



caar

# caar research briefing 4: October 2018

Children, adolescents, and animals research

**Dr Janine C Muldoon**

**Professor Joanne M Williams**

## *Animal welfare and animal-assisted interventions with children, young people & clinical populations*

This briefing accompanies the fourth in a series of reflective workshops organised by **caar** at the University of Edinburgh and funded by the Economic and Social Research Council (ESRC). It focuses on findings from three recent research projects at the University of Edinburgh. These are diverse in scope, and the implications of each are drawn out. We consider how animal welfare education might be made more effective, how risk factors for animal cruelty among children and adolescents might be best understood, and the most effective ways of using animal-assisted therapy and intervention (AAT/AAI).



### **Background**

Early intervention during childhood and adolescence is important to ensure the best outcomes for animal welfare and human wellbeing. Equipping people with the knowledge and skills necessary to care for both animals and themselves (recognising needs and seeking support), is vital if we are to create a caring environment where people *and* animals can thrive. We know that without educational input children lack knowledge about animals' welfare needs and are not confident in recognising problems or taking responsibility for them (Muldoon, Williams & Lawrence, 2016). This lack of knowledge and responsibility can result in unintentional or accidental cruelty and neglect of animals. This is relatively easy to remedy with child-friendly, evidence-based, interventions (Hawkins, Williams, & Scottish SPCA, 2017). However, the closer interventions can get to direct experience with animals, the more likely children are to develop greater emotional connection and empathy towards them (Muldoon, Hawkins, Williams & the Scottish SPCA, 2018). The use of new technologies may help to achieve this in situations where the use of live animals is inappropriate. Examples include in schools, where the welfare of an animal might be compromised, or with children who have previously harmed an animal.

Empathy is particularly important in understanding why some people intentionally harm animals, and whilst research into psychological predictors of animal cruelty in childhood and adolescence is limited (Hawkins, Hawkins & Williams, 2017), we know a lack of empathy is associated with antisocial behaviour and animal cruelty (McPhedran, 2009). Low levels of understanding of animal minds (Hawkins & Williams, 2016) and weak attachment to pets (Hawkins, Williams & Scottish SPCA, 2017) are also risk factors. A lack of self-control and deficiencies in perspective-taking, as well as emotional instability, may also be associated with criminal behaviour and possibly animal cruelty (Nussbaum et al., 2002). It is important that we better understand these links in order for effective preventative and therapeutic interventions to be developed. Interventions for typically developing children might not be sufficiently targeting these underlying psychological factors, and the implications of psychological risk factors for the development of interventions require further consideration.

Scientific evaluation of the effectiveness of therapeutic animal-assisted interventions is also critical if we are to define exactly what works, how and for whom. AAT is increasingly researched as a potential treatment for physical and mental illness, and recently, there has been an increase in the use of randomised controlled trials. Some of these have shown promise in improving outcomes for patients with heart failure, stroke, depression, autism, and dementia (see Harris & Williams, 2017; Olsen et al., 2016). However, many studies are small in scale and lack control groups. Therefore, there is a need for detailed reviews of the literature to ascertain the scale and quality of the evidence base.

There are also concerns about the welfare of animals used in animal-assisted interventions, prompting international efforts to create guidelines for practice to ensure both human wellbeing and animal welfare benefits. Evidence for the effectiveness of AAT for schizophrenia in particular remains unclear. Schizophrenia is a severe psychiatric condition that often emerges during adolescence and is typically treated with pharmacological intervention. However, there is scope for AAT to have an impact on the quality of life of people with schizophrenia, offering a supplementary treatment for those affected.

## Our studies

Three University of Edinburgh studies are discussed in this paper. The first was developed by Professor Jo Williams in collaboration with the Scottish SPCA. The second was an MSc project in Clinical & Health Psychology, and the third, a PhD project in the Division of Psychiatry.

### Project 1: 'Rabbit Rescuers' – a new animal welfare intervention for young children

- Rabbit welfare education intervention with individual interviews assessing the impact of a short school-based intervention with children using mechanical rabbits, toy fluffy rabbit and a control group, males (n=65), females (n=58), aged 6-7 years.
- Exploring the impact of the three intervention conditions (mechanical rabbit, fluffy toy rabbit and control) on: (a) understanding of rabbit welfare needs, (b) understanding of sentience, (c) attitudes towards cruelty, and (d) attachment to pets.

