

# Understanding and Measuring Attachment to Pets in Childhood

*HAI webinar July 19<sup>th</sup>, 2023*

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See: Wauthier, L. M., Farnfield, S. and Williams, J. M. (2022) 'The role of attachment in children's relationships with pets: From pet care to animal harm', *Human-Animal Interactions*. CABI International.  
doi: 10.1079/hai.2022.0024



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School of Health in  
Social Science



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# Overview

## What is Attachment?

- Overview of attachment theory
- How does attachment to pets fit in?
- Existing research

## Measuring attachment to pets

- Self-report
- Drawing tasks
- Story-stem techniques
- Current study

## Implications for practice

- Animal Guardians and animal harm interventions
- Child development and wellbeing
- Animal assisted therapy





# What is Attachment?

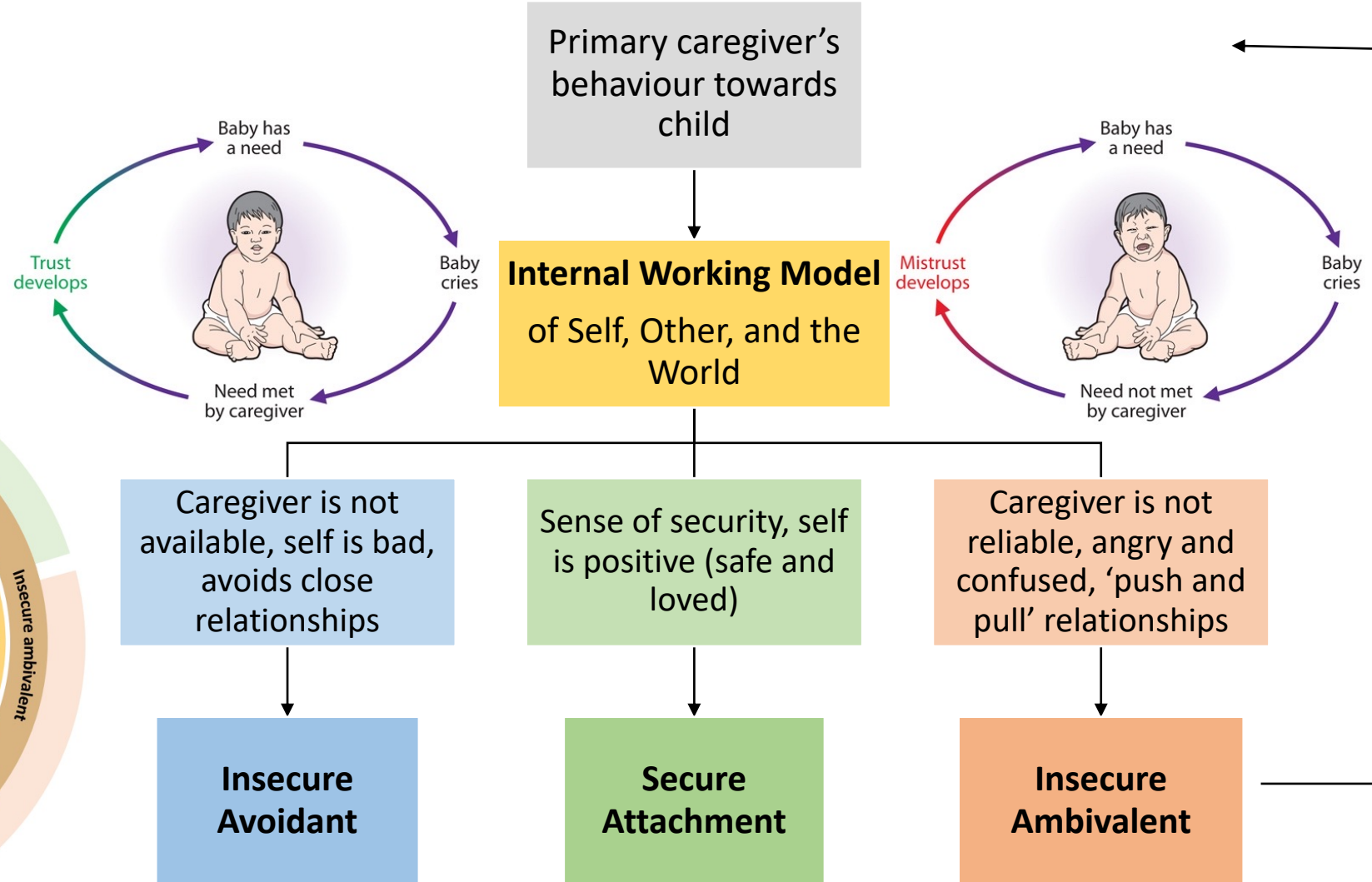
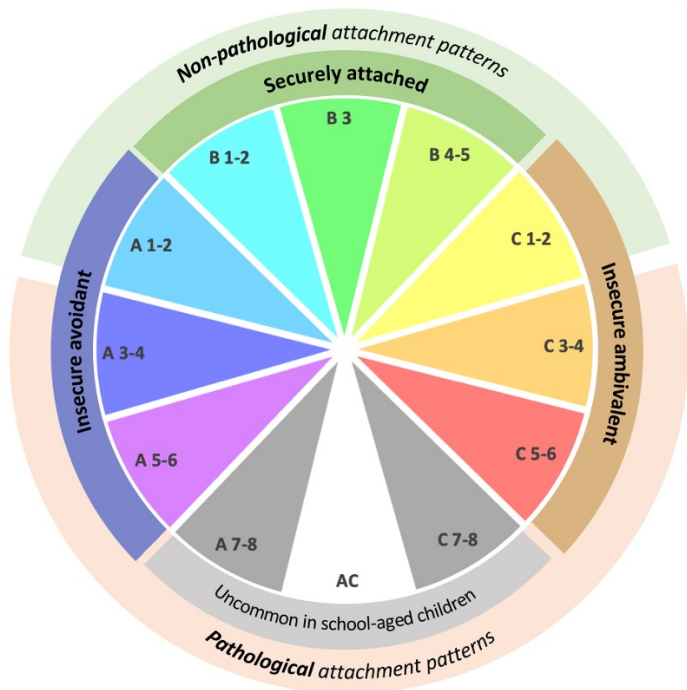
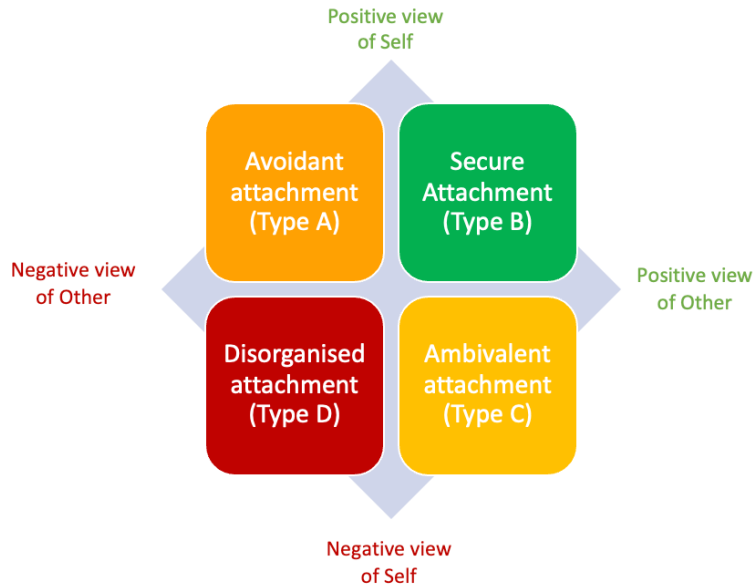
First proposed by psychiatrist **John Bowlby** in the 1960s

- Attachment is an **evolved behavioural system** which drives infants to seek proximity and security from primary caregivers (Safe-base)
- Attachment to a **primary caregiver** (often mother or father) starts to emerge at 3-6 months
- Formation of **secondary attachment** is less well understood (e.g. siblings, grandparents) but is generally thought to emerge later (12+ months)

## Attachment classifications

- Mary Ainsworth develop the Strange Situation task- children could be classified as: **Secure**, **Insecure Avoidant**, or **Insecure Ambivalent**.
- Later classifications add pathological attachment patterns such as **Disorganized** attachment
- What makes secure attachment? A caregiver who is reliable, attuned, and responds both to physical and emotional needs

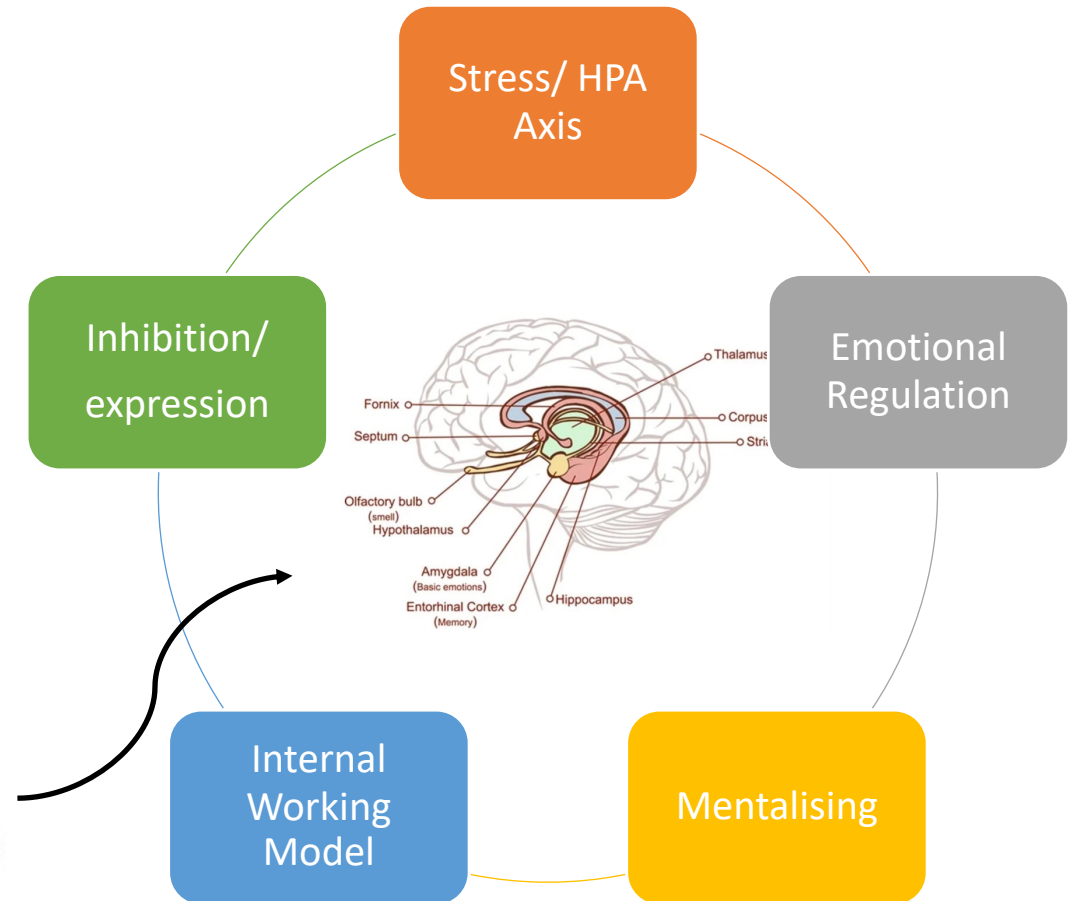
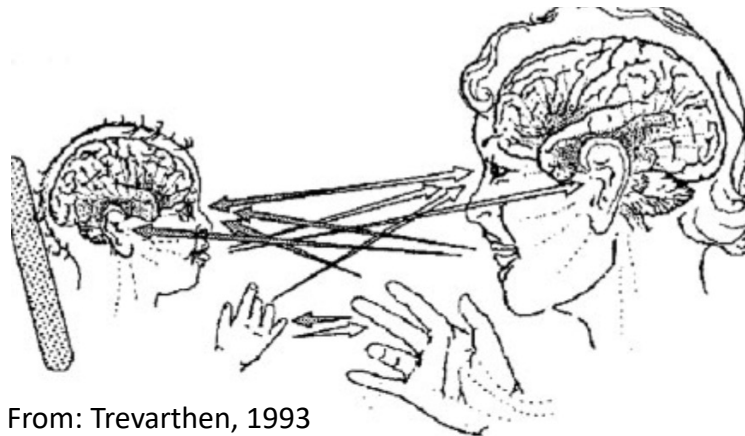
# Emergence of attachment strategies



