ownerships, and

Cleary, M., West, S., Thapa, D. K., & Kornhaber, R. (2023). Putting Cats on the Spectrum: A Scoping Review of the Role of Cats in Therapy and Companionship for Autistic Adults and Children. *Issues in Mental Health Nursing*, 44(6), 505–516.

<https://doi.org/10.1080/01612840.2023.2195509>.

This article is associated with aging people and how human-animal interactions (HAI) can be beneficial for elder individuals as a form of therapeutic intervention. This article explains that animal assisted therapy (AAT) falls under the broader category of animal assisted interventions (AAI). AAT and AAI can only be practiced by professionals that are trained in this form of therapy. There is another form for non-professional to utilize animals in therapy and this is known as animal assisted activities which involve use of animals in social settings to help regulate moods, anxiety, stress, personal healing, recovery, and growth.

Chandler, C.K. (2021). Animal assisted therapy. In Gu, D. & Dupre, M. E. (Eds.). *Encyclopedia of gerontology and population aging*. (pp. 453-459). Springer.

<https://doi.org/10.1007/978-3-030-22009-9>.

This article only has a small section about animals but has good information seen in these quotes and in highlighted areas of article. “Various research has demonstrated the linkages between social support, social network size, and quality of life indicators and decreased odds of poor general health, disability, and depression among LGB (K. I. Fredriksen- Goldsen et al., 2013, 2015; Masini & Barrett, 2008). Strong social networks and higher perceived social support have been found to promote resilience in older adults experiencing poor mental health (McKibbin et al., 2016). In addition, having a pet has been found to increase the level of perceived social support among LGBT older adults, even among those LGBT older adults with a disability and smaller social networks (Muraco et al., 2018). K. I. Fredriksen- Goldsen et al. (2013) found that transgender older adults had larger social networks yet reported lower levels of social support and community belonging compared to nontransgender LGB older adults. These lower levels of social support and community belonging were, in turn, associated with poorer mental health (K. I. Fredriksen-Goldsen et al., 2013).

Animals as support Participants were asked about whether they had ever relied on animals for comfort and emotional support. Two participants said no, one due to allergies that made keeping a pet inappropriate and one due to allergies and because having a pet was viewed as being “confining to a certain extent”. The other nine participants, however, discussed the past and current roles of animals in their lives. Two participants described receiving instrumental support from animals. One participant stated that he had a stray cat that he was continuing to feed because it hunted ground squirrels, and another participant had chickens that laid eggs that she would then give away. Eight of the participants described the past or current role of animals in providing emotional support. Five of these currently had one or more pet cats at the time of

interview, and another three described support that they had received from various animals (including dogs and horses) in the past.

One participant described receiving emotional support from the [in the participant's terminology] service dog belonging to that participant's mental health provider. It is interesting to note that this participant found support from an animal within their social network rather than from an animal that the participant lived with. Various more specific aspects of emotional support are identifiable within participants' comments about the role of animals in E. K. DAKIN ET AL. 780 their lives. Five participants discussed the value that pets had played in their lives in providing companionship.

The role of pets in providing companionship seemed to be especially important at times when participants were single. As one participant stated: P3: They [cats] are great support. They have been in my life when I've had no partners in my life or a loved one so they have been great support. And in fact, two of the participants who had a pet cat or cats at the time of the interview were also single and described their pet(s) as being a valued source of companionship to them. As participant 9 stated: P9: . . . I'm a cat person. And I've had a whole series of cats since I've moved here and currently have two.

Yeah and it's they're great it's just so nice to have somebody to greet you when you come home. Yeah. Note the use of the term "somebody" in P9's quote above; this language reflects the meaning of the pet as providing the basis of a significant relationship. Two participants also discussed the sense of unconditional love that having a pet provided. Finally, two participants talked about pets as being members of the family. One of these, a single person at the time of the interview, stated that his cats were: P9: Like um two more members of the family really. . . . Probably a substitute for kids in some degree."

Dakin, E. K., Williams, K. A., & MacNamara, M. A. (2020). Social Support and Social Networks among LGBT Older Adults in Rural Southern Appalachia. *Journal of Gerontological Social Work, 63*(8), 768–789. <https://doi.org/10.1080/01634372.2020.1774028>.

This article looks at animal assisted therapy (AAT) in the schools and the ability of the school nurse to promote this program. The need to feel connected by the students can be a risk for mental health issues and the introduction of AAT into the school can reduce these feelings associated with mental health issues. The themes associated with the paper are compassion, belonging, and social-emotional regulation.

Fedor, J. (2018). Animal-Assisted Therapy Supports Student Connectedness. *NASN School Nurse, 33*(6), 355–358. <https://doi.org/10.1177/1942602X18776424>.

This article hits on attachment as part of the animal human relationships “This variation in bonding and interaction styles between people and cats is unlikely to be random, because what is generally called a ‘relationship’ is composed of three contingent complexes of mechanisms:

1. How strongly are cat and owner bonded with each? This relates to the urge of the cat or owner to be close to each other as mediated by the oxytocin system together with the mesolimbic reward system (Durr & Smith, 1997; O’Connell & Hofmann, 2012).
2. What kind of attachment quality does the dyad mutually have? This relates to mutual trust, whether and how much the person is a haven of safety for the cat in case of a stressful event (e.g. Julius et al., 2013) and, in general, the emotionality of the relationship. For example, are they

calming each other down or do they sometimes cause stress for each other? As much as humans have an emotion-cognitive representation of the social partners they bond to, such an ‘internal working model’ of attachment figures, based on early social experience, will also be generated by companion animals in some form (Julius et al., 2013).

