



OPEN ACCESS

EDITED AND REVIEWED BY
Veena Kumari,
Brunel University London, United Kingdom

*CORRESPONDENCE
Emily Shoesmith
✉ Emily.shoesmith@york.ac.uk

RECEIVED 14 March 2025

ACCEPTED 28 March 2025

PUBLISHED 10 April 2025

CITATION
Shoesmith E, Hawkins RD and Ratschen E
(2025) Editorial: Evidencing the impact of
human-animal interaction for those living
with mental health problems.
Front. Psychiatry 16:1593660.
doi: 10.3389/fpsyt.2025.1593660

COPYRIGHT
© 2025 Shoesmith, Hawkins and Ratschen.
This is an open-access article distributed under
the terms of the [Creative Commons Attribution
License \(CC BY\)](#). The use, distribution or
reproduction in other forums is permitted,
provided the original author(s) and the
copyright owner(s) are credited and that the
original publication in this journal is cited, in
accordance with accepted academic
practice. No use, distribution or reproduction
is permitted which does not comply with
these terms.

Editorial: Evidencing the impact of human-animal interaction for those living with mental health problems

Emily Shoesmith^{1*}, Roxanne D. Hawkins² and Elena Ratschen¹

¹Department of Health Sciences, University of York, York, United Kingdom, ²Department of Clinical and Health Psychology, University of Edinburgh, Edinburgh, United Kingdom

KEYWORDS

human-animal interaction, mental health, wellbeing, animal-assisted services, animal-assisted interventions, companion animals, animals

Editorial on the Research Topic

Evidencing the impact of human-animal interaction for those living with mental health problems

1 Global mental health impact

Mental health conditions are projected to become the leading global contributors to morbidity and mortality by 2030 (1), with depression and anxiety being the most prevalent conditions (2). In the UK, the importance of identifying unmet needs and reducing health inequalities among people with mental health conditions feature prominently in National Health Service (NHS) plans (3) and strategies (4, 5) and efforts to improve services and outcomes for people with mental health conditions have been highlighted (6–8). Therefore, it is crucial to identify early preventative strategies, along with key risk and protective factors, social determinants, and the ongoing development and evaluation of therapeutic interventions in diverse contexts.

2 Human-animal interaction: impact, challenges and progress

The potential protective and therapeutic benefits of human-animal relationships and interactions for individuals experiencing mental health challenges (9–16) have gained increasing attention. Human-animal interaction (HAI) describes a wide spectrum of relationships and exchanges between humans and animals in a variety of contexts (17), such as in the home (e.g., companion animals, also known as untrained ‘pet’ animals), assistance animals, in therapeutic settings such as involvement in animal-assisted services (18, 19) or

interaction with non-domestic animal species, whether wild or captive. However, the field of HAI frequently reports mixed results (20) and robust empirical evidence remains scarce, with existing studies often limited by methodological flaws (21–25). Key issues include small sample sizes and, consequently, lack of statistical power, lack of manualised intervention protocols, and well-designed control conditions (21, 26, 27). The majority of HAI research is correlational or small-scale, with a lack of high-quality intervention research designs capable of ascertaining causal relationships (28). Beyond observing outcomes, there is also a need for research to investigate the psychological mechanisms underlying the observed benefits and challenges associated with human-animal relationships and mental health interventions (29). While advancements have been made in enhancing methodological rigour of HAI research in recent years, substantial theoretical and practical challenges persist, hindering further progress in the field (30). Failure to advance the evidence base can lead to inefficient use of limited resources and result in poor, potentially unethical, and harmful practice for all parties involved (29).

Our Research Topic “Evidencing the Impact of Human-Animal Interaction for Those Living with Mental Health Problems”, delves into complex HAI and relationships, aiming to provide more robust empirical evidence and deepen our understanding of how HAI (which include companion animal ownership, service dogs, and animal-assisted services) can influence mental health and well-being.