# Why is attachment important?

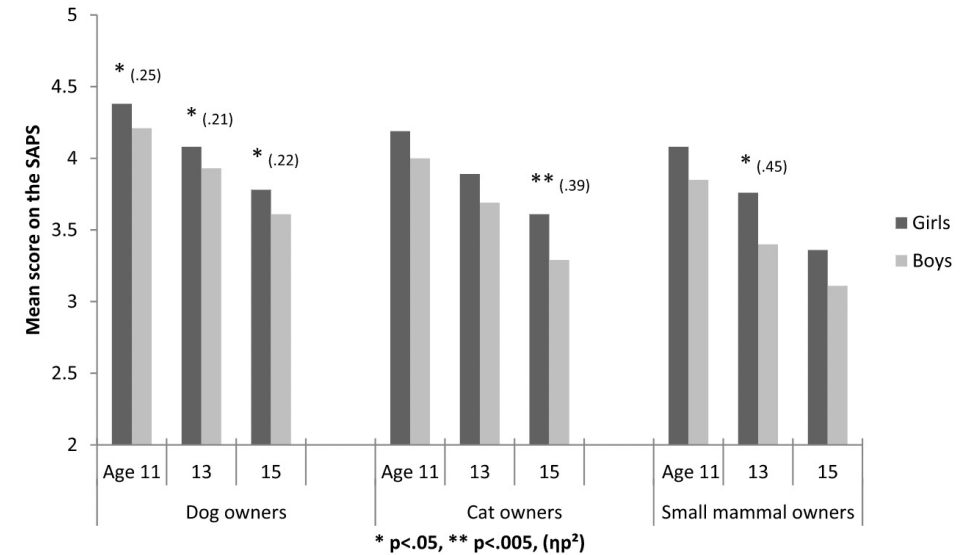
*“Relationship and emotion regulation problems lie at the heart of all DSM categories” -- Sroufe, 2013*

- Insecure (and especially pathological) attachment style may predispose individuals to a variety of mental health difficulties
- Attachment, and related processes of attunement, are crucial in early brain development (see also still face experiment)
- All social relationships are linked in some way to attachment
- Relationships with animals seem to build on these fundamental biological processes (e.g. mutual eye gazing and OT release, Julius et al., 2013)



# Existing research on child-pet attachment

- Changes with age and gender, and depends on types of pets (Muldoon et al., 2019)
- Relationship between attachment to pets and humane behaviour / attitudes (Hawkins et al., 2017)
- The roles of pets in cases of trauma and insecure attachment (Westgarth et al., 2013; Beetz et al., 2012; Yamazaki, 2010; Hawkins et al., 2019)
- Robotic vs. stuffed rabbit in classroom setting (Williams et al., 2022)



## Why does attachment to pets matter?

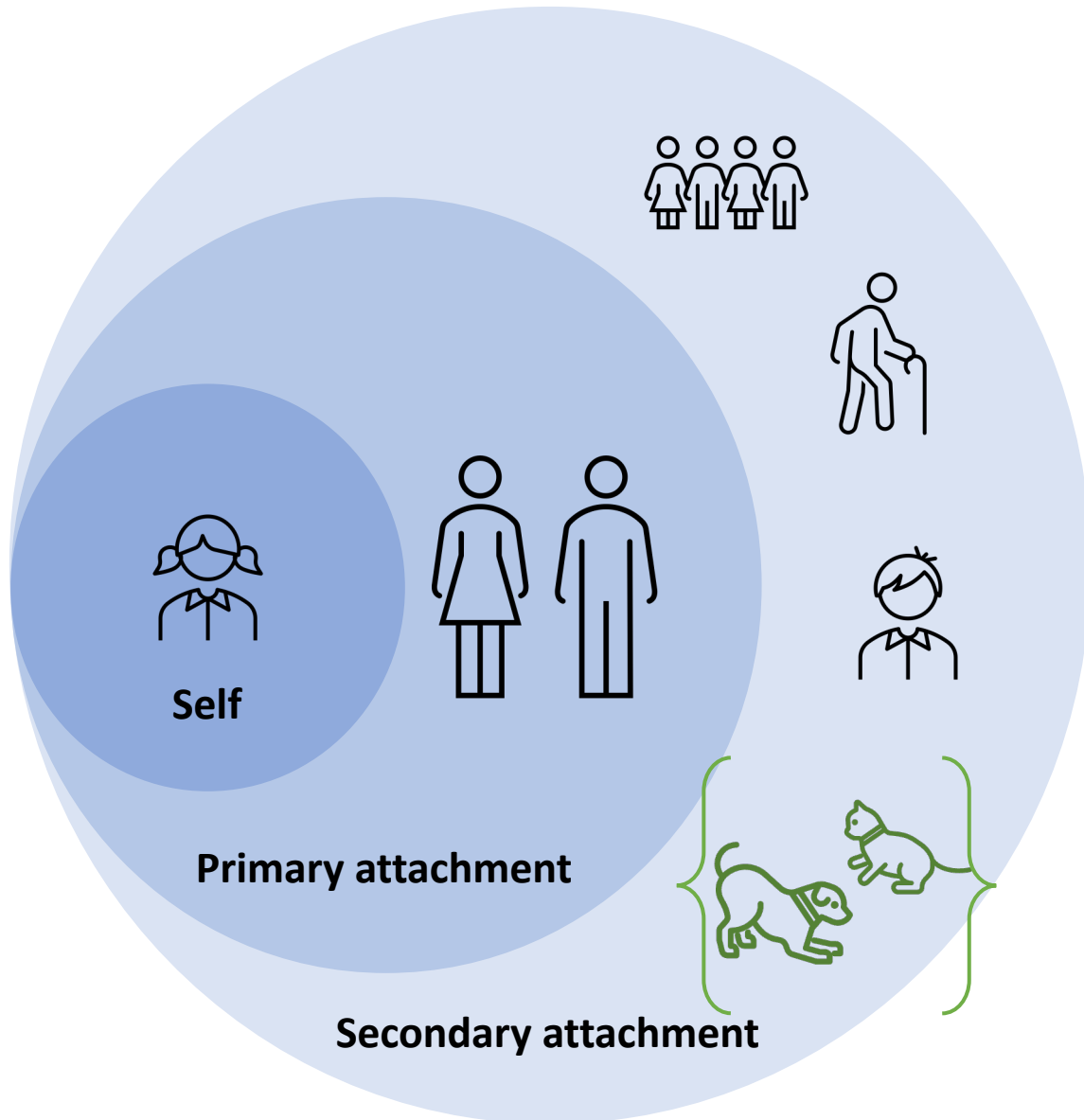
Child development + Child wellbeing + Animal welfare

BUT- What parallels can we make (or not) with adults?

E.g. LAPS and *human substituting*, see: Lass-Hennemann et al, 2022



# Where do pets fit in?



## Relationships with pets have attachment characteristics

- **Proximity seeking, Safe haven, Separation distress,** and Secure base (Ainsworth, 1991)
- Children will include pets in depictions of families (Kidd & Kidd, 1995)

## Child and adult relationships with pets may be different

- Children have different attachment needs than adults
- An adult's relationships to a pet is often as a caregiver

## Relationships to pets may fit into **SECONDARY** attachment

- Pet may have a similar role to siblings or a close friend
- Pets can “fill in the gaps” when adult caregivers are not available or perceived as trustworthy (see e.g. Wanser et al., 2019)

## Pets may occupy a special category

- Pets can ELICIT caregiving behaviours
- Highly context-dependent and animal-dependent
- May not follow the same developmental patterns as e.g. peers

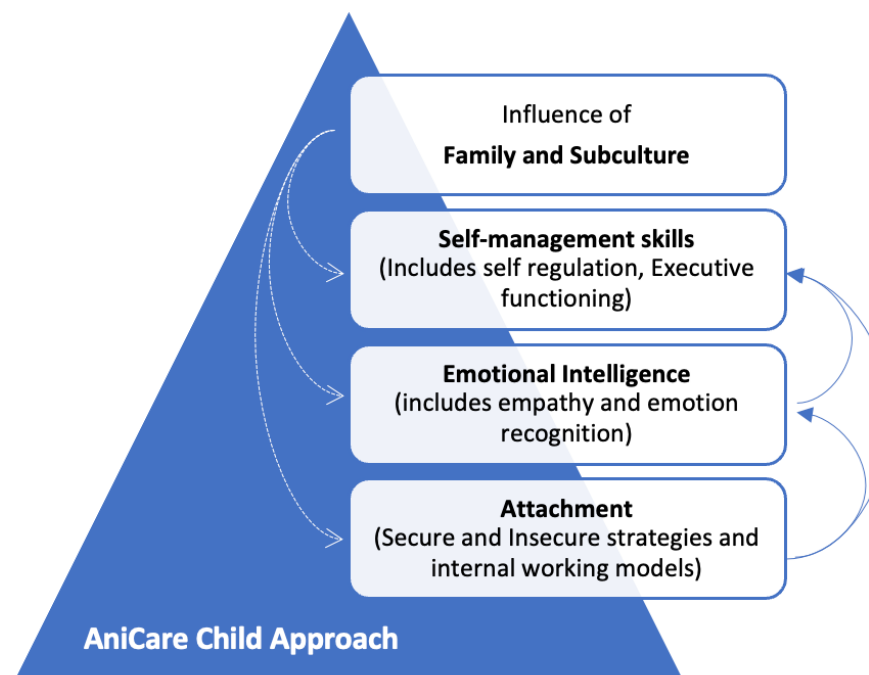
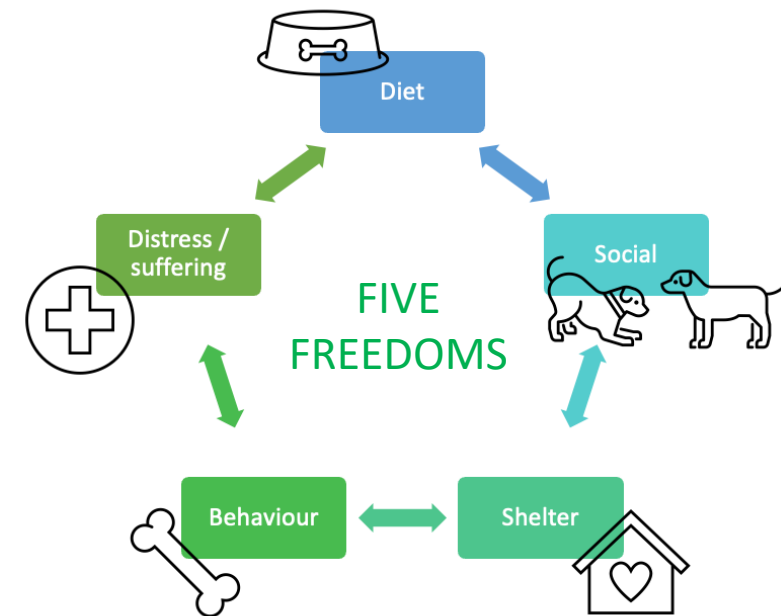
# Childhood Animal Harm (CAH)

*“Any act, of commission or omission, where a child negatively impacts an animal’s welfare” (Wauthier & Williams, 2022)*

Why might attachment be implicated in CAH?