3. What are the partners actually doing together, what is their interaction style, the operability of a particular dyad (Kotrschal et al., 2009), what kind of behavioural rituals have they developed which are potentially unique for a dyad?

Together, these three complexes will constitute the bio-psychological and behavioural syndrome of relational needs, attitudes, affects and interactions that we call a ‘relationship’.”

Given, L. M. (2008). Case study. In *The SAGE Encyclopedia of Qualitative Research Methods* (Vol. 0, pp. 68-71). SAGE Publications, Inc., <https://doi.org/10.4135/9781412963909>.

This article covers a comparison between cats versus dogs and relationships with their human counterparts. The focus was on people with both dogs and cats in the home. Although it was stated that the relationships with cats were greater than that with dogs, the emotion closeness with dogs is greater than with cats. Most of the research that has been conducted has been on relationships with dogs and the wellbeing associated with humans. Some of the areas of wellbeing looked at were physical wellbeing, it was healthier with the dog’s relationship for taking walks and being more active outside with the dog. It is noted that pet ownership has been associated with better health, less visits to the doctor, less feelings of loneliness, less depressive symptoms, less negative feelings about oneself, and have stated having higher levels of self-esteem and better social relationships than non-pet owners.

Gonzalez-Ramirez, M. T. & Landero-Hernandez, R. (2021). Pet-human relationships: Dogs versus cats. *MPDI Journals Animals* **2021**, *11*, 2745.

<https://doi.org/10.3390/ani11092745>.

This article used the state trait anxiety inventory (STAI) on individuals with the therapist before and after therapeutic sessions with and without animal assisted therapy, dogs were used for this study for individuals with learning disabilities. This article shares that AAT is an attractive method for helping individuals dealing with anxiety disorders. The article both groups have higher levels of anxiety before the session, the individuals that have AAT showed higher reductions in anxiety.

Giuliani, F., & Jacquemettaz, M. (2017). Animal-assisted therapy used for anxiety disorders in patients with learning disabilities: An observational study. *European Journal of Integrative Medicine.*, *14*, 13–19. <https://doi.org/10.1016/j.eujim.2017.08.004>.

This article discusses the use of animals in education for the students wellbeing in primary school but wants to explore how this could be implemented at the higher education level. Very little research has been conducted in this area. Many students dealing with mental health issues tend to not seek help, the intent of this research is to see if animal assisted education will improve the mental health of some students.

Hill, J., Waldby, L., Quinlan, T., Fleming, J., Hoyle, M., & Driscoll, C. (2024). Australian University Students' Experience of Animal-Assisted Education: An Exploratory Study. *Animals*, *14*(19), 2792. <https://doi.org/10.3390/ani14192792>.

This systematic review focuses on AAI with youth at risk for mental health illnesses. The years ranged from 2000-2015 with comparing the studies based on animal type, intervention and outcomes. Some theories found were related to animal human relationships such as biophilia (emotional connectedness to other living things) and attachment (a bidirectional connectivity between a human and an animal).

Hoagwood, K. E., Acri, M., Morrissey, M., & Peth-Pierce, R. (2017). Animal-assisted therapies for youth with or at risk for mental health problems: A systematic review. *Applied Developmental Science*, *21*(1), 1–13. <https://doi.org/10.1080/10888691.2015.1134267>.

This article focuses on animal-assisted interventions (AAI) as they are integrated into adolescents treatment plans, in particular this article focuses on canine-assisted psychotherapy (CAP). This is a systematic review identifying studies that incorporated canines into mental health treatment plans for adolescents. The article defines AAI, it expresses that due to the need for a clear definition to give efficacy to these interventions, a great deal of time has been spent by researchers and international bodies to propose a need for a common terminology for these interventions. The two defining methods for this article are animal-assisted interventions (AAI) and animal-assisted activities (AAA). Other interventions are mentioned, animal -assisted therapy in counseling (AAT-C), animal-assisted psychotherapy (AAP), and animal -assisted play

therapy (AAPT). Through 8 systematic reviews, one commonality found that equine and canine assisted therapy resulted in a reduction in psychological distress such as depression, anxiety, trauma symptoms, mental illness and/or addiction.

When looking at AAI versus AAT/P the therapy had no specific psychotherapeutic techniques incorporated into the therapy, with a broad range of animal species such as equine, canine, feline, farm animals, and birds. There had been found a positive effect of psychological and physiological variables in the individuals who participated in CAP compared to those who did not. Several interventions mentioned were structured activities, see article for all interactions and positive results of CAP.

Jones MG, Rice SM, Cotton SM (2019) Incorporating animal-assisted therapy in mental health treatments for adolescents: A systematic review of canine assisted psychotherapy. *PLoS ONE* 14(1): e0210761. <https://doi.org/10.1371/journal.pone.0210761>.