### Project 2: Violence and animal cruelty among Portuguese juvenile offenders

- Survey of adolescents at a youth prison in Portugal, males (n=32), females (n=11), aged 14 to 17 years.
- Exploring (a) whether adolescents who have committed violent crimes and animal cruelty differ in their social and emotional skills, (b) if animal violence is related to violent crimes towards other humans, and (c) how adolescents conceptualise morality.

### Project 3: Animal-assisted therapy for schizophrenia

- A systematic review of randomised controlled trials that assessed the use of AAT, or other animal-assisted interventions, for schizophrenia. Seven studies were eligible for inclusion (they compared AAT, or other AAI to a control group, and included all participants with a clinical diagnosis of schizophrenia, regardless of age, gender, setting, or severity and duration of illness).

## Key findings

**Project 1:** The short school-based intervention using realistic mechanical rabbits was most effective in enhancing children's knowledge about the welfare needs of rabbits (see Figure 1), and understanding of rabbit minds (sentience). It also significantly reduced the tendency to say that cruelty to rabbits is acceptable, and strengthened children's attachment to pets (see Figure 2). The fluffy rabbit condition was effective in promoting attachment to pets. The control group, where children did not engage in the intervention, revealed no changes in any variable measured. This study shows that age-appropriate animal welfare education interventions designed for very young children can be highly effective in increasing knowledge and changing attitudes and attachments to pets. The children also reported enjoying the intervention and felt that they had learned a lot about rabbits and how to care for them.

Figure 1

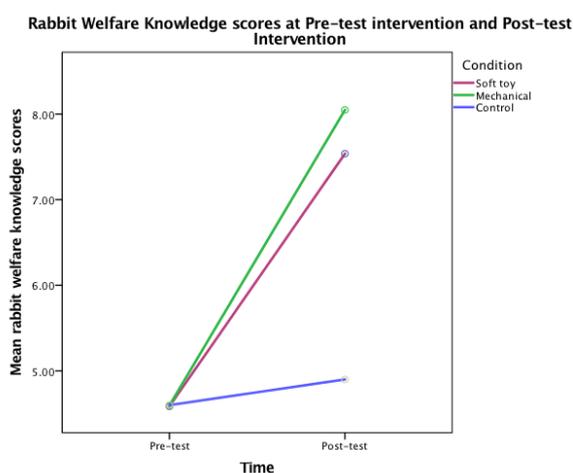
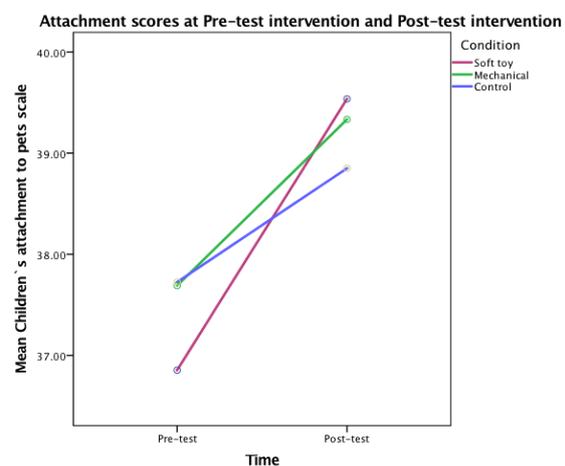