- *Direct effects- relationships*
  - relationship to caregiver generalizes to other relationships
  - relationship to pet implicated in CAH (Hawkins et al. 2017)
- *Indirect effects- psychological risk factors*
  - Empathy (Panfile and Laible, 2012)
  - Peer relationships (Contreras et al., 2000)
  - Emotional regulation (Parfitt & Alleyne, 2018)
  - Self esteem (Bylsma, 1997)

See also: Wauthier et al., 2020; Shapiro et al., 2013





## Model is based on following findings:

- 1 Biophilia effects
- 2 Similarities in brain systems between species
- 3 Relationships with pets can be conceptualized as attachment
- 4 Insecure attachment linked to sub-optimal oxytocin (OT) functioning
- 5 Insecure attachment and Internal Working Models (IWM) are transmitted to new relationships
- 6 Insecure attachment does not seem to be transmitted to companion animals
- 7 Interaction with friendly animals leads to positive social effects
- 8 Helps facilitate a trusting relationship
- 9 OT-mediated effects contribute to mediate positive health effects

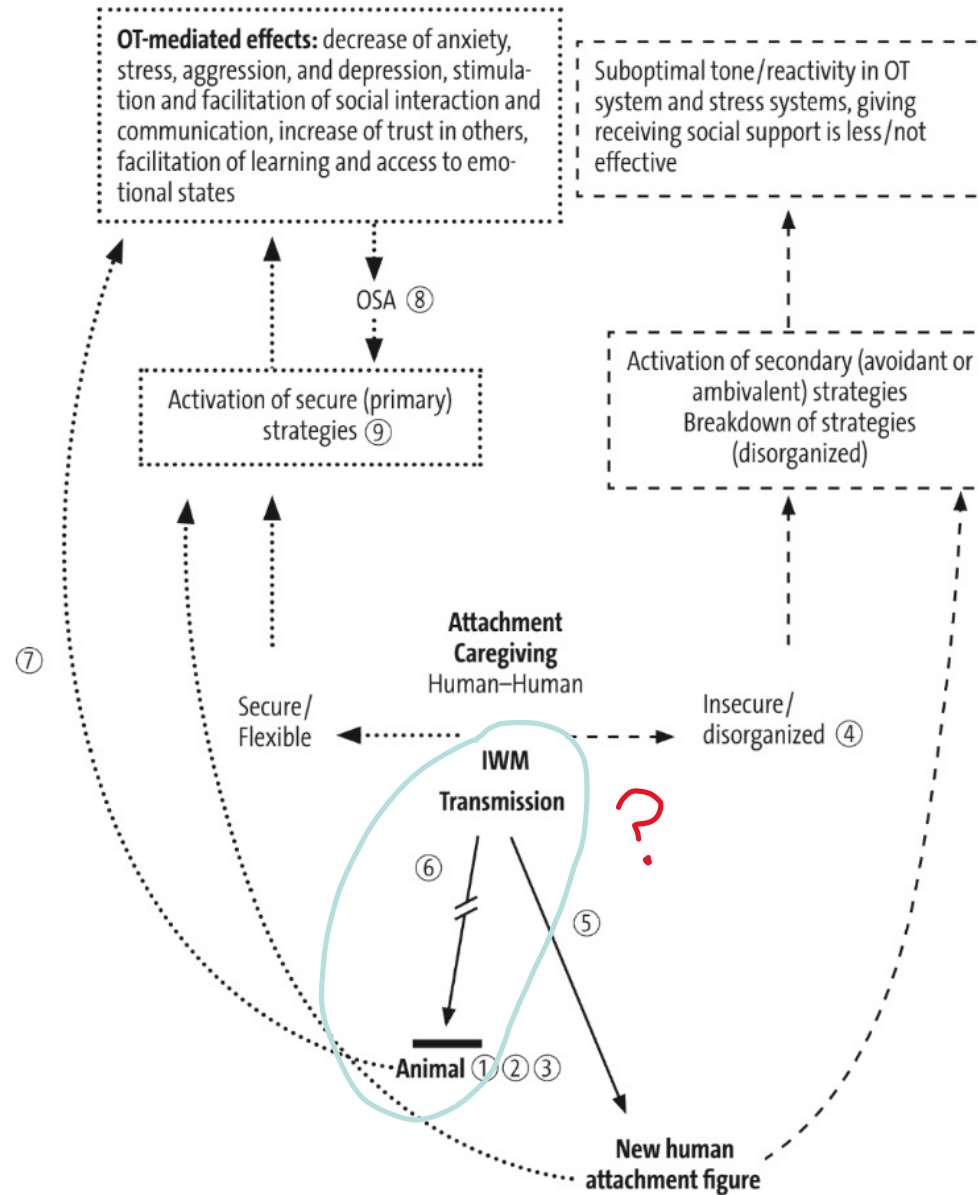
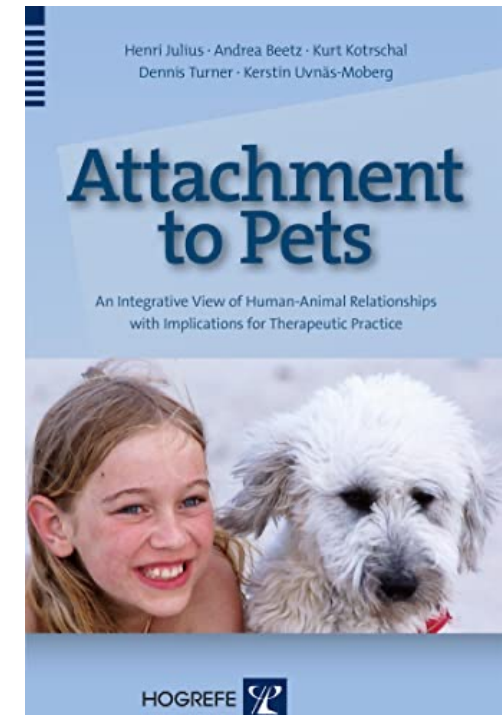


Figure 2. Proposed model of human-animal relationships (OT = oxytocin; OSA = openness to securely attach; IWM = internal working models)



## Discussion point 1:

What is attachment theory, and how can we extend it to apply to relationships with pets?

**5-10 minutes small-group discussion  
in break-out rooms**

### **Questions to consider:**

- How do you think attachment extends to pets?
- In what ways should we be careful with labeling relationship with animals as “attachment”?
- What are your own experiences of seeing this in action? (either as a practitioner or in your own life)?
- Are there any differences between children and adults regarding how we conceptualize this topic?



# Section 2: Measuring attachment to pets

Results of a study using  
novel methods to  
understanding risk factors  
for animal harm



# Meet the team



**Dr. Laura Wauthier**  
(Clinical and Health Psychology,  
University of Edinburgh)



**Prof. Joanne Williams**  
(Clinical and Health Psychology,  
University of Edinburgh)



**Dr. Steve Farnfield**  
(Child Attachment and Play  
Assessment)



**Animal Guardians**  
(Scottish SPCA)

And a big thank you to all our reliability coders!

# Measuring attachment in childhood

Original gold standard: Strange Situation Procedure (Ainsworth et al., 1978)

## Child report

- Self-report measures (e.g. Security Scale)
- Child interview

## Projective techniques

- Story-stem techniques
- Family drawing task

## Other (external)

- Observational (e.g. attachment Q-sort)
- Parent report



# Existing methods for measuring attachment to pets

- Self-report
  - Short attachment to Pets Scale (SAPS; Marsa-Sambola et al., 2016)
  - CENSHARE Pet attachment survey (Holcombs et al., 1985)
  - Children's treatment of animals questionnaire (CTAQ; Thompson & Gullone, 2008)
- Drawing?
  - Free drawing (Kidd & Kidd, 1995)

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
I don't really like animals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend time every day playing with my pet (or would if I had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have sometimes talked to my pet and understood what it was trying to tell me (or would if I had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love pets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I talk to my pet quite a lot (or would if I had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My pet makes me feel happy (or would if I had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider my pet to be my friend (or would if I had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My pet knows when I am upset and tries to comfort me (or would if I had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are times I'd be lonely without my pet (or would if I had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Designing a new measure: Pets in Children's Attachment Stories (PICAS)

Table 1: Description of the pet story prompts

1	<b>Comfort from pet</b>	"X is coming home from school and some of the children at school weren't very nice to him/her. When X comes home s/he wants a cuddle from [pet name]. But [pet name] has spent all day playing and wants to go to sleep, and doesn't want cuddles right now. Tell me and show me what happens next."
2	<b>Broken toy</b>	"X has a favorite toy (option to prompt child what their favorite toy is). Pretend this is the toy, and X and [pet name] start playing with the toy. At first, they start playing fetch (show playing) but then they start playing tug-of-war, and then uh-oh! The toy rips, and X says 'Hey you ripped my favorite toy!' Tell me and show me what happens next."
3	<b>Pet bite/scratch</b>	"X goes to see [pet name], and they start playing. But then something happens, maybe you can tell me what, and [pet name] bites/scratches X, and X says 'Ow! That really hurt, you bit/scratched me!'. Tell me and show me what happens next."



**Table 2: PICAS coding scheme across dimensions**

<b>Mentalizing about pets</b>	0	1	2
1. Does the pet in the story have THOUGHTS?	Pet thoughts are not mentioned	Some: thoughts are minimally discussed or only implied	Relevant and realistic thoughts clearly discussed
2. Does the pet in the story have EMOTIONS?	Pet emotions are not mentioned	Some: emotions are minimally discussed, implied, and/or may be unrealistic for pet	Relevant and realistic emotions clearly discussed
<b>Reciprocal relationship with pet</b>	0	1	2
3. Caregiving towards pet: Does the child in story show CAREGIVING behaviour towards the pet?	Child shows no caregiving behaviour whatsoever	Child shows some awareness of pet distress but does not have a full caregiving response and/or child forgives pet	Child shows a good level of caregiving behaviour towards pet
4. Comfort from pet: Does the child in the story receive COMFORT from the pet in the story?	Pet gives no comfort and does not realize <sup>a</sup> the child's distress	Pet has some realization of child distress or there is some attempt from the pet to comfort or forgive <sup>a</sup> the child	The pet realizes the child's distresses AND provides comfort to the child
<b>Parental help in resolving conflict</b>	0	1	2
5. Does the parent help find an overall resolution?	No parental help in resolution	Some parental help which is mostly positive	Parent is very helpful in finding a positive resolution



# Participants

- Recruitment for referred children through the Scottish SPCA's **Animal Guardians Programme**
- Interviews carried out from September 2019-March 2020
- Control children recruited through schools to match referred children on age, gender, and school class

Final Sample n=27

- Animal harm: 9 referred and 18 control children
- Attachment: 11 secure, 5 insecure, 6 pathological insecure (3 missing)
- Age: 4-11 years old
- Gender: 15 girls and 12 boys



# Methods

Interviews were carried out one-to-one over 3 20-minute sessions

## Attachment

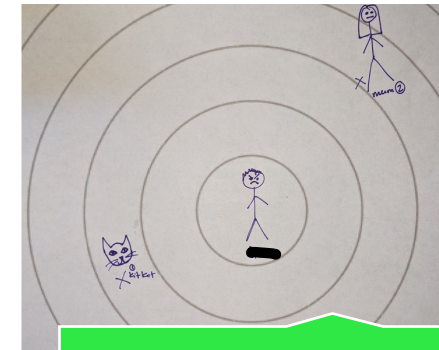
- **Child Attachment Play Assessment (CAPA;** Farnfield, 2016)
- **Hierarchical Mapping**
- **Short Attachment to Pets Scale (SAPS;** Marsa-Sambola et al., 2016)

## Other risk factors

- Empathy
- Executive Functioning
- Externalizing Behaviours (teacher report)
- Attitudes and Behaviours
- Welfare knowledge



