



EAAP 2010

61st Annual Meeting of the European Association
for Animal Production

AUGUST 23rd-27th, 2010 - HERAKLION, CRETE ISLAND, GREECE



The use of animal in therapies



SCIENTIFIC EVIDENCE

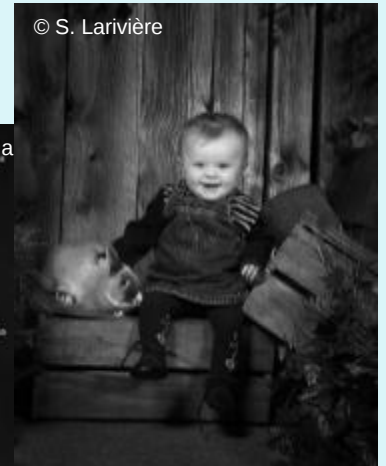


Grandgeorge M. & Hausberger M.

**Laboratoire Ethologie Animale & Humaine
GIS Cerveau Comportement Société
Université Rennes 1, France**

The animal companion in our life

- Is present in >50% of western country families
- Is supposed to improve
 - physical and
 - emotional health
- Provides companionship
- Reduces isolation
- Enhances self-esteem
- And so on...



Useful to help people? Useful in therapy?

Animal-assisted therapy - Definition



Animal-assisted activities? Animal-assisted therapy? Pet therapy?
Zootherapy? Hippotherapy? Equitherapy? Delphinotherapy? and so on...

Different words are used for the same practice...

No consensus about practice and definition



Diversity in...

Research

Applications



Urgent need!

Animal-assisted therapy - Historical aspects

York Retreat, England (1792)

Patients can look after
rabbits and poultry



Pawling Convalescent Hospital (1940s)

Veterans were encouraged to work with animals

First reports of animal usefulness for patients

Mallon (1992)

Animal-assisted therapy – Birth by chance?



Levinson (1962)

the dog as co-therapist

- Jingles was present by chance
- Linked with progress in therapy

« *Therapy including a dog is not a generalised method* »



Liz Hartel (1952)

- Was handicapped by polio
- Able to get back on her horse
- Riding rebuilt her strength
- Won an equestrian Olympic medal

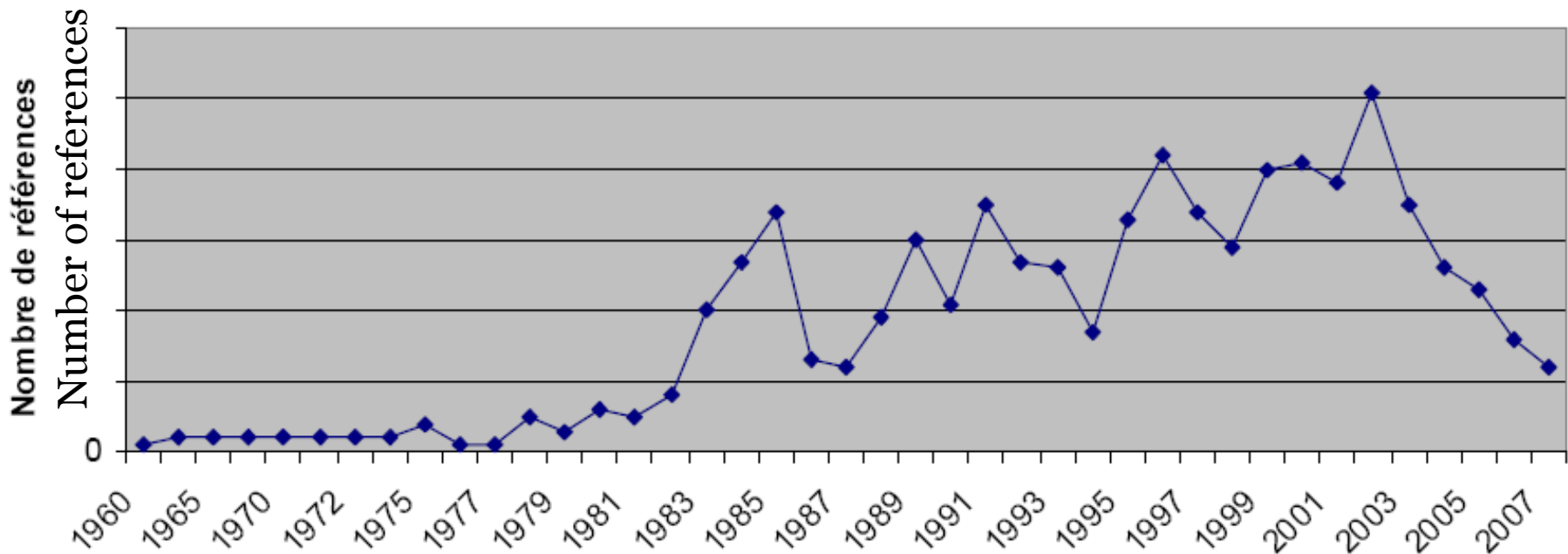
She created the 1st Therapeutic Riding Centre with her therapist