This article explores the use of Emotional Support Animals (ESA) for college students with mental health issues. It is noted that the requests of ESA 's have increased with the increase of students attending college and being accepted with metal health disorders. This article discusses animal visitation programs (AVP) where individuals who participated showed significant reduction in stress, anxiety, and had increased positive interactions with others on campus. See highlighted section on different names and confusion of what they should be called and what ethically can be considered therapy animals. See highlighted areas to get more info on individual benefits concerning physiological and psychological with general population and those with mental illnesses in study.

Kirnan, J., Shapiro, A., Mistretta, A. J., Sellet, M., Fotinos, G., & Blair, B. (2022). Emotional support animals supporting college students' mental health and well-being: A qualitative analysis exploring practices, policies, and perceptions. *Journal of American College Health*, 1–12. <https://doi.org/10.1080/07448481.2022.2095871>.

Domestic cats are the most frequent companion animal, especially in particular cultures with an Islamic background, where dogs are not seen as acceptable methods of companions. This chapter in this book explores the relationships and interactions between humans and cats. The bond and relationships between cats and people will vary, and are composed of three complex mechanisms as seen in the highlighted section of the article.

Kotrschal, K., Day, J., McCune, S., Wedl, M., Turner, D. C., & Bateson, P. P. G. (2014). Human and cat personalities: building the bond from both sides. *The domestic cat: the biology of its behaviour*, 113-127.

https://d1wqtxts1xzle7.cloudfront.net/51024713/KotrschalEtAlHumanCatProofAug2013-libre.pdf?1482472119=&response-content-disposition=inline%3B+filename%3DHuman_and_cat_personalities_building_the.pdf&Expires=1732994522&Signature=Im5LFclAPcB6p6IEx~OZKPaV2qkG~Nc4JMFdVmnQCbuLY6KOEa7~wvHAm2kjbokPfG~-3XqBXAcy0FQKyqI5SAYRK2V~lPRj9urEDT02i9kwbNQdd4TLrRSFY3n7D0PhWgjNuiCL77EN-kHF6PNdqwQp9SrJu0kdiCARpPQrL1sy9ZGdu2DhdJ423oyvocsR6XS2LE6Xg0i6RayF

[7RQWHj~FBkVua2zuSxcLillq8YTm-eUyTCJpO-Vpfk-8D7sjT5MKI8ZBeI44WFU-S6jNPhVCAxEYLD-EgqcNFn3t5hnKsVUSWvJ5a8NMdlhQFPuQpAH7KuZDGOzkA1en9c1P5w__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA.](https://www.researchgate.net/publication/351111111/figure/fig1/figure-pdf/7RQWHj~FBkVua2zuSxcLillq8YTm-eUyTCJpO-Vpfk-8D7sjT5MKI8ZBeI44WFU-S6jNPhVCAxEYLD-EgqcNFn3t5hnKsVUSWvJ5a8NMdlhQFPuQpAH7KuZDGOzkA1en9c1P5w__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA)

This article covers the benefits of animal assisted therapy with several different types of disorders. Defines AAT. High lighted areas give good support of helping with anxiety, depression, autism disorders.

Koukourikos. (2019). Benefits of animal assisted therapy in mental health. *International Journal of Caring Sciences.*, 12(3). (pp.1898-1905).

https://www.internationaljournalofcaringscience.org/doc64_koukrikos_review_12_3.pdf.

This article focuses on the development of social networks in animals; this can complement the book cat culture when discussing the cat interactions at the rescue. There are several highlights throughout the article for further references. “One of the long-standing challenges in biology is to bridge the gap between individual behaviour and population biology (Sutherland 1996). Population structure is a result of local interactions between individuals and their environment, and we need a framework to integrate over the different scales of individual behaviour, group-level phenomena and population-level patterns. In all cases where animal (and human) populations have been investigated, there has been evidence for social interaction patterns to strongly deviate from randomness (i.e. individuals have a greater affinity to interact

with some than with others) and for individual variation in social contact patterns (e.g. some individuals have many while others have few contacts.

Wilson (1975) identified the social networks approach as one of the main techniques for studying sociality in animals in his pioneering book “Sociobiology—the new synthesis.” The networks approach provides details for a better understanding of the fitness implications of social structure at the level of the individual and the population”

Krause, J., Croft, D. P., & James, R. (2007). Social network theory in the behavioural sciences: potential applications. *Behavioral Ecology and Sociobiology*, 62(1), 15-27.
<https://doi.org/10.1007/s00265-007-0445-8>.

There is a variety of animals that are used for animal-assisted therapy, they range from horses, dogs, cats, and birds. This article covers the benefits for use of individuals that have depression, anxiety, and autism. There are different physiological attributes to AAI, such as positive mood produces from increased serotonin release when interacting with animals. Animals can assist in reducing stress and slow down the parasympathetic nervous system. The soothing nature of animals will help individuals and through their non-verbal communication can help them relax and be themselves around the animals.

Lin, X. (2024). How Animal-Assisted Therapy Cures Adolescents under Psychological Pressure. *SHS Web of Conferences*, 200, 02007.
<https://doi.org/10.1051/shsconf/202420002007>.