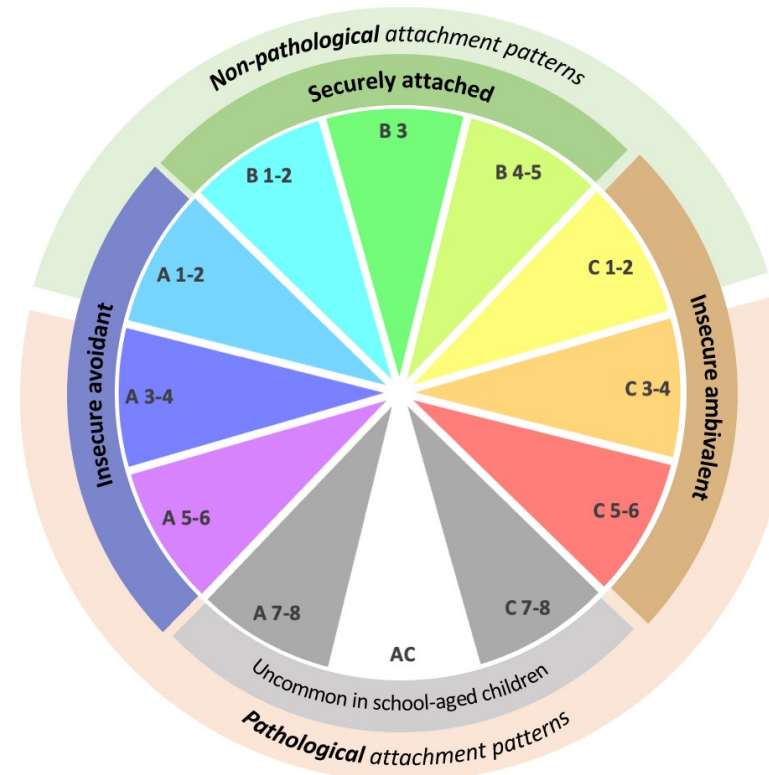
Child Attachment Play Assessment (CAPA)



Hierarchical Mapping Task (Attachment Drawing)

	Strongly agree	Agree	Not sure	Disagree
like animals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
every day playing with my (if I had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
times talked to my pet and what it was trying to tell me (had one)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
et quite a lot for would if I	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

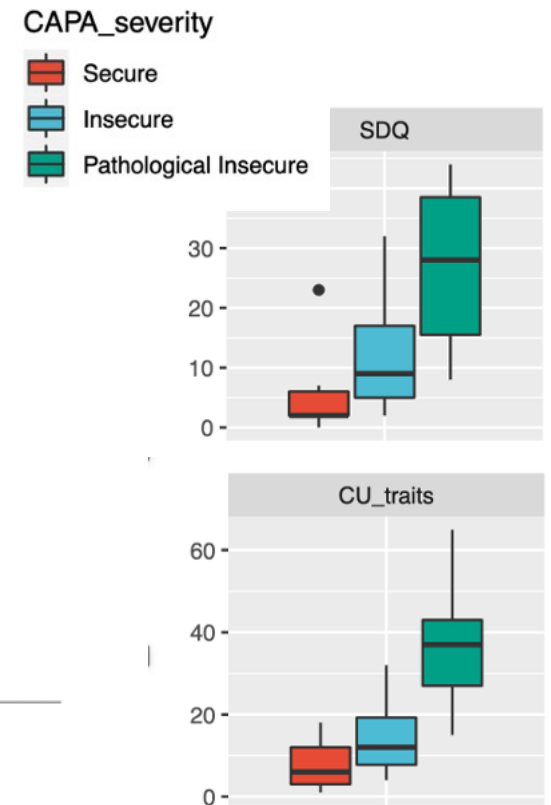
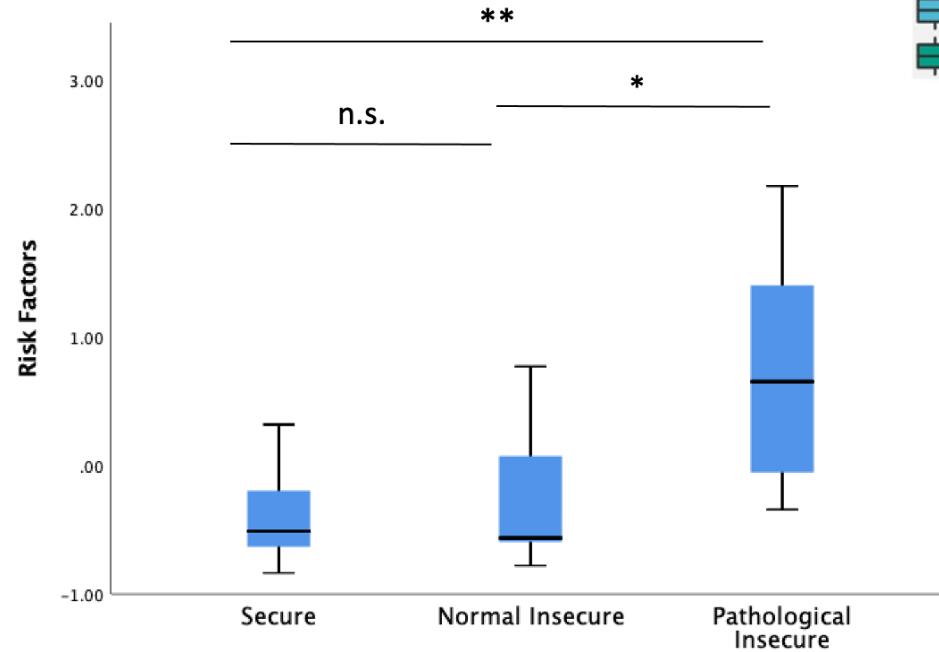
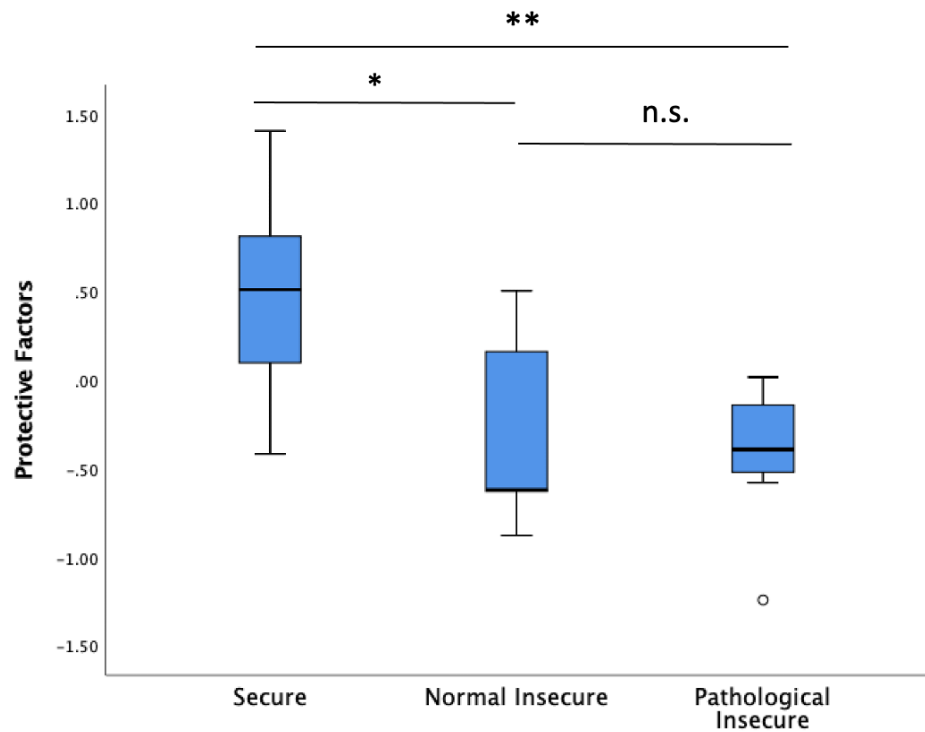
Short Attachment to Pets Scale (SAPS)



Dynamic Maturational Model (DMM; Crittenden, 2006)

# CAPA classification

- Children referred to the Animal Guardians programme were more likely to be classified as insecure using the CAPA  $X^2(1, N= 24) = 12.97, p = .002$
- Insecurely attached children had more self-reported animal harm behaviours  $H(2)= 0.65, p=0.038$
- Attachment was predictive of risk across a variety of psychological measures

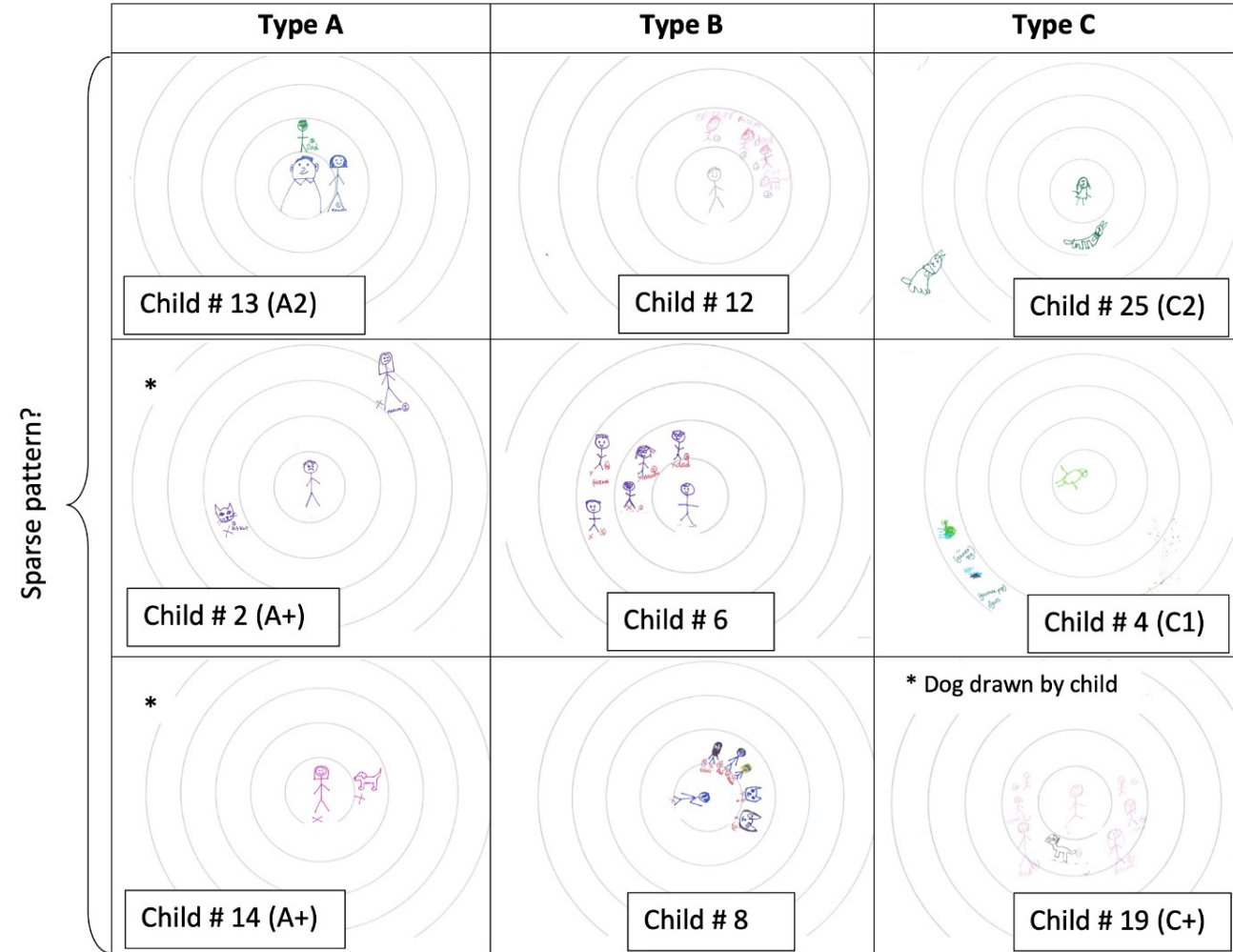


# Hierarchical Mapping

Table 3: Results for Welch's t-test on the hierarchical mapping task for closeness to mother, father, siblings, and pets. A higher score corresponds to a closer relationship.