Animal-assisted therapy in the scientific literature



Publications on this theme

778 papers



Few scientific papers
Limited scientific data available

Focus on particular populations, methods & animals in literature

Populations



- ⇒ ≠ classes with particularities
- ⇒ that look similar
(delicate, handicapped, institution...)

BE CAREFUL

The litterature does not give a clear picture of practices

Ex: Therapeutic horseback riding is widely practiced

BUT few scientific data are available

Methods

Questionnaire
Interview
Case study
Few observations

Animals

30.8%

PET

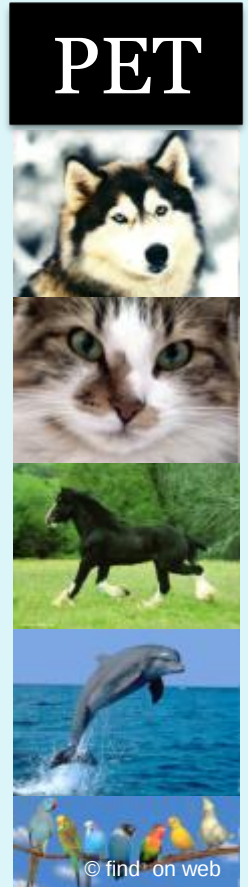
19.7%

5.8%

5.6%

5.3%

1.9%

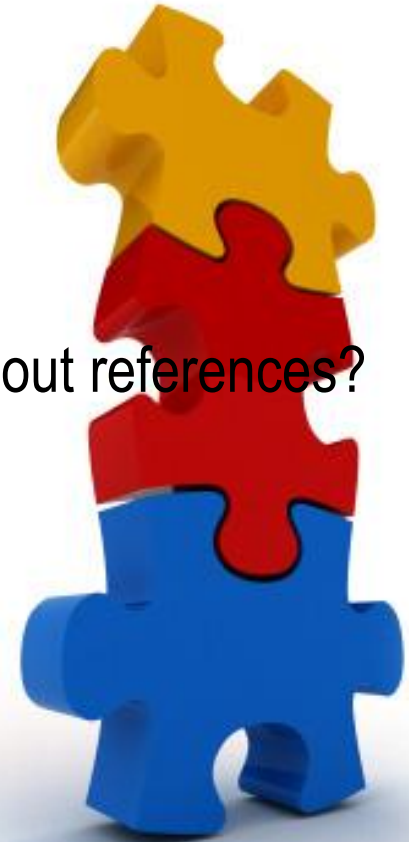


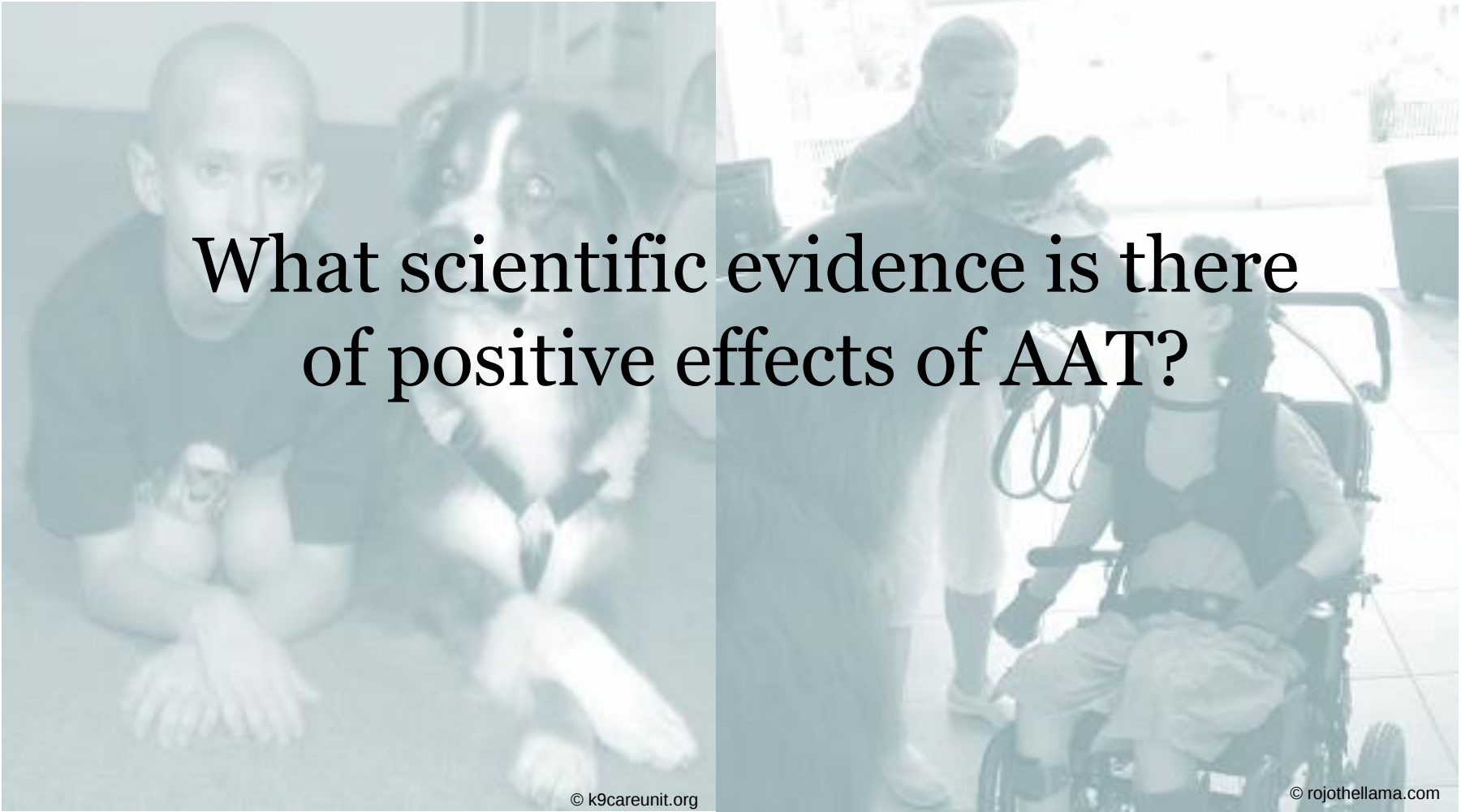
How to be sure of the scientific quality?

Some helpful keys



- What is the scientific validity of the information?
e.g. peer reviewed ? impact factor?
- What is scientific level of the paper?
e.g. popular or scientific report, original research, with or without references?
- What is the reputation of the source?
e.g. impact factor? free or paying paper? Editor's reputation?
- How is the content of the study structured?
e.g. scientific (introduction, methods, results, discussion)?





What scientific evidence is there
of positive effects of AAT?

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© rojothellama.com

Animal companions and one-year survival of patients after discharge from a coronary care unit



RESEARCH

Assessing the influence of social environment on the survival of 96 patients hospitalised following a myocardial infarction

QUESTION

Is survival related to the possession of an animal companion?