Collectively, the 11 articles in this Research Topic advance our understanding of the multifaceted nature of human-animal relationships while also offering insights into the potential mental health benefits that these interactions may offer to populations with different mental health conditions. For example, several studies explored the role of animal-assisted services involving a range of animals, such as dogs, horses, and sheep. These studies reported on the role of animal-assisted services in reducing cortisol levels (Schuck et al.) and enhancing social behaviour (Nieforth et al.) in children diagnosed with Attention Deficit/Hyperactivity Disorder (ADHD); improving social functioning and self-regulation in autistic children (Peters et al.); fostering positive emotions, mindfulness, and self-efficacy in adults with substance use disorders (Schmid et al.), and alleviating symptoms of post-traumatic stress disorder (PTSD) in veterans (Rankins et al.). Placing these findings in a broader context, it is evident that HAI holds promise as a (complementary or adjunctive) intervention to improve health-related outcomes for those with mental health and/or neurodevelopmental conditions across a range of age groups.

In addition to research on animal-assisted interventions, this Research Topic also provides valuable insights into the impact of service dogs and companion animal ownership. For example, Rodriguez et al. reported that service dogs improved sleep behaviours in autistic children, and Hawkins et al. found that young adults reported positive impacts of their pet dogs and cats on their anxiety and depression symptoms, with the animals providing temporary relief during moments of interaction. Importantly, however, Hawkins et al. emphasised the need for

caution, highlighting that companion animals may not always yield positive outcomes. While living with companion animals is often portrayed in the media as inherently beneficial for (mental) health (31), the complexities and potential challenges of these relationships are frequently overlooked. An additional important consideration is the potential for strong attachment to companion animals to serve as an indicator of mental health vulnerability. For example, Wells et al. suggested that a strong attachment to companion animals may correlate with personality traits typically associated with certain mental health conditions. This finding is consistent with previous literature, which has reported a negative relationship between strong emotional attachment to companion animals and mental health (32–36). While the positive effects of service dogs and companion animal ownership are evident in certain contexts, it is essential to acknowledge the potential risks and complexities associated with strong emotional attachments, which warrant further investigation.

Overall, the showcased studies emphasise the intricate and nuanced nature of human-animal relationships. While HAI may offer protective and therapeutic benefits in certain contexts, for example through hypothesised mechanisms involving attachment to or companionship provided by the animal (11, 12, 37), it is imperative to approach HAI research with a balanced perspective. Human-animal relationships may also present risks, particularly for certain populations with mental health conditions (38). For example, in addition to the findings reported in our Research Topic, previous studies have highlighted several potential challenges, which include the financial burden of animal ownership (39), the responsibility of ensuring that an animal’s needs are met (40), the grief associated with the loss of an animal (11), and the potential distress associated with the termination of animal-assisted service sessions, particularly when participants have formed an attachment to the animal (41). These factors can have significant implications for mental health.

3 Final considerations

The Research Topic “Evidencing the Impact of Human-Animal Interaction for Those Living with Mental Health Problems” offers a comprehensive examination of the potential benefits and complexities of HAI in mental health contexts. By presenting different research methodologies and perspectives, it underscores the importance of evidence-based approaches to integrating HAI into mental health contexts. As the field continues to evolve, future research should aim to address existing gaps, explore the long-term effects of HAI, and develop standardised protocols to maximise benefits while mitigating potential risks (20, 42, 43). In summary, while HAI present promising avenues for enhancing mental well-being, a rigorous, nuanced and evidence-based approach to research and practice will be essential to fully harness their therapeutic potential.

Author contributions

ES: Writing – original draft, Conceptualization, Writing – review & editing. RH: Writing – review & editing. ER: Writing – review & editing.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