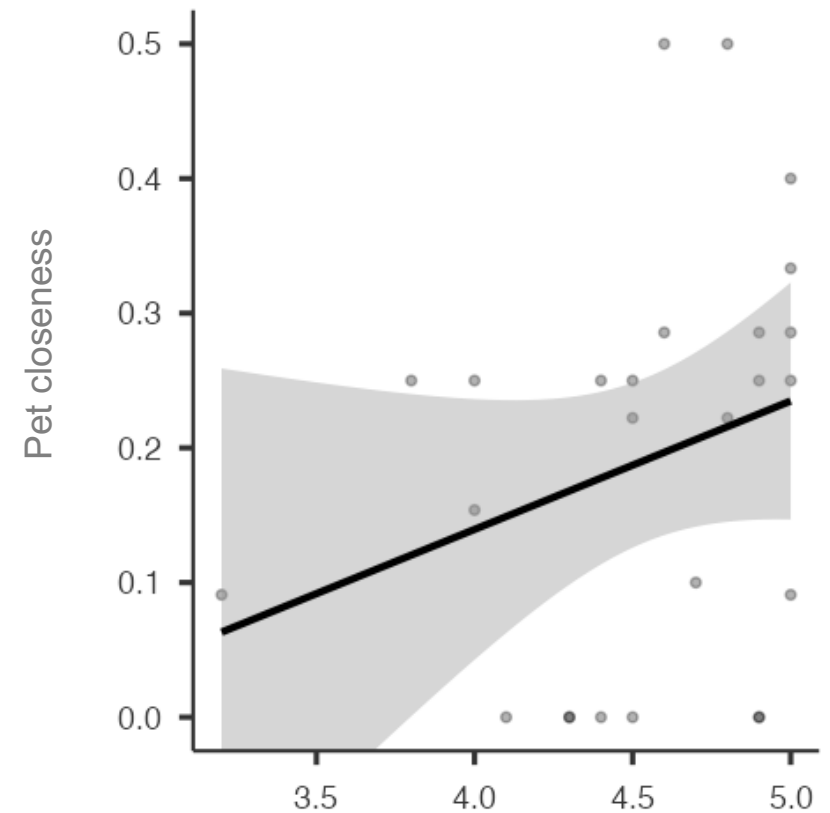
	Secure Mean (SD)	Insecure Mean (SD)	df	t	p	Cohen's d
<b>Mother</b>	0.25 (0.04)	0.14 (0.13)	13.6	2.81	<b>0.014</b>	<b>1.15</b>
<b>Father</b>	0.21 (0.12)	0.08 (0.13)	18.6	1.94	0.067	0.80
<b>Sibling</b>	0.22 (0.08)	0.10 (0.12)	20.9	2.97	<b>0.007</b>	<b>1.23</b>
<b>Pet</b>	0.11 (0.14)	0.22 (0.25)	20.6	-1.76	0.094	-0.73

Anonymized Examples of Children's Drawings Across Attachment Strategies



## Short Attachment to Pets Scale (SAPS)

- SAPS score did not differ between referred or control children
- SAPS score did not differ between secure and insecure children
- There was a tendency for SAPS score to be higher for children who placed pets closer to themselves in their drawing tasks ( $r(26) = 0.37, p = 0.06$ ).



# PICAS

## Mentalising about pets' thoughts and feeling

Insecure children had lower scores on mentalising about pets,  $F(1, 22) = 6.21$ ,  $p = 0.021$

## Care for pet

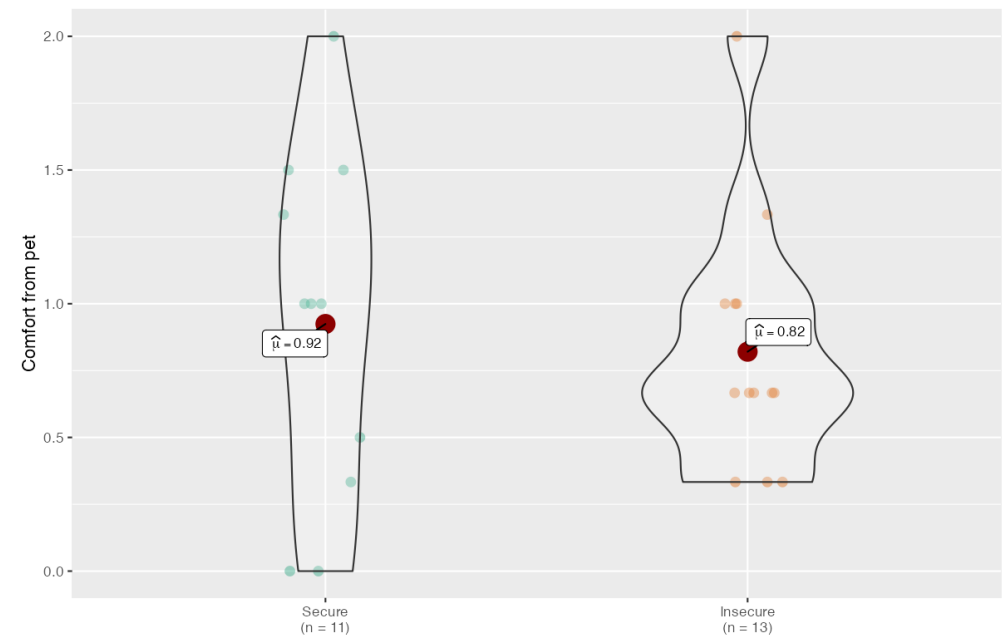
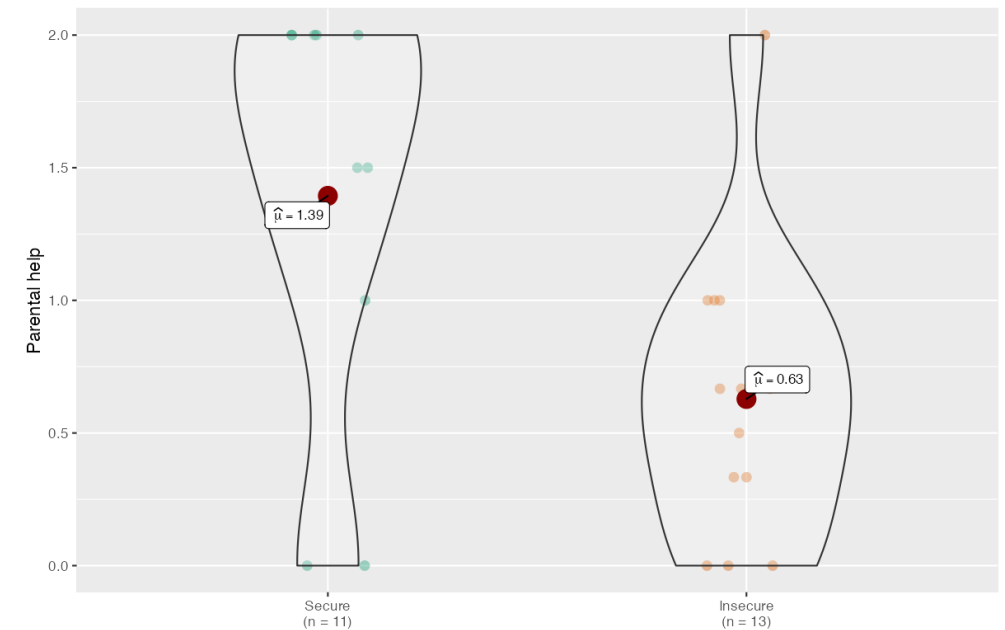
Insecure children showed less caregiving behaviour towards pets,  $F(1, 22) = 4.48$ ,  $p = 0.029$

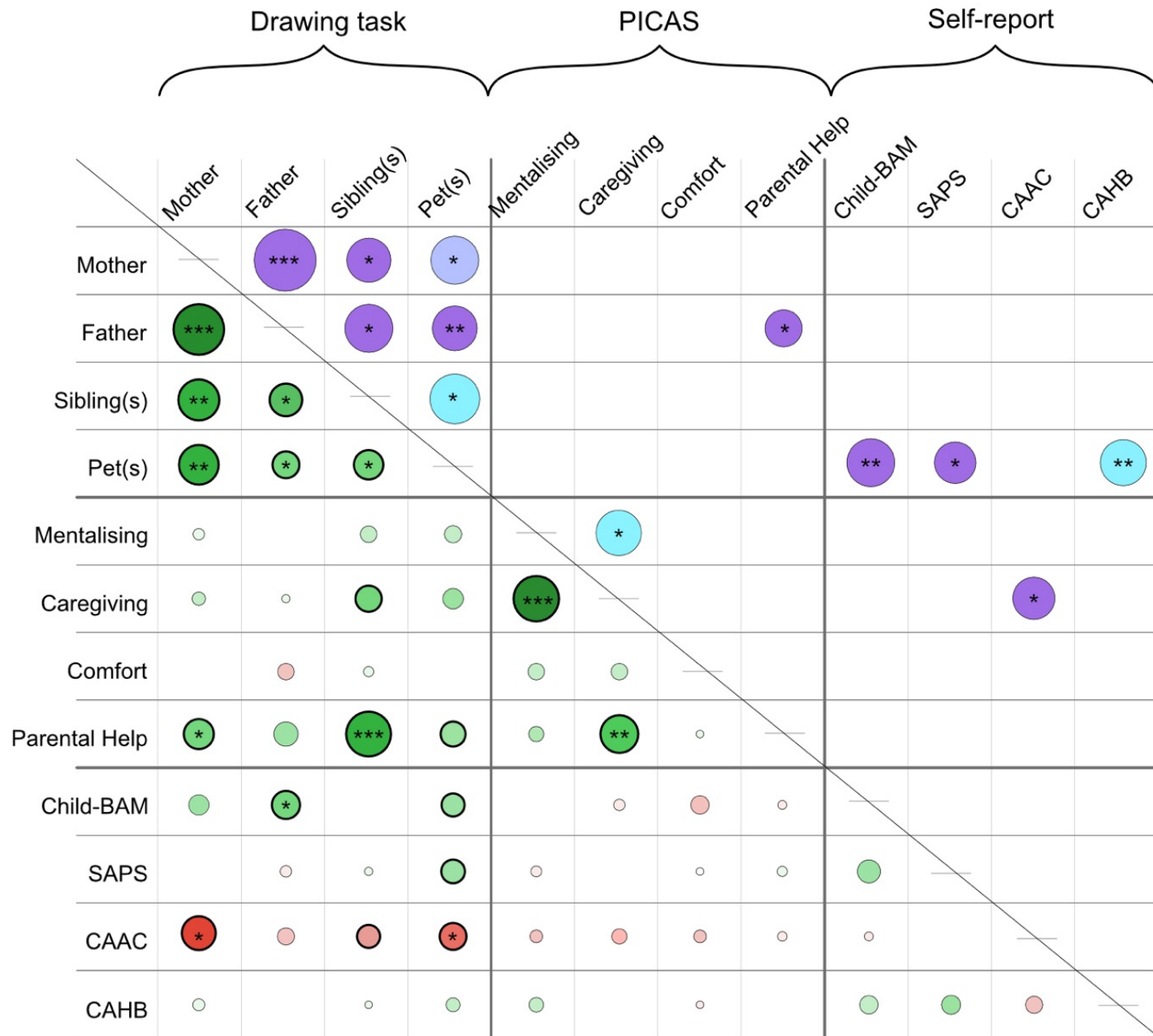
## Parental help in resolving conflict

Insecure children were less able to use parents to help resolve conflicts with pets  $F(1, 22) = 8.02$ ,  $p = 0.010$

## Comfort from pet

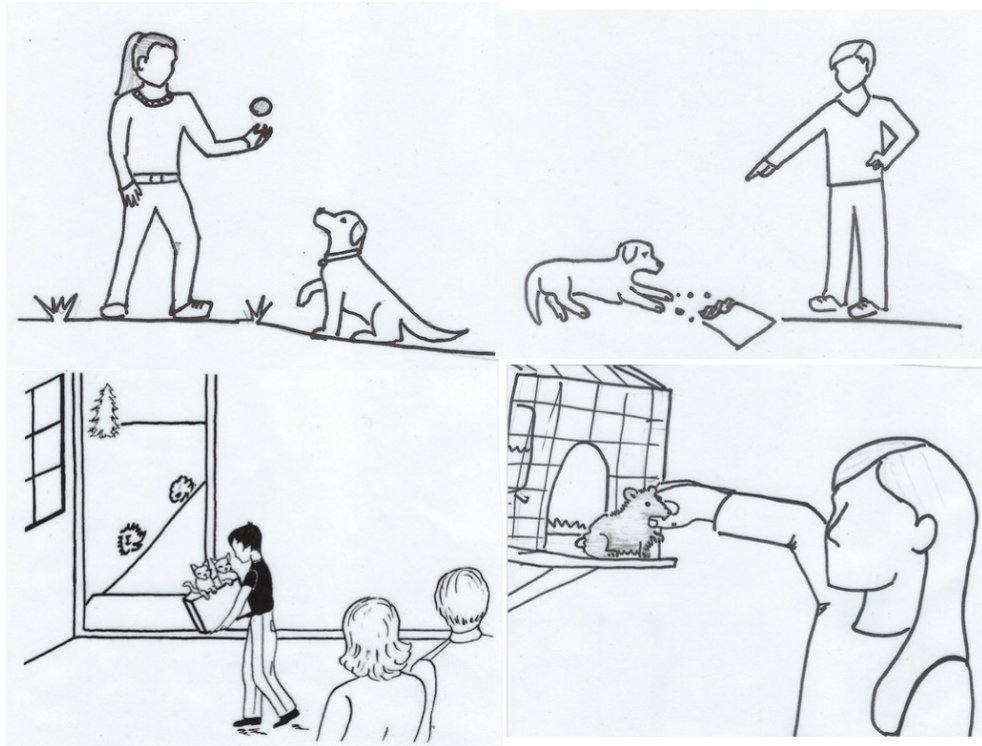
Insecurely attached children used pets as sources of comfort just as often as securely attached children  $F(1, 22) = 0.21$ ,  $p = 0.654$ .