This article does a systematic review of articles concerning AAI on people with intellectual disabilities. The highlighted sections will be useful for sharing concerning peoples with autism disorder and individuals with depression and the use of AAI. There are some limitations that are highlighted concerning the vast array of interventions used in the studies looked at.

Maber-Aleksandrowicz, S., Avent, C., & Hassiotis, A. (2016). A Systematic Review of Animal-Assisted Therapy on Psychosocial Outcomes in People with Intellectual Disability. *Research in Developmental Disabilities.*, 49, 322–338.
<https://doi.org/10.1016/j.ridd.2015.12.005>.

It has been noted that most people will project human-like qualities to something other than a human such as pets, deities, or other objects to form friendships, this is known as anthropomorphism. This article explores the idea of anthropomorphism has a role in how people develop relationships with pets and how it brings positive outcomes from these relationships. As a result of our need as humans for belonging, one may anthropomorphize the relationship with their pets and say that they love them and show them love based on what they believe that animal is reacting based off of what they comprehend as love.

McConnell, A. R., Lloyd, E. P. & Buchanan, T. M. (2017). Animals as friends: Social psychological implications of human–pet relationships. In Hojjat, M. & Moyer, A. (Eds.). *The Psychology of Friendship.* (pp. 157-174). Oxford Press.

This article covers both dogs and cats for emotional support and focusing on attachment as a reason for the bond and relationship between humans and animals. Several additional pieces have been highlighted in the article. “Companion-animal owners express strong emotional connections to their animals (Hall et al. 2004), often considering them part of the family and providing them with levels of affection, comfort, and support similar to that of another human family member (Wrobel and Dye 2003; Donohue 2005; Zilcha-Mano, Mikulincer and Shaver 2011). Additionally, companion animals can fulfill “basic social needs” of their owners, such as emotional closeness (attachment), social integration, reassurance of worth, reliable alliance, guidance, and the opportunity for nurturance (Enders-Slegers 2000; Kurdek 2009; Wang et al. 2013).

Emotions can act as a process to mobilize behavioral and physiological processes in response to stimuli that subsequently allow animals to avoid harm or approach resources, functioning to improve their chance of survival (Rolls 2000; Boissy et al. 2007). Electrical stimulation of the brains of both human and nonhuman animals has evidenced that all mammals have similar brain structures and similar unconditioned emotional responses (Panksepp 2011).

For cats (see Table 4), the strongest influencing variable on the degree of owner attachment was the sex of the owner: the PBS scores of women were on average 10.6 points higher than the PBS scores of men. In addition to the gender of the owner, the degree of attachment also varied by education level: like with dogs, the PBS scores of people with higher education (college, university) was an average of 4.0 points lower than the PBS of people with lower education (primary school.) Furthermore, the PBS scores were an average of 5.3 points higher for owners who sometimes attributed human characteristics to their cat, compared with people who did not. The attachment to cats that never go outside was on average 3.9 points

higher than the attachment to cats that had the opportunity to go outside ad-lib. For cats that slept in the bedroom or kitchen, the PBS scores were on average 4.3-4.5 points higher than for cats that were not allowed to sleep there. Owners of cats who frequently touched them had a PBS score 2.2 points higher than owners of cats who did not seek out physical contact. The degree of owner attachment to female cats was on average 2.5 points lower than attachment to male cats.”

Martens, P., Enders-Slegers, M. J., & Walker, J. K. (2016). The emotional lives of companion animals: Attachment and subjective claims by owners of cats and dogs. *Anthrozoös*, 29(1), 73–88. <https://doi.org/10.1080/08927936.2015.1075299>.

Pet therapy has been found to be as effective as play therapy for children in hospitals, the children in post-surgical states have been found to have a faster recovery when therapy animals were present. The use of animal therapy with autistic children has shown to be more effective method with speech and socialization skills than traditional methods of therapy.

McConnell, A. R., Lloyd, E. P., & Buchanan, T. M. (2016). Animals as friends. *The psychology of friendship*, p180-345,

<https://perpus.univpancasila.ac.id/repository/EBUPT180666.pdf#page=180>.

This article looks at attachment theory and social support theory with cats. Can be tied together with another article. Companion animals have been found to provide owners with companionship, emotional support, physical activities, and mental health benefits. This citation gives conclusion from article. “Overall our results indicate that for some participants, cats may

substitute for persons in the social network. In most cases, however, cats appear to be an additional source of emotional support, especially for those participants who are strongly attached to their animals. We conclude that both attachment and social support are at work in these human—cat relationships, and that the relative importance of each depends upon the individual person.”

Meehan, M., Massavelli, B., & Pachana, N. (2017). Using Attachment Theory and Social Support Theory to Examine and Measure Pets as Sources of Social Support and Attachment Figures. *Anthrozoös*, 30(2), 273–289.
<https://doi.org/10.1080/08927936.2017.1311050>.

This article explores the use of AAI for neurorehabilitation of individuals with multiple disabilities ranging from cerebral palsy, pervasive developmental disorders ASD, adults with pyramidal syndrome: stroke, multiple sclerosis, and spinal cord injury, and patients with dementia. The animals used in these findings were horses, donkeys and dogs.