References

- World Health Organisation. Global burden of mental disorders and the need for a comprehensive, coordinated response from health and social sectors at the country level: Report by the Secretariat. (2011).
- McManus S, Bebbington P, Jenkins R, Brugha T. *Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014*. Leeds: NHS Digital (2016).
- Alderwick H, Dixon J. The NHS long term plan. *BMJ*. (2019) 364:l84.
- NHS. Core20PLUS5 (adults) – an approach to reducing healthcare inequalities 2021 (2021). Available online at: <https://www.england.nhs.uk/about/equality/equality-hub/national-healthcare-inequalities-improvement-programme/core20plus5/> (Accessed November 19, 2024).
- NHS. Core20PLUS5 – An approach to reducing health inequalities for children and young people 2022 (2022). Available online at: <https://www.england.nhs.uk/about/equality/equality-hub/national-healthcare-inequalities-improvement-programme/core20plus5-cyp/> (Accessed November 19, 2024).
- World Health Organisation. *Comprehensive Mental Health Action Plan 2013-2030*. (World Health Organization) (2021).
- World Psychiatric Association. *Action Plan 2020-2023*. (World Psychiatric Association) (2020).
- United Nations. *Transforming our world: the 2030 Agenda for Sustainable Development*. (United Nations) (2016).
- Hediger K, Beetz AM. Benefits of human-animal interactions for mental health and well-being. In: *One Health: the theory and practice of integrated health approaches*. CABI, Wallingford UK (2021). p. 344–55.
- Shoesmith E, Gibsons E, Bracher E, Smolković I, Jennings K, Viles L, et al. The impact of living with assistance dog placements on quality of life in children and adults with autism spectrum disorder or a physical disability: a longitudinal service evaluation. *Human-Animal Interact.* (2024) 12, 1–13. doi: 10.1079/hai.2024.0014
- Shoesmith E, Shahab L, Kale D, Mills DS, Reeve C, Toner P, et al. The influence of human–animal interactions on mental and physical health during the first COVID-19 lockdown phase in the UK: A qualitative exploration. *Int J Environ Res Public Health*. (2021) 18:976. doi: 10.3390/ijerph18030976
- Brooks HL, Rushton K, Lovell K, Bee P, Walker L, Grant L, et al. 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*. (2018) 18:31. doi: 10.1186/s12888-018-1613-2
- Fornfeld D, Zellin U, Schmidt P, Fricke O. The supporting role of dogs in the inpatient setting: a systematic review of the therapeutic effects of animal-assisted therapy with dogs for children and adolescents in an inpatient setting. *Eur Child Adolesc Psychiatry*. (2023) 34(1):1–15. doi: 10.1007/s00787-023-02326-1
- Fine AH. *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice*. Amsterdam: Academic Press (2010).
- Purewal R, Christley R, Kordas K, Joinson C, Meints K, Gee N, et al. Companion animals and child/adolescent development: A systematic review of the evidence. *Int J Environ Res Public Health*. (2017) 14:1–25. doi: 10.3390/ijerph14030234
- Friedmann E, Son H. The human–companion animal bond: how humans benefit. *Veterinary Clinics North America: Small Anim Practice*. (2009) 39:293–326. doi: 10.1016/j.cvsm.2008.10.015
- Serpell J. *In the Company of Animals: a Study of Human-Animal Relationships*. Canto edition. Cambridge: Cambridge University Press (1996).
- Binder AJ, Parish-Plass N, Kirby M, Winkle M, Skwerer DP, Ackerman L, et al. Recommendations for uniform terminology in animal-assisted services (AAS). *Human-Animal Interact.* (2024) 12:1–10. doi: 10.1079/hai.2024.0003
- Fine Ae. *Handbook on animal-assisted therapy. Foundations and guidelines for animal-assisted interventions*. 4th edition. San Diego, California: Academic Press (2015).
- Rodriguez KE, Herzog H, Gee NR. Variability in human-animal interaction research. *Front Veterinary Sci*. (2021) 7. doi: 10.3389/fvets.2020.619600
- Jones MG, Rice SM, Cotton SM. Incorporating animal-assisted therapy in mental health treatments for adolescents: A systematic review of canine assisted psychotherapy. *PLoS One*. (2019) 14:e0210761. doi: 10.1371/journal.pone.0210761
- Zafra-Tanaka JH, Pacheco-Barrios K, Tellez WA, Taype-Rondan A. Effects of dog-assisted therapy in adults with dementia: a systematic review and meta-analysis. *BMC Psychiatry*. (2019) 19:41. doi: 10.1186/s12888-018-2009-z
- Hill J, Ziviani J, Driscoll C, Cawdell-Smith J. Can canine-assisted interventions affect the social behaviours of children on the autism spectrum? A systematic review. *Rev J Autism Dev Disord*. (2019) 6:13–25. doi: 10.1007/s40489-018-0151-7
- Shoesmith E, Surr C, Ratschen E. Animal-assisted and robotic animal-assisted interventions within dementia care: A systematic review. *Dementia*. (2023) 22(3):14713012231155985. doi: 10.1177/14713012231155985
- Chan MC-H, Schonert-Reichl KA, Binfet J-T. Human–animal interactions and the promotion of social and emotional competencies: A scoping review. *Anthrozoos*. (2022) 35:647–92. doi: 10.1080/08927936.2022.2042080
- Santaniello A, Dicé F, Claudia Carratù R, Amato A, Fioretti A, Menna LF. Methodological and terminological issues in animal-assisted interventions: an umbrella review of systematic reviews. *Animals*. (2020) 10:759. doi: 10.3390/ani10050759
- Santaniello A, Garzillo S, Cristiano S, Fioretti A, Menna LF. The research of standardized protocols for dog involvement in animal-assisted therapy: A systematic review. *Animals*. (2021) 11:2576. doi: 10.3390/ani11092576
- Friedmann E, Gee NR. Critical review of research methods used to consider the impact of human–animal interaction on older adults' Health. *Gerontologist*. (2019) 59:964–72. doi: 10.1093/geront/gnx150
- Ratschen E, Sheldon TA. Elephant in the room: animal-assisted interventions in healthcare. *Br Med J BMJ*. (2019) 367. doi: 10.1136/bmj.l6260
- Serpell J, McCune S, Gee N, Griffin JA. Current challenges to research on animal-assisted interventions. *Appl Dev Sci*. (2017) 21:223–33. doi: 10.1080/10888691.2016.1262775
- Fine AH. The psycho-social impact of human-animal interactions. *Int J Environ Res Public Health*. (2020) 17:3964. doi: 10.3390/ijerph17113964
- Smolkovic I, Fajfar M, Mlinaric V. Attachment to pets and interpersonal relationships: Can a four-legged friend replace a two-legged one? *J Eur Psychol Students*. (2012) 3:15–23. doi: 10.5334/jeps.ao
- Lass-Hennemann J, Schäfer SK, Sopp MR, Michael T. The relationship between dog ownership, psychopathological symptoms and health-benefitting factors in occupations at risk for traumatization. *Int J Environ Res Public Health*. (2020) 17:2562. doi: 10.3390/ijerph17072562
- Peacock J, Chur-Hansen A, Winefield H. Mental health implications of human attachment to companion animals. *J Clin Psychol*. (2012) 68:292–303. doi: 10.1002/jclp.2012.68.issue-3