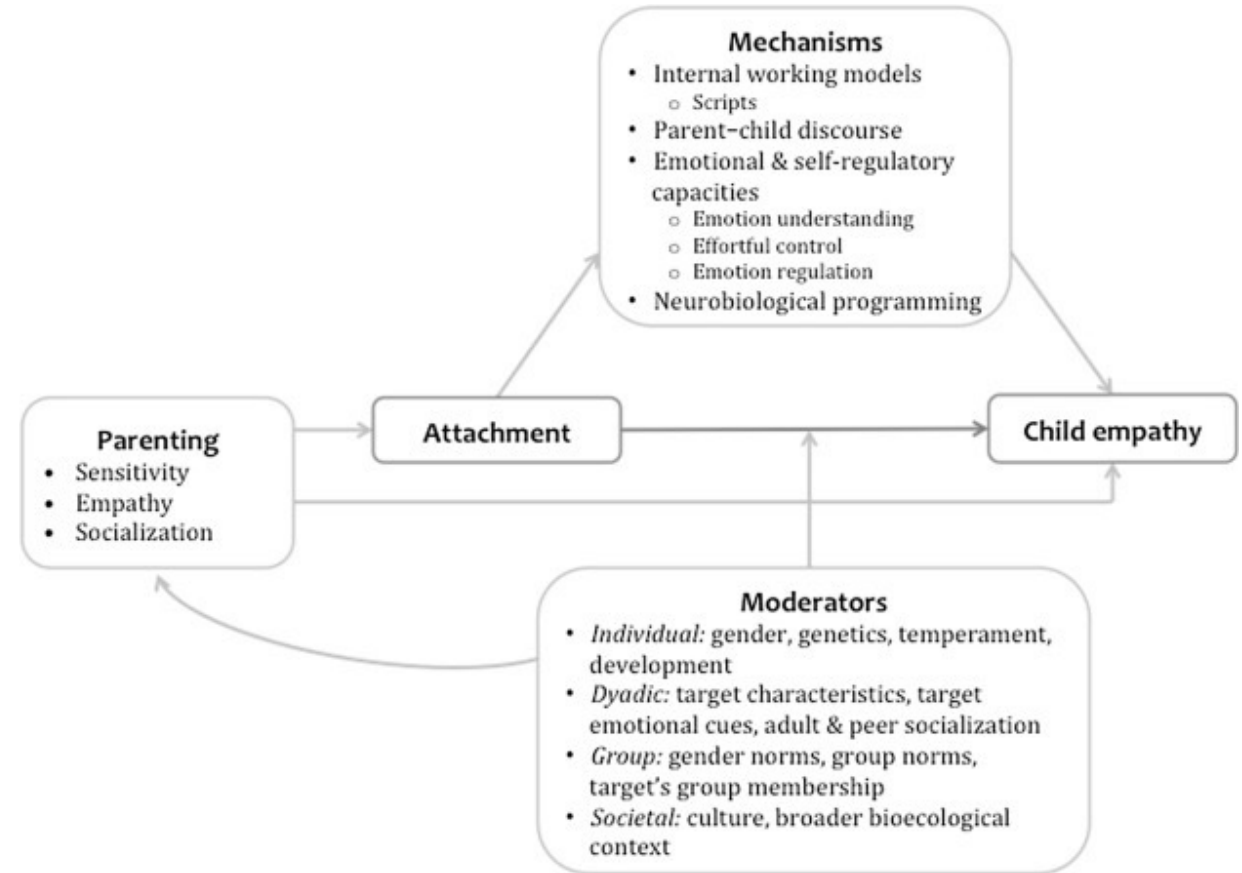


How well do measures correlate with one another?

# Links between attachment and empathy



New pictures added to Kids Empathy Development Scale (KEDS; Reid et al., 2013)





**Table 5.4.** *Correlations between PICAS dimensions and human- and animal- directed empathy.*

		<b>Mentalising about pet</b>	<b>Caregiving towards pet</b>	<b>Comfort from pet</b>	<b>Parental help</b>	<b>Empathy animal</b>	<b>Empathy child</b>
<b>Mentalising</b>	Spearman's rho	—					
	p-value	—					
<b>Caregiving towards pet</b>	Spearman's rho	0.717 ***	—				
	p-value	< .001	—				
<b>Comfort from pet</b>	Spearman's rho	0.067	0.214	—			
	p-value	0.755	0.315	—			
<b>Parental help in resolving conflict</b>	Spearman's rho	0.461 *	0.665 ***	0.008	—		
	p-value	0.023	< .001	0.969	—		
<b>KEDS: Empathy animal</b>	Spearman's rho	0.489 *	0.512 *	0.058	0.654 ***	—	
	p-value	0.018	0.013	0.794	< .001	—	
<b>KEDS: Empathy child</b>	Spearman's rho	0.249	0.238	-0.154	0.483 *	0.599 **	—
	p-value	0.252	0.275	0.482	0.020	0.002	—

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$



# Limitations and future directions

- Small sample size- results should be interpreted with caution!
- Some novel methods were used; these need to be tested further
- Developing appropriate and feasible measures is key for larger scale studies
  - How can relationship/attachment to pets be placed in context of larger attachment hierarchies?
  - Does it make sense to develop a classification system (e.g. A/B/C) for pet attachments?
- We need to deepen our understanding of how a child's attachment to their pets fits in their larger attachment networks

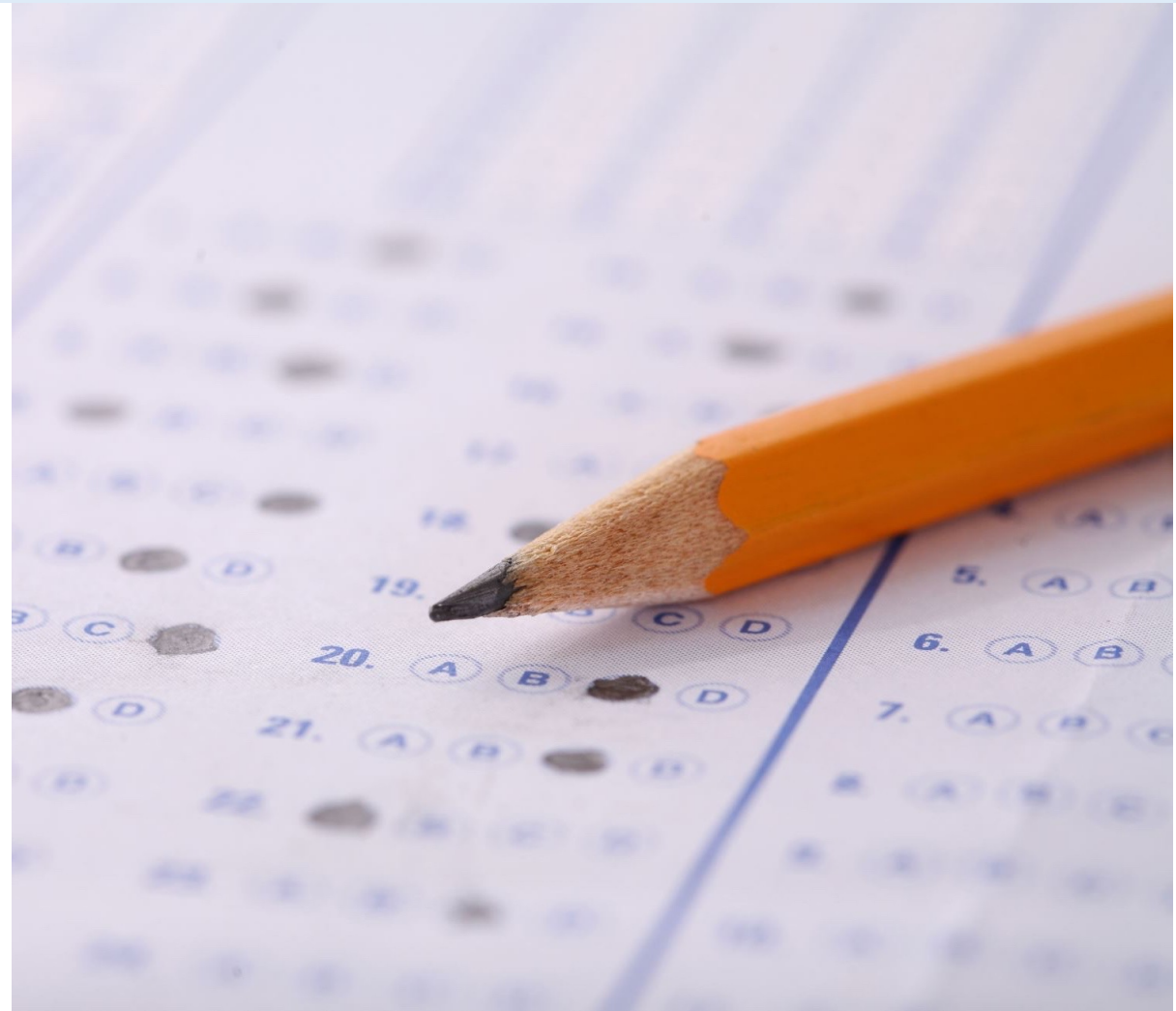
Discussion point 2:

What measurement techniques are available to measure human and animal attachment? What are some of their pros and cons?