Muñoz Lasa, S., Máximo Bocanegra, N., Valero Alcaide, R., Atín Arratibel, M., Varela Donoso, E., & Ferriero, G. (2015). Animal assisted interventions in neurorehabilitation: a review of the most recent literature. *Neurología.*, 30(1), 1–7.
<https://doi.org/10.1016/j.nrleng.2013.01.010>.

Definition of Animal Assisted Therapy- Also known as pet therapy, is a therapeutic intervention that uses animals to improve the well-being of individuals across a variety of populations and/or settings. Has good historical feedback for building the introduction to why ATT. Over the past 50 years, the idea of human-animal interaction affecting a person's well-being has been making great advancements in this therapeutic approach. The research concerning therapies that involve human and animal interactions such as dogs, cats, horses with specific populations, such as autism, have been associated with improvement on their well-being as a result of these interactions. There are several highlighted areas to use in future.

Pandey, R. P., Himanshu, Gunjan, Mukherjee, R., & Chang, C.-M. (2024). The Role of Animal-Assisted Therapy in Enhancing Patients' Well-Being: Systematic Study of the Qualitative and Quantitative Evidence. *JMIRx Med.*, 5(1), e51787–e51787.
<https://doi.org/10.2196/51787>.

This article is a systematic review of articles related to the increase of mental health issues with college students and how AAI such as AAT and AAA can help improve their mental health. Some theories are introduced and have been highlighted in the article. Some believe that the human-animal bond is developed faster than a human-human bond for some people. Increased programs for AAI in higher education institutions was around 900 in 2015.

Parbery-Clark, C., Lubamba, M., Tanner, L., & McColl, E. (2021). Animal-assisted interventions for the improvement of mental health outcomes in higher education students: A systematic review of randomized controlled trials. *International Journal of*

Environmental Research and Public Health, 18(20), 10768.

<https://doi.org/10.3390/ijerph182010768>.

This article expresses AAI's as a topic to assist with wellbeing and applied in the management and rehabilitation of different pathologies. This article covers physiological and psychological effects associated with AAI's interactions with individuals with dementia and psychiatric disorders. It looks at Parkinsons Disease and Huntington Disease in particular. AAT on dementia and psychiatric disease to produce benefit individuals with benefits for emotional, behavioral and psychological symptoms and daily activities.

Peluso, S., De Rosa, A., De Lucia, N., Antenora, A., Illario, M., Esposito, M., & De Michele, G.

(2018). Animal-Assisted Therapy in Elderly Patients: Evidence and Controversies in Dementia and Psychiatric Disorders and Future Perspectives in Other Neurological Diseases. *Journal of Geriatric Psychiatry and Neurology*, 31(3), 149–157.

<https://doi.org/10.1177/0891988718774634>.

This article explores the socio-cognitive relationships between cats and humans. It does a good job explaining why dogs have been found to be perfect companion animals for humans but also hits on the cats as being in this category as well. It gives some positives and negatives associated with why cats have not been looked at like dogs have. It is mentioned that questionnaire was developed for this research to explore the personality and behavior of the cat human relationship and is based off the questionnaire used for dog human relationships. Highlighted areas in the article will help with this idea of cats being social and relational.

Pongrácz, P., & Szapu, J. S. (2018). The socio-cognitive relationship between cats and humans – Companion cats (*Felis catus*) as their owners see them. *Applied Animal Behaviour Science*, 207, 57–66. <https://doi.org/10.1016/j.applanim.2018.07.004>.

This article explores Animal Assisted Therapy in counseling (AAT-C), as it was noted to provide many benefits to the counseling practice, such as enhancing emotional regulation and social skills. There are several different ways of integrating counseling theories with AAT, so this article explores this concept. The use of PERMA (positive emotions, engagement, relationships, meaning, and accomplishment) theory of well-being is integrated with AAT. This article also looks at how ATT can help with wellness of the individual. Some benefits of using ATT in counseling were providing individuals with relief from panic attacks, reduces an individual's urge to self-harm, and may disrupt ruminative thinking. Highlighted areas share good information concerning integrating PERMA into the AAT. Although this is a positive psychology theory, there are many benefits of this article as to the nature and importance of integrating AAT into the therapy of individuals. The case study gives a good visual aspect to AAT-C and PERMA.

Schroeder, K., & Prasath, P. R. (2022). Positive Psychology and Therapy Animals: A Conceptual Integration for Counseling Practice. *Journal of Mental Health Counseling*, 44(4), 312–326. <https://doi.org/10.17744/mehc.44.4.03>.

This article explores the current challenges of research on animal assisted interventions and their validity. Several weak, study designs along with small size effects have caused a

definitive conclusion about efficacy or impact. It is seen that several other studies randomized controlled trials that have shown positive results reported. The child psychotherapist Boris Levinson proposed the use of animals as co-therapists for breaking the ice with particularly withdrawn and uncommunicative patients.

Serpell, J., McCune, S., Gee, N., & Griffin, J. A. (2017). Current challenges to research on animal-assisted interventions. *Applied Developmental Science*, 21(3), 223–233.
<https://doi.org/10.1080/10888691.2016.1262775>.