Generative AI statement

The author(s) declare that no Generative AI was used in the creation of this manuscript.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

35. Miltiades H, Shearer J. Attachment to pet dogs and depression in rural older adults. *Anthrozoos*. (2011) 24:147–54. doi: 10.2752/175303711X12998632257585
36. Antonacopoulos NMD, Pychyl TA. An examination of the potential role of pet ownership, human social support and pet attachment in the psychological health of individuals living alone. *Anthrozoos*. (2010) 23:37–54. doi: 10.2752/175303710X12627079939143
37. Meehan M, Massavelli B, Pachana N. Using attachment theory and social support theory to examine and measure pets as sources of social support and attachment figures. *Anthrozoos*. (2017) 30:273–89. doi: 10.1080/08927936.2017.1311050
38. Shoesmith E, Spanakis P, Peckham E, Heron P, Johnston G, Walker L, et al. The role of animal ownership for people with severe mental illness during the COVID-19 pandemic: A mixed-method study investigating links with health and loneliness. *Int J Environ Res Public Health*. (2021) 18:11908. doi: 10.3390/ijerph182211908
39. Muldoon JC, Williams JM. When having a pet becomes a luxury you can no longer afford. *Anthrozoos*. (2024) 37:881–904. doi: 10.1080/08927936.2024.2351276
40. Merkouri A, Graham TM, O'Haire ME, Purewal R, Westgarth C. Dogs and the good life: A cross-sectional study of the association between the dog-owner relationship and owner mental wellbeing. *Front Psychol*. (2022) 13. doi: 10.3389/fpsyg.2022.903647
41. Black AF, Chur-hansen A, Winefield HR. Australian psychologists' knowledge of and attitudes towards animal-assisted therapy. *Clin Psychol*. (2011) 15:69–77. doi: 10.1111/j.1742-9552.2011.00026.x
42. Gee NR, Griffin JA, McCardle P. Human-animal interaction research in school settings: current knowledge and future directions. *AERA Open*. (2017) 3:2332858417724346. doi: 10.1177/2332858417724346
43. Gee NR, Galik E. Future directions for research on human-animal interaction in an aging population. *Anthrozoos*. (2019) 32:283–91. doi: 10.1080/08927936.2019.1569909