**5-10 minutes small-group discussion in break-out rooms**

**Questions to consider:**

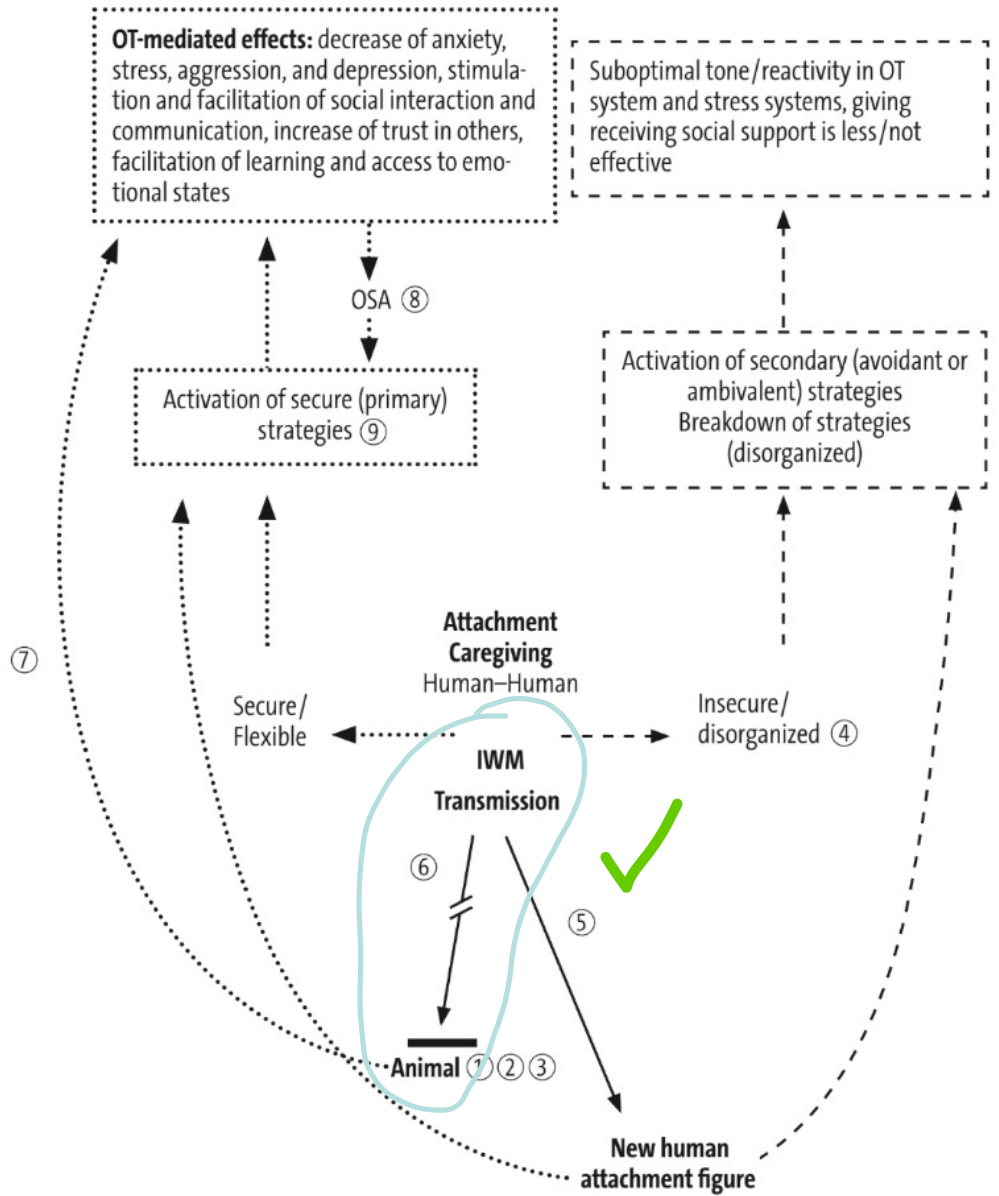
- What measurement techniques would you like to use for your own research/practice? Why?
- Should we be concerned that different measurement techniques don't always show the same thing?
- Is there anything in these results that surprised you?





## Section 3: Implications for practice

How should this inform animal harm prevention, understanding of pets in child development, and use of animals in therapy?



# Overall model

People with insecure attachment to human can see animals as sources of comfort where people are not

People with insecure attachment don't 'magically' develop all the skills that come along with secure attachment

- Mentalizing/ perspective taking
- Emotional regulation
- Schemas and models of others

THUS: some characteristics are transmitted, other are not

**BUT**

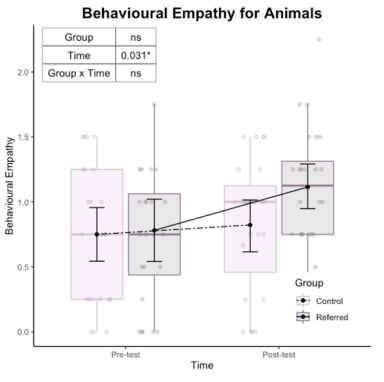
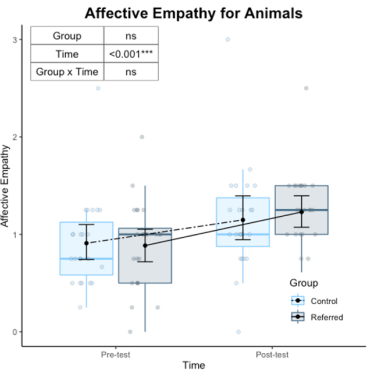
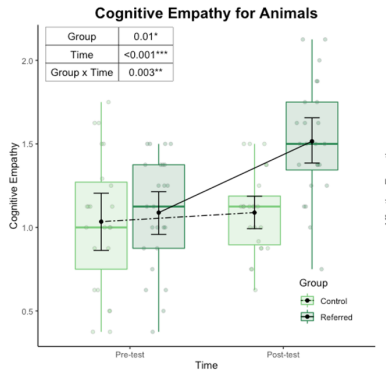
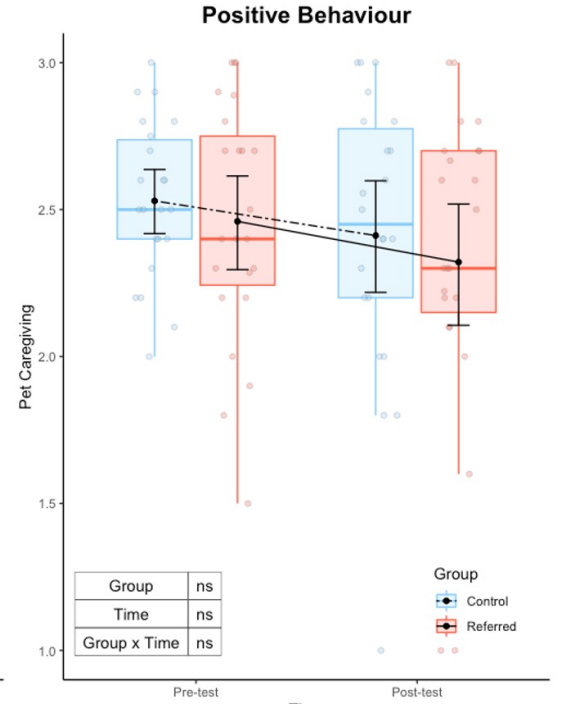
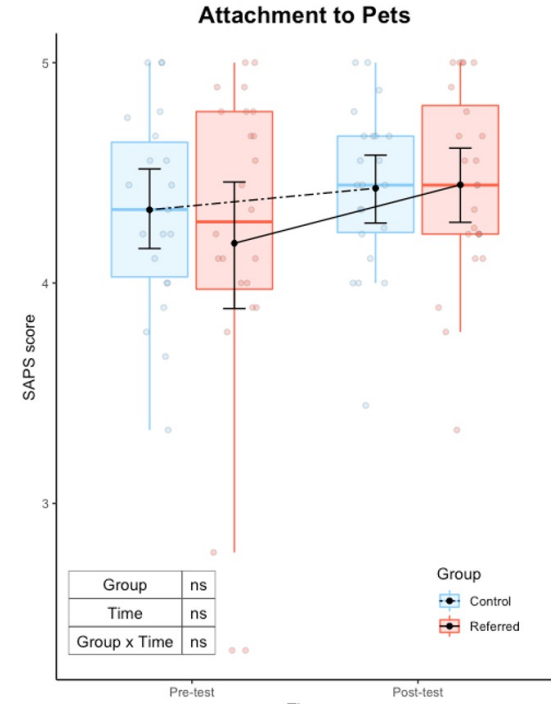
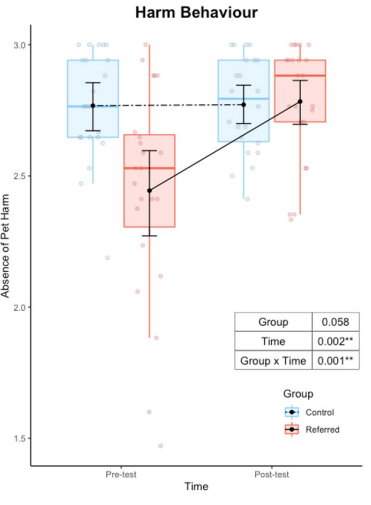
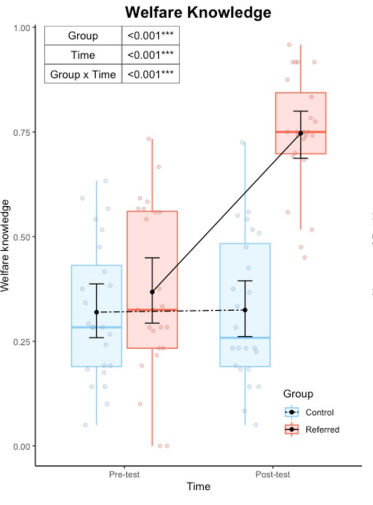
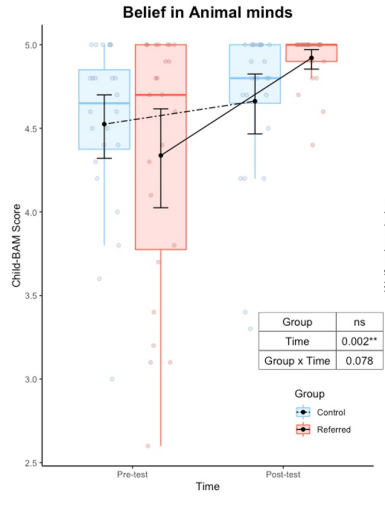
Figure 2. Proposed model of human-animal relationships (OT = oxytocin; OSA = openness to securely attach; IWM = internal working models)

# Implication for practice: Animal Guardians Programme

- Session 1
  - Introduction to the programme
  - Activity Pack
- Sessions 2-3
  - **Emotion recognition** in humans and animals
  - Exploring nuances
- Session 4-5
  - **Animal welfare needs** around the five domains
  - Variety of animal species covered
- Session 6-7
  - **Responsible behaviour** around pets, farm animals, and wildlife
  - “Decisions game” and bringing everything together
- Session 8
  - Programme wrap-up
  - Activity Pack



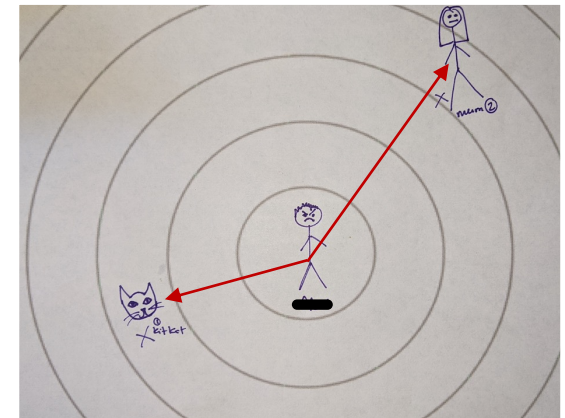
+ Handling practice throughout



# Family Drawing: Continued use

Frequencies and p-values for Fisher's exact test of different family members in children's family composition and drawings.