Figure 2



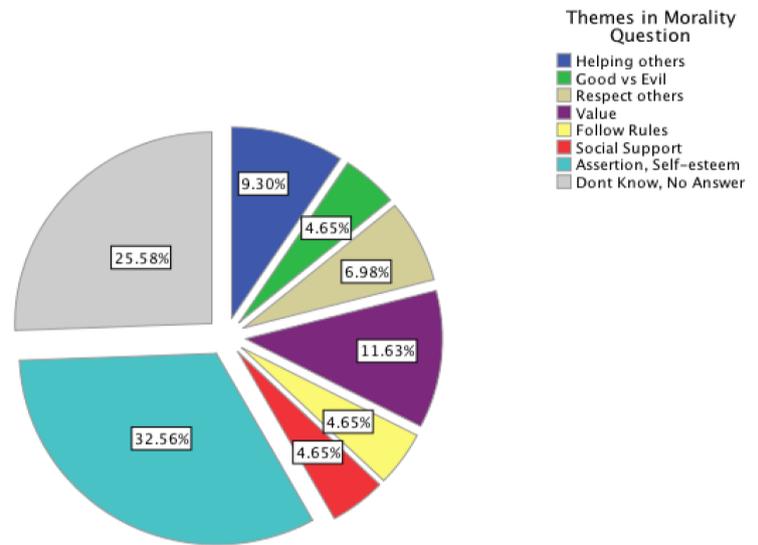
**Project 2:** The survey study of young offenders revealed that animal cruelty was relatively common in this sample. 28 of the 43 juvenile offenders reported that they had harmed an animal. Furthermore, 49% of these had also committed violent crime. This demonstrates 'The Link' between animal cruelty and human-directed violence, and the possibility that animal cruelty is associated with an escalation of violent behaviour among children and adolescents. In terms of the psychological risk factors for animal cruelty, statistical analysis revealed that the 'animal cruelty' group scored lower on self-control, empathetic concern and perspective-taking than young offenders who said they had not harmed an animal. 33% of the sample referred to morality as a motivational factor for aggression (see Figure 3).

Where children and young people are engaging in intentional cruelty to animals, educational interventions designed to improve understanding of animal sentience and animal welfare needs may not be sufficient to lead to behavioural change and reduce animal cruelty. Targeted interventions that deal with underlying psychological risk factors and strengthen empathy and perspective-taking are required. Where animal cruelty is associated with human-directed violence, animal cruelty prevention may also help to reduce the former (as well as human-directed aggression), thereby breaking the cruelty-violence link.

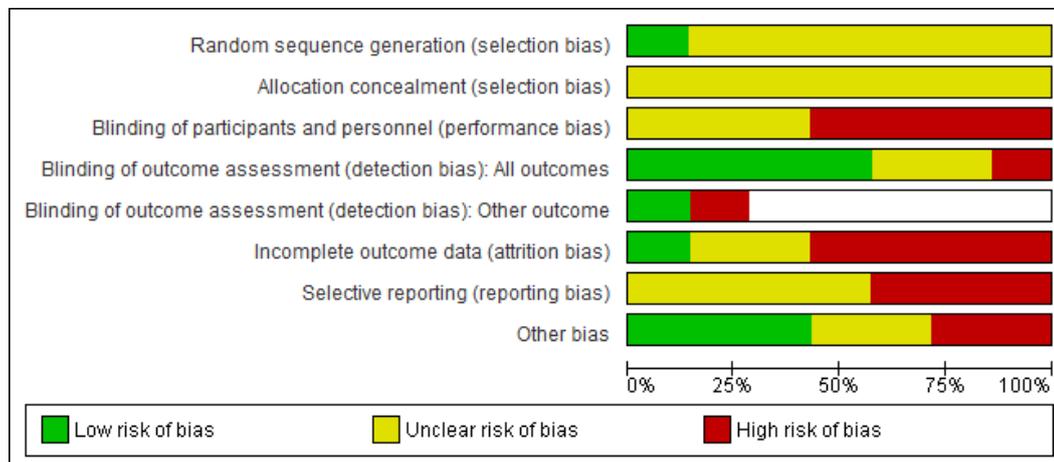
Further research is required on the links between animal cruelty and human violence in children and adolescents, psychological risk factors for animal cruelty in this age range (including empathy and its role in moral development), and the development and evaluation of targeted interventions for high-risk youth.

**Project 3:** Despite the growth of AAT research, this systematic review revealed only seven randomised controlled trials of AAT for schizophrenia published internationally. Analysis of these studies revealed that AAT was associated with improvements in negative symptoms (e.g., social withdrawal, emotional withdrawal and blunted affect), and improvements in positive views of self (self-esteem, self-determination and self-efficacy). However, AAT was not associated with changes in quality of life, and mixed findings were found in relation to social functioning. The quality assessment of published work highlighted a high risk of bias in many studies (see Figure 4). There is clearly a need for high quality research on the value and effectiveness of AAT for severe psychiatric conditions such as schizophrenia. Large-scale randomised control trials are required to investigate not only if AAT helps people with schizophrenia, but how it helps and who it helps most. This research needs to consider not only the wellbeing of human participants but also the welfare of the animals involved.