This article looks at whether the popularity of cats can be explained as either brought about by attachment or social support. These citations cover a good deal of the article. Further review may be needed. “From attachment theory one might derive the following hypothesis: The stronger the attachment to one’s animal, the stronger the positive influence of the relationship and the interactions with the animal on the owner. Considering social support, on the other hand, one might assume: The more people there are in a person’s social network – so-called significant others – the more support the person potentially receives in times of need. Significant others are defined here as those people in a person’s surroundings who are able and willing to provide support in a given situation. Social support can be either tangible (e.g. to go shopping for someone who is ill and unable to leave the house) or emotional (e.g. listening to someone who wants to talk about problems) (Norbeck et al. 1983).

Applying this to a companion animal, it might be viewed as another “person” in this network and therefore could provide more support. Alternatively, the animal might provide direct emotional support – which is one part of social support – implying that it could even replace a

person in the owner's social network for emotional support. From the above-mentioned difference between tangible and emotional support we can see that companion animals can offer emotional support but not usually tangible support (excluding service animals of course), whereas humans can provide both.

We have shown that the more human social support the participants received, the lower their attachment to their cats, which implies that cats might indeed be considered as substitutes for humans in the participants' social network. This is further supported by the strong correlation between attachment to the cats and the emotional support the participants felt they received from the animals. On the other hand, we did not find a negative correlation between human social support (including human emotional support) and emotional support from the cats. They do not exclude each other, which indicates that cats are a complementary part of the participants' social network, possibly offering a qualitatively different kind of emotional support. The strong influence of emotional support from the cats on the attachment of the participants to them indicates that the two cannot be regarded separately.”

Stammbach, K. B., & Turner, D. C. (1999). Understanding the Human—Cat Relationship:

Human Social Support or Attachment. *Anthrozoös*, 12(3), 162–168.

<https://doi.org/10.2752/089279399787000237>.

“O’Callaghan (2008) found that a majority of AAT-C practitioners use AAT-C interventions with the intention of enhancing the therapeutic relationship by building rapport, enhancing trust, and facilitating feelings of safety. Further, O’Callaghan (2008) 6 found that a majority of AAT-C practitioners use the following AAT-C intervention techniques: a) reflecting

or commenting on the client's relationship with the therapy animal; b) encouraging the client to interact with the therapy animal; c) sharing information about the animal's history with the client; d) sharing animal stories, themes and metaphors with the client; e) allowing the therapy animal to be present without directive intervention; and f) allowing the therapy animal to engage in spontaneous moments that facilitate the therapeutic discussion. O'Callaghan (2008) provides an empirically-based explanation of how and why AAT-C practitioners integrate this approach in clinical work, but it fails to identify the theoretical underpinnings of such interventions.

Cats are most frequently encountered in nursing homes as permanent residents or visitors. Feline residents have unlimited access to all patients and locations in a home, which improves communication and has a stimulating effect on the patients. Visiting cats and their owners attend scheduled therapy sessions. Nursing homes provide care for patients with Alzheimer's disease, Parkinson's disease, rheumatic diseases and multiple sclerosis.

Cat-assisted therapy involves petting and grooming the animal, and these activities help patients control hand tremor. Patients are encouraged to make paper balls and throw them to the cat. Visitors and owners who bring a cat to a nursing home socialize with the residents. Patients perform logopedic exercises where a cat serves as a live model. Visits and activities should take place regularly, and patients should be both inspired and required to cooperate, for instance, by playing with a therapy cat.

Feline-assisted therapy can be used in a variety of settings, and it is gaining increased popularity. Cat-assisted therapy is particularly recommended for patients who are unable to interact with large animals such as horses or are afraid of dogs.”

Stewart, L. A. (2014). Competencies in animal assisted therapy in counseling: a qualitative investigation of the knowledge, skills and attitudes required of competent animal assisted therapy practitioners..

https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1107&context=cps_diss.

Animals have been of value and used to improve human physical and mental health since ancient times. The citations are only a part of what will be used. Following the history is important for this article.

“Animal-assisted therapy improves the patient's physical and psychological wellbeing. The available research on this issue is still mostly anecdotal, statements of opinion, and weakly conducted studies. Despite these limitations, there is a widespread belief among healthcare professionals, academics, and the general public that animals, when used as social aids, provide various advantages to people. Another study conducted by Herzog in 2011 found that keeping pets at home improves owners' health, psychological well-being, and lifespan [18]. Pets have the amazing capacity to provide everlasting devotion, stimulate motivation, and relieve social stress in their owners [8]. Interacting with animals may also promote human development, boost education, aid in rehabilitation, and improve the overall quality of life.

Dogs, alpacas, horses, and others may be important companions in therapeutic settings. They may also be beneficial incentives for participating in new hobbies [2]. AAT works well because animals do not judge and therefore do not exert pressure. Contact with them has a positive effect on the level of relaxation, and they also improve sensory integration in the case of physical contact [19]. According to research, being around animals helps reduce stress levels among people. Human-animal contact has been correlated with quantifiable decreases in heart

rate and blood pressure [9]. Odendaal showed that the presence of dogs can reduce a person's cortisol level, resulting in decreased anxiety [5, 20].