		Referred		Control		p- value
		Present	Absent	Present	Absent	
Mum	Family composition	19	5	22	2	0.416
	<b>Drawing</b>	<b>14</b>	<b>10</b>	<b>21</b>	<b>2</b>	<b>0.017*</b>
Dad	Family composition	6	18	20	4	<0.001***
	<b>Drawing</b>	<b>8</b>	<b>16</b>	<b>20</b>	<b>3</b>	<b>&lt;0.001***</b>
Sibling	Family composition	16	8	18	6	0.752
	Drawing	10	4	13	4	0.999
Pet	Family composition	21	3	21	3	-
	Drawing	16	6	19	2	0.135

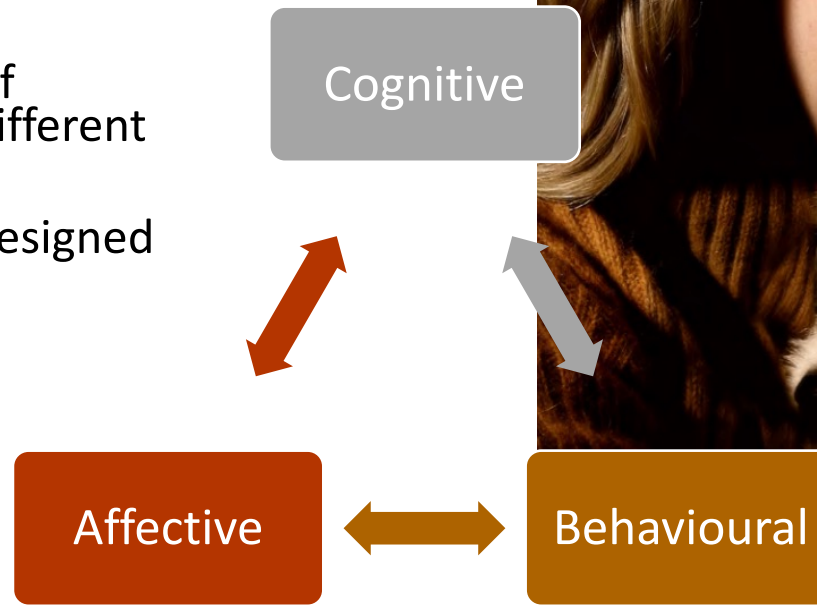




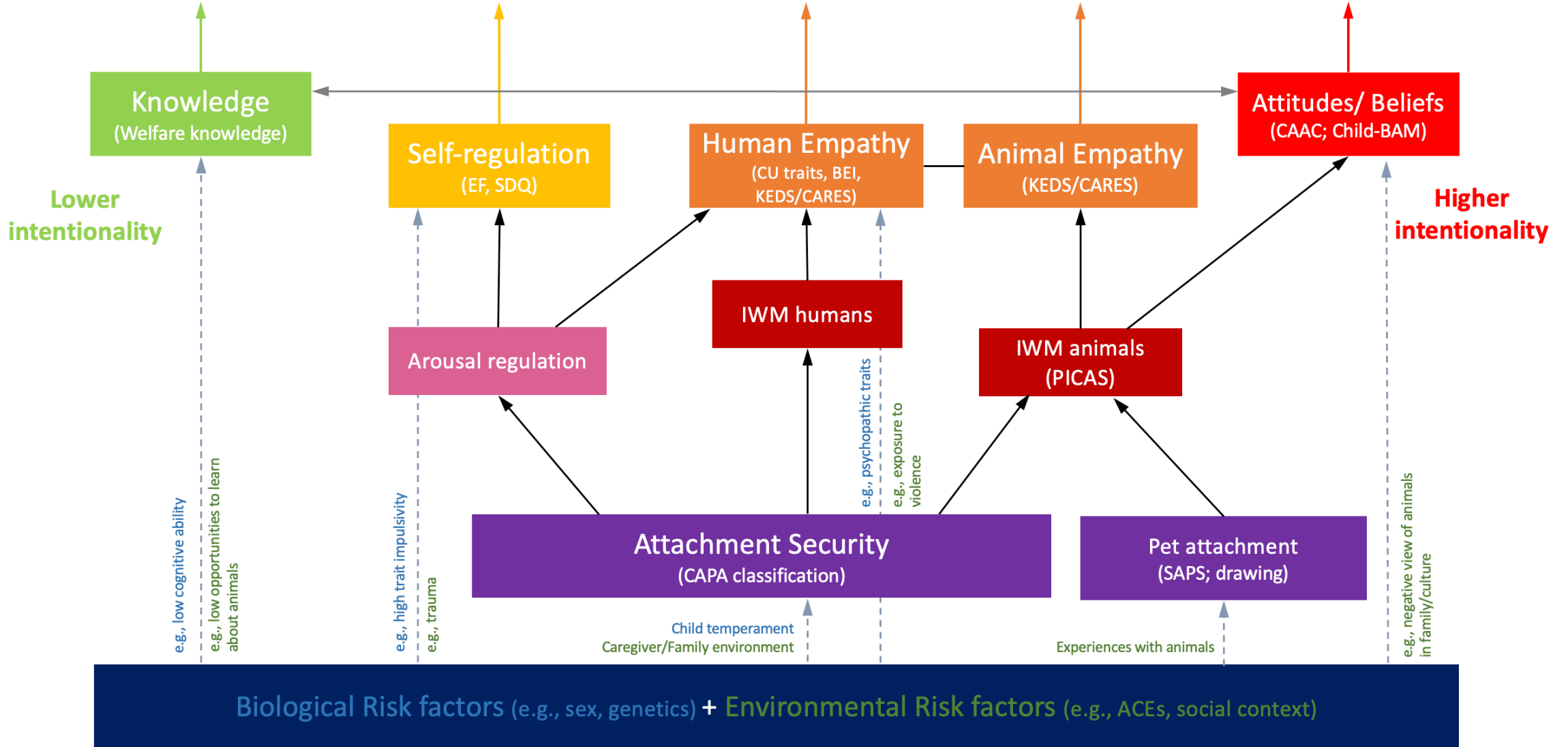
# The ABC's of Childhood Animal Harm Prevention

- Animal Guardians is effective at improving a range of risk factors:
  - Strong improvements in COGNITIVE domain
  - Moderate improvements in BEHAVIOURAL domain
  - Low improvement in AFFECTIVE domain
- More research is needed into the typologies of animal harm and to confirm effectiveness in different populations
- Different intervention types may need to be designed for adolescents

See also: Wauthier et al. (2023)- ISAZ conference presentation



# Childhood Animal Interaction Risk for Animal harm



# Implications for practice- child development

## Overall

- Pets can play an important role in children's attachment networks
- Pets can fill in gaps where children seek comfort/closeness
- A child's relationship with pets exists within a family context

## Positive interactions

- Positive child-pet relationships should be scaffolded and demonstrated by parents wherever possible
- Positive attachment may not always mean positive interactions

## Childhood animal harm

- Attachment can play important direct and indirect roles in cases of childhood animal harm
- Children who harm animals may still feel close to their pets
- Pets should not be removed without careful consideration

## Looked-after children

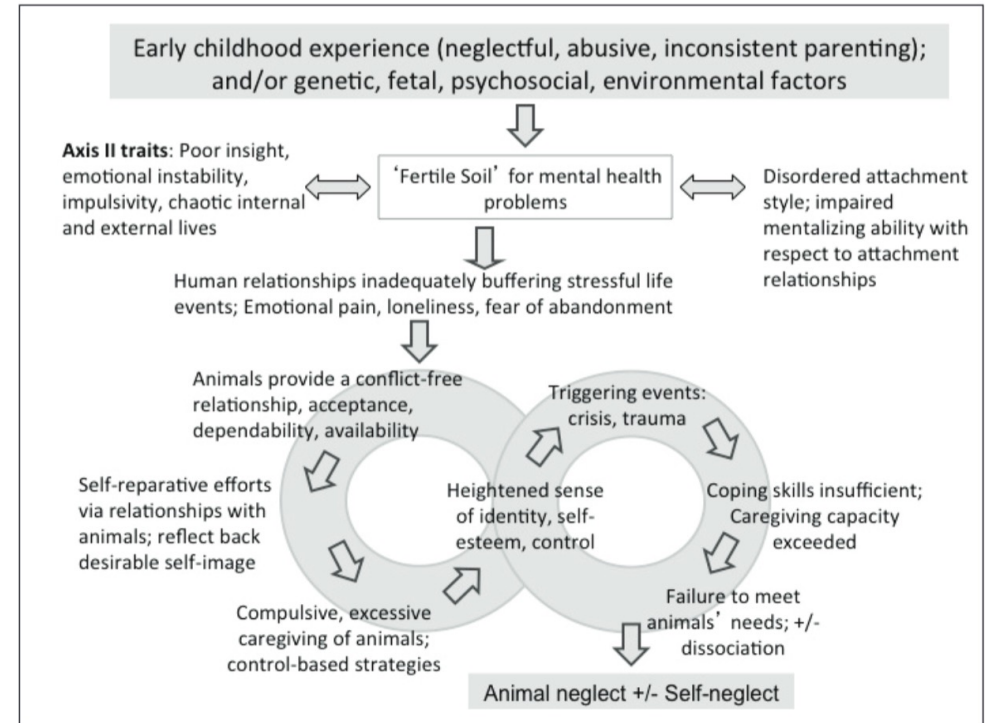
- Special attention should be given to children's relationships with pets in cared-for settings (Muldoon & Williams, 2023)

# Implications for practice- animal hoarding

Animal hoarders (non-commercial) are often highly attached to their pets while simultaneously not perceiving the suffering and poor welfare

- Poor mentalizing
- High attachment to (comfort from) pets
- Lack insights into self and other
- Animal substituting for human relationships
- Self as a caregiver

*“Animal hoarding appears to entail distortions and dysfunctions in attachment, empathy and anthropomorphism” (Prato-Previde et al., 2022)*



From: Arluke and Patronek, 2013

# Implications for practice- animal assisted therapy

- It seems likely that animals can help promote positive attachment relationships, which are important in therapy
- HOWEVER, we should not assume that positive relationships with animals generalize back to humans
- Asking about pets can be a quick way to build rapport in healthcare settings
- Learning about animals can also help us learn about ourselves if transferrable skills are highlighted (empathy, welfare needs, etc.)



## Discussion point 3:

Why is attachment theory important for practice, such as animal assisted therapy and interventions relating to animal harm?

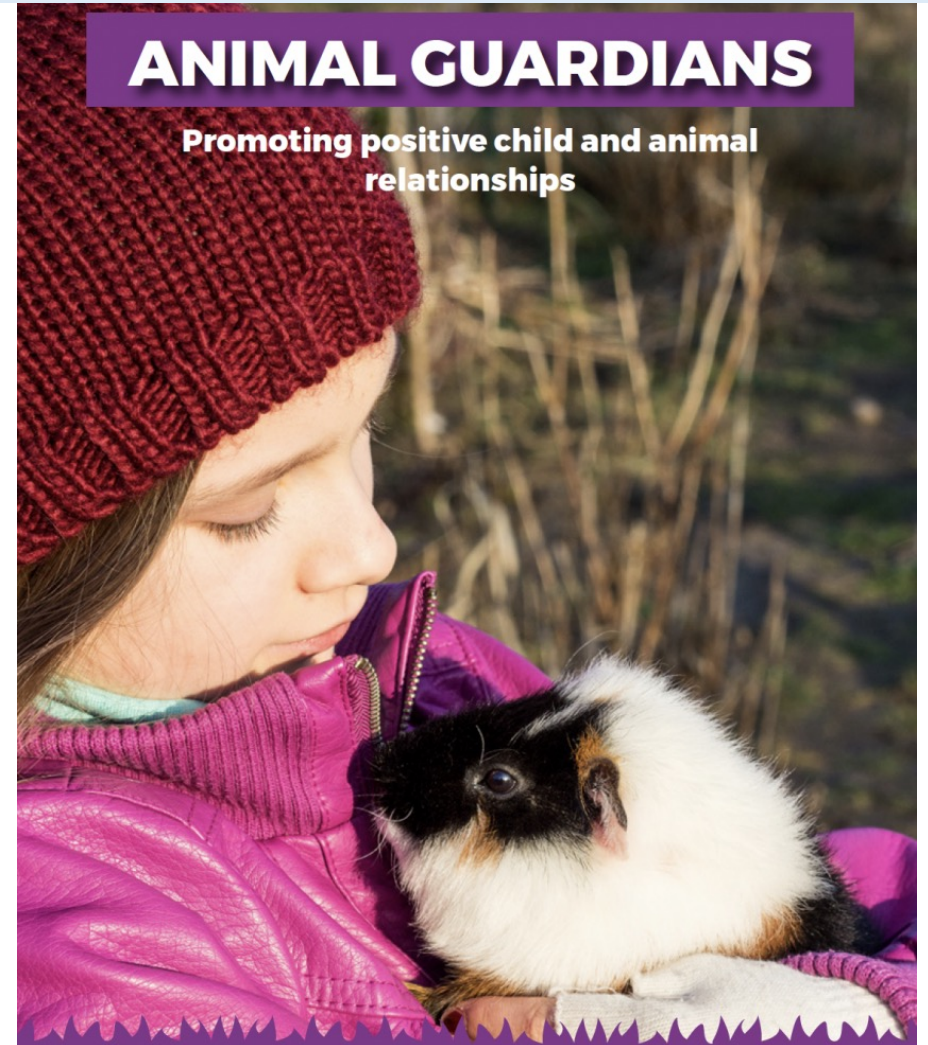
**5-10 minutes small-group discussion in break-out rooms**

### **Questions to consider:**

- How might you use some of this information in your own practice? (or daily life?)
- What additional research would you like to see?
- Why do we need to be cautious about not only highlighting positive interactions?
- Any comments or ideas you want to share with the group?

## **ANIMAL GUARDIANS**

Promoting positive child and animal relationships





# Thanks for listening!

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**Any Questions?**



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