**Figure 3: Frequency of themes used by adolescent offenders to describe the concept of morality**



**Figure 4: Risk of bias in published studies of AAT for schizophrenia**



## The implications for animal welfare education and the development of AAT & AAI

Project 1 suggests that we can start animal welfare education with very young children. Well-designed age-appropriate interventions with a clear focus and engaging activities can lead to knowledge and attitude gains and strengthen attachment to animals. Furthermore, it shows how adding toy animals to the educational materials can have a significant impact on the effectiveness of the intervention. The more interactive the toy animal, the more the gains for children. Project 2 highlights the need to target emotional skills development in cruelty interventions, for example, using role play to learn perspective-taking and empathy. Specialist intervention is important for those who have experienced traumatic events in their lives, connected to the lack of care, respect and support they have received. Project 3 demonstrates the promise of AAT in the treatment of schizophrenia and calls for further research in the form of large-scale longitudinal randomised controlled trials.

### References

- Harris, A. & Williams, J.M. (2017). The impact of a horse riding intervention for on the social functioning of children with Autism Spectrum Disorder. *International Journal of Environmental Research and Public Health*, 14(7), 776.
- Hawkins, R., Hawkins, E. & Williams, J.M. (2016). Psychological risk factors for childhood animal cruelty: A systematic review. *Society and Animals*, 1-33.
- Hawkins, R., & Williams, J.M. (2017). Children's beliefs about animal minds (Child-BAM): Associations with positive and negative child-animal interactions. *Anthrozoös*, 29(3), 503-519.
- Hawkins, R., Williams, J.M. & Scottish Society for the Prevention of Cruelty to Animals (2017). Assessing the effectiveness of the animal welfare education programme 'Prevention through Education' for primary school children. *Journal of Applied Animal Welfare Science*. 1-17.
- Hawkins, R.D., Williams, J.M. & Scottish Society for the Prevention of Cruelty to Animals (2017). Childhood attachment to pets: Associations between pet attachment, attitudes to animals, compassion, and humane behaviour. *International Journal of Environmental Research and Public Health*, 14, 490.
- McPhedran, S. (2009). A review of the evidence for associations between empathy, violence, and animal cruelty. *Aggression and Violent Behavior*, 14, 1-4.
- Muldoon, J.C., Hawkins, R.D., Williams, J.M. & Scottish SPCA (2018). Animal welfare education: what interventions work and for whom? Scottish SPCA conference *Human-Animal Interactions: Human Wellbeing and Animal Welfare*. September, University of Edinburgh
- Muldoon, J.C., Williams, J.M. & Lawrence, A. (2016). Exploring children's perspectives on the welfare needs of pet animals. *Anthrozoös*. 29(3), 357-375.
- Nussbaum, D., Collins, M., Cutler, J., Zimmerman, W., Farguson, B. & Jacques, I. (2002). Crime type and specific personality indicia: Cloninger's TCI impulsivity, empathy and attachment subscales in non-violent, violent and sexual offenders. *American Journal of Forensic Psychology*, 20(1), 23-56.
- Olsen, C., Pedersen, I., Bergland, A., Enders-Slegers, M.J., Patil, G. & Ihlebæk, C. (2016). Effect of animal-assisted interventions on depression, agitation and quality of life in nursing home residents suffering from cognitive impairment or dementia: a cluster randomized controlled trial. *International Journal of Geriatric Psychiatry*. 31(12), 1312-21.

### Acknowledgments

Thank you to Ines Ribeiro Galrica, Silvia Zumaglini, Mayra Padilla Cardoso and Amy Finney for their invaluable help with the research reported here. We would like to thank our funders (University of Edinburgh and Scottish SPCA) and our participants (children, schools, Scottish SPCA staff, and the adolescents in the youth prison) for taking part.

### Contact

Please contact Dr Janine Muldoon [janine.muldoon@ed.ac.uk](mailto:janine.muldoon@ed.ac.uk) for further information about this briefing paper or our series of reflective workshops that have taken place in 2018. We are currently updating our website. Do let us know if there is anything you would like to access there: <https://www.ed.ac.uk/health/research/cadp/child-animal-research>

### Social media

Connect with us on Facebook or Twitter.



ChildAnimalResearch



@ChildAnimals