Furthermore, studies demonstrate that pet owners have a lower likelihood of death within one year of experiencing a heart attack compared to non-pet owners (respectively 1% vs. 7%) [21]. In a survey conducted by Erica Friedmann, the impact of social isolation on mortality rates in individuals hospitalized for serious heart disease was investigated. The study primarily focused on the influence of human relationships, but among all the survey questions, pet ownership emerged as the most significant predictor of surviving one year after hospitalization. Statistics indicate that owning a pet correlates with a longer life expectancy, with pet owners appearing to have one-third of the death rate of patients without pets [10].

Cats Feline-assisted therapy, also known as felinotherapy or cat-assisted therapy, is a relatively new field within animal therapy and has been introduced in Poland in 2004 [2, 13]. This form of therapy is most frequently implemented in long-term care institutions like hospices and assisted living facilities [13]. Its applications extend to various individuals, including those with mental and motor disabilities, individuals experiencing loneliness, and those with rheumatological conditions [13]. The therapeutic benefits of feline-assisted therapy are achieved through contact with the cat. These interactions have a positive impact on human well-being by alleviating loneliness, lowering stress, and facilitating social connection [23]. Physical contact with cats stimulates the production of endorphins, enhances the immune system, and promotes relaxation. Activities involved in feline therapy primarily revolve around brushing, playing, stroking, lifting, cuddling, and feeding the cat. Through these exercises, joint mobility improves, pain is reduced, functional ability is enhanced, and patients gain increased independence [13]. Cats for felinotherapy are chosen depending on their temperament and personality. The cat must

be 222 open to human contact, such as being receptive to stroking, brushing, and snuggling.

Prominent cat breeds utilized in felinotherapy include Ragdoll, Maine Coon, and Persian cats”

Szewczyk, D., Fiega, J., Michalska, M., Żurek, U., Lubaszka, Z., & Sikorska, E. (2023).

Therapeutic Role of Animals: A Comprehensive Literature Review on the Prevalent Forms and Species in Animal-Assisted Interventions. *Journal of Education, Health and Sport.*, 45(1), 215–235. <https://doi.org/10.12775/JEHS.2023.45.01.015>.

This article gives great insight into integrating cat assisted therapy (CAT) into the treatment plan. With the notion that animals have been used in therapy for 2 millennia, the first were horses as they have been utilized for remedies for many diseases as they could stimulate the body. As time progressed more animals have been used for therapeutic purposes, such as dogs, cats, donkeys, rabbits, hamsters, guinea pigs, birds, reptiles and other amphibians. See highlights in the article for benefits. There has been an increase in popularity with the use of CAT as it is like other animal assisted therapies as they are auxiliary methods of treatment. It has been found that cats can help relieve stress, with even just a short time spent playing with a cat has a calming effect on the individual, it has been seen to lower cardiovascular disease and asthma because cat fur generates negative ions that humans can benefit from. These negative ions can produce a sense of relief and relaxation, improve an individual’s wellbeing, and help to speed up recovery time.

Tomaszewska, K., Bomert, I., & Wilkiewicz-Wawro, E. (2017). Feline-assisted therapy:

Integrating contact with cats into treatment plans. *Polish Annals of Medicine.*, 24(2), 283–286. <https://doi.org/10.1016/j.poamed.2016.11.011>.

This article focuses on how AAT can help reduce the symptoms brought about by hospitalization in adults and children. Animal assisted therapy (AAT) consists of introducing a companion animal that is not owned by the intended individual with the expectation that the animal's presence will benefit the individual. It is noted that AAT promotes emotional comfort while decreasing anxiety and physical stress alleviated by hospitalization for whatever reason, with the intention of reducing any psychological or physiological stress brought on through hospitalization. This study focuses on children who have been hospitalized and the effects AAT associated with the stress experienced by the hospitalized individual. AAT has been found to have a positive outcome on psychological indicators of stress in hospitalized children. The physiological outcomes came through gathering information on the individuals as their blood pressure (BP) and heart rates (HR) were recorded before, during, and after as a measurement of effectiveness of the AAT on the children.

Physiologically, the individuals BP and HR were reduced during the AAT visit, but rose upon completion, and improved with multiple visits, the BP reduction associated with the number of visits was found where the HR had no substantial difference. The Psychological results showed that when looking at medical fear, there was no significant reduction in fear and anxiety. Upon reviewing all the data, it concludes that AAT can be an affective distraction for individuals who have medical fear and anxiety from being hospitalized. The reduction of stress from both physiological and psychological needs of individuals, AAT has been associated with decreased levels of stress. More information has been highlighted for future references.

Tsai, C. C., Friedmann, E., & Thomas, S. A. (2010). The Effect of Animal-Assisted Therapy on Stress Responses in Hospitalized Children. *Anthrozoös*, 23(3), 245–258.

<https://doi.org/10.2752/175303710X12750451258977>.

Roles Associated with Animal rescues, donors, volunteers, board members, directors

This article focuses on the intentions and nature of donors for no-profits particularly animal-rescues. Most non-profits struggle with targeting donors and are sporadic in bringing in funding for themselves. This article identifies motivational dimensions for people to donate to non-profit animal rescues. Motivation on the donors behavior to donate. Demographics of donors. The behaviors associated with giving are altruistic, egotistic, philanthropic, and hedonic. Impact philanthropy scored the highest for animals rescues, hedonistic and altruistic donors were tied for second.