© saintgilles35

Animal companions and one-year survival of patients after discharge from a coronary care unit

RESULTS:

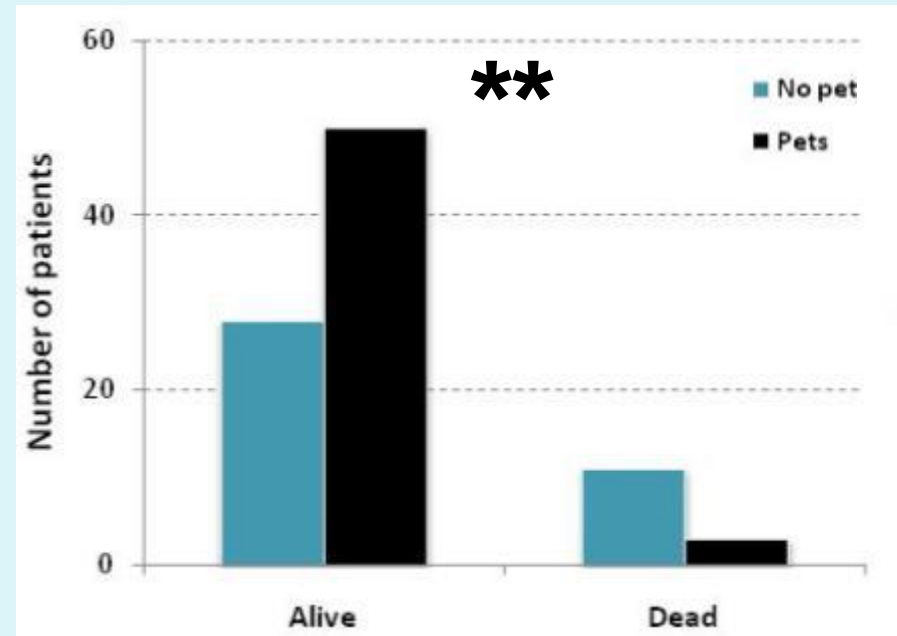
Owning a pet is significantly correlated with survival rate

(6% of deaths "with pets" *versus* 28% "without a pet")



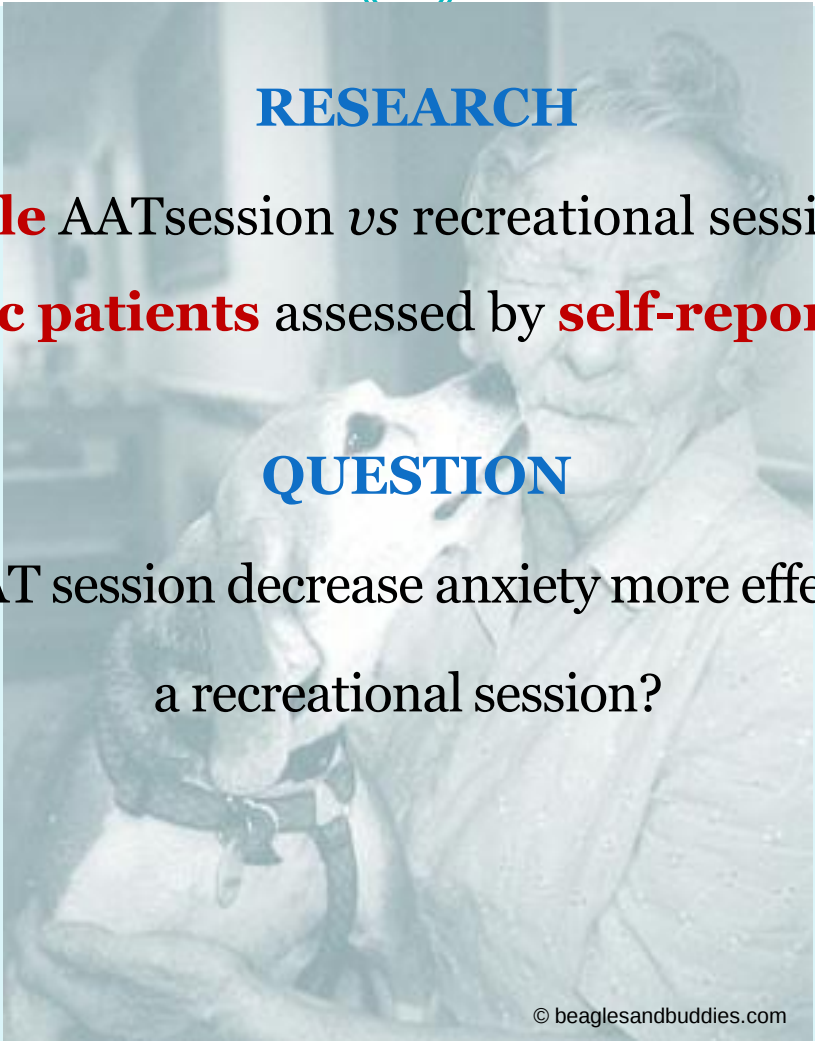
SOME EXPLANATIONS:

- Increased physical activity (dog owners)
- Attention sollicitated
- Source of order and responsibility for people who are no longer working



$X^2 = 8.9, p < 0.002$

Effects of AAT on anxiety of psychiatric patients



RESEARCH

Influence of a **single** AAT session vs recreational session on the anxiety of 230 **psychiatric patients** assessed by **self-reported evaluation**

QUESTION

Does an AAT session decrease anxiety more effectively than a recreational session?

© beaglesandbuddies.com

Effects of AAT on the anxiety of psychiatric patients

RESULTS:

Anxiety scores declined after an AAT session

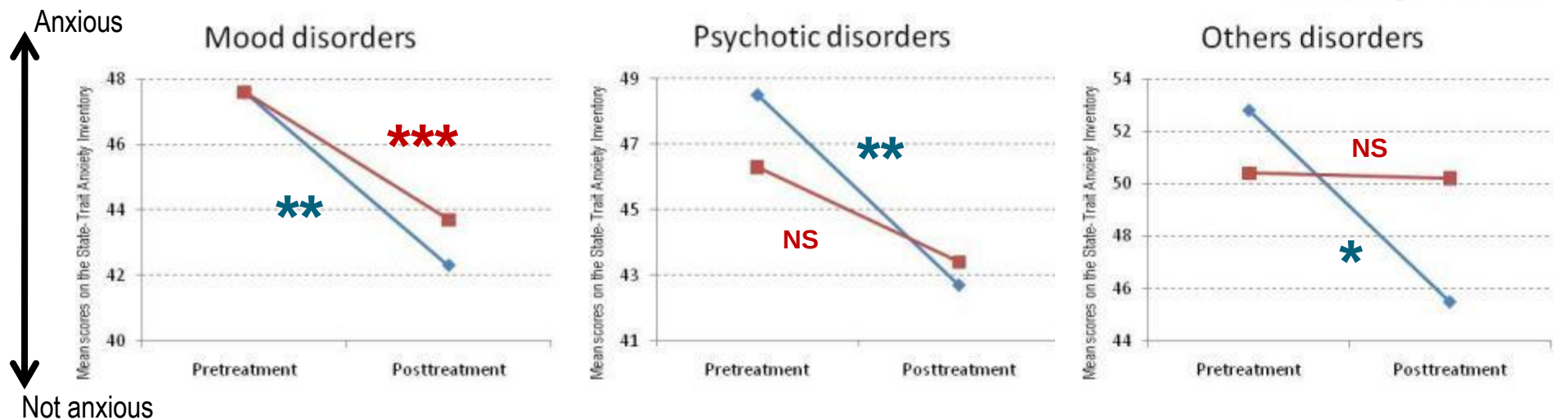
But effects differed according to the therapy used

EXPLANATIONS:

Dog provides some sense of safety and comfort

Dog provides a diversion from anxiety-producing situations

Touching the dog physically reduces patients' anxiety