Amos, C., Holmes, G. R., & Allred, A. (2015). Exploring Impact Philanthropy, Altruistic, Hedonic, and Egoistic Motivations to Support Animal Causes. *Journal of Nonprofit & Public Sector Marketing*, 27(4), 351–372.
<https://doi.org/10.1080/10495142.2015.1015377>.

This article looks at the impact covid 19 had on animal rescues, its workers, surrenders, and adoptions. Three themes emerged, the impact on the animals, the impact on identity, and the impact on organizational processes. Cats had a dramatic increase in population as vets were closed and could not fix them and because people believed they were carriers of covid. Most rescues were feeling left out during the money that was being given for relief for companies and people.

Carroll, G. A., Reeve, C., & Torjussen, A. (2024). Companion animal adoption and relinquishment during the COVID-19 pandemic: The experiences of animal rescue staff and volunteers. *Animal Welfare.*, 33. <https://doi.org/10.1017/awf.2024.15>.

This article defines animal shelters as a place for animals that have been badly treated lost, or just not wanted anymore, can be taken care of. Volunteers provide for the following tasks, like animal care to outreach to the community, and adoption of the animals helps ease the burden of taking care of them when possible. The help of AI in matching animals with people has been somewhat beneficial. Another task of volunteers is the euthanasia of the animals, one that the majority of volunteers are against. Management at some shelters is also volunteer, handling adoption process, cleaning up after animals, feeding and watering them, medical treatments, receiving and asking for donations of money or food.

This article looks at placing LSW into animal shelters to accommodate the stress among shelter workers, looking at compassion fatigue, secondary trauma, moral distress, and burnout. Although training is offered to some ASW's concerning compassion fatigue and other mental health effects of working with and performing euthanasia, no one is every completely prepared for death. Veterinary Social workers are a growing trend to help with ASW's and veterinary workers.

Hoy-Gerlach, J., Ojha, M., & Arkow, P. (2021). Social Workers in Animal Shelters: A Strategy Toward Reducing Occupational Stress Among Animal Shelter Workers. *Frontiers in Veterinary Science.*, 8. <https://doi.org/10.3389/fvets.2021.734396>.

This article looks at ways the animal rescue can manage and organize the dynamics of running a shelter, from managing resources, organizing files for animals, adoption process, managing volunteer workers, and daily needs of the animals. This article is an advertisement for the use of an integrated copter program to run and handle all data electronically.

Islam, M. N., Rahman, R., Akthar, S. R., Hasan, M., & Ahmed, S. (2024). Streamlining Rescue Efforts: A Study on the Impact of Organizational Coordination in Animal Rescue Operations. *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, 888–7.
<https://doi.org/10.1109/ICCCNT61001.2024.10724020>.

Jackson, M. M. (n.d.). “We have a volunteer coordinator who is unfortunately a volunteer.” *Proceedings of the Fifth International Conference on Animal-Computer Interaction /*, 1–6. <https://doi.org/10.1145/3295598.3295612>.

This article looks at volunteers and gives descriptions about them defines what is a volunteer. The volunteer Functions Inventory was used to assess their motivations to volunteer at an animal rescue. There are six categories of functions looked at, they are values, protective, understanding, enhancement, career, and social relations. The first hypothesis was proven as it was believed that most volunteers came on their own and others were recruited, most were females, years ranged form under 1 year to 10 years of service. Highest reason for not continuing service was lack of time.

Neumann, S. L. (2010). Animal Welfare Volunteers: Who Are They and Why Do They Do What They Do? *Anthrozoös*, 23(4), 351–364.

<https://doi.org/10.2752/175303710X12750451259372>.

This article looks at what factors lead to the satisfaction of volunteers in animal shelters. It has been expressed that the voices of volunteers need to be heard and recognized and this will increase volunteer satisfaction.

Reese, L. A., Jacobs, J., & Grebey, T. (2023). Factors Contributing to the Satisfaction of Animal Shelter Volunteers: The Importance of Voice. *Journal of Applied Animal Welfare Science.*, 26(2), 132–146. <https://doi.org/10.1080/10888705.2021.1874953>.

Occupational stress and compassion fatigue in personnel working in animal related occupations has increased over the past decade. Defining compassion fatigue and burnout have been established in the beginning of the article. The idea of occupational stress research related to people working with animals (vet tech) has produced minimal results as compared to working in a human related field such as a nurse. The effects on the workers related to euthanasia is also looked at in the article. Compassion fatigue in the animal related field is considered a direct result of the impact of euthanasia on the vet or vet tech.

This article looks at the calling of people and why they followed them. Animal shelter workers were interviewed for this article and give some feedback.

Schabram, K., & Maitlis, S. (2017). Negotiating the Challenges of a Calling: Emotion and Enacted Sensemaking in Animal Shelter Work. *The Academy of Management Journal.*, 60(2), 584–609. <https://doi.org/10.5465/amj.2013.0665>.

Scotney, R. L., McLaughlin, D., & Keates, H. L. (2015). A systematic review of the effects of euthanasia and occupational stress in personnel working with animals in animal shelters, veterinary clinics, and biomedical research facilities. *Journal of the American Veterinary Medical Association.*, 247(10), 1121–1130. <https://doi.org/10.2460/javma.247.10.1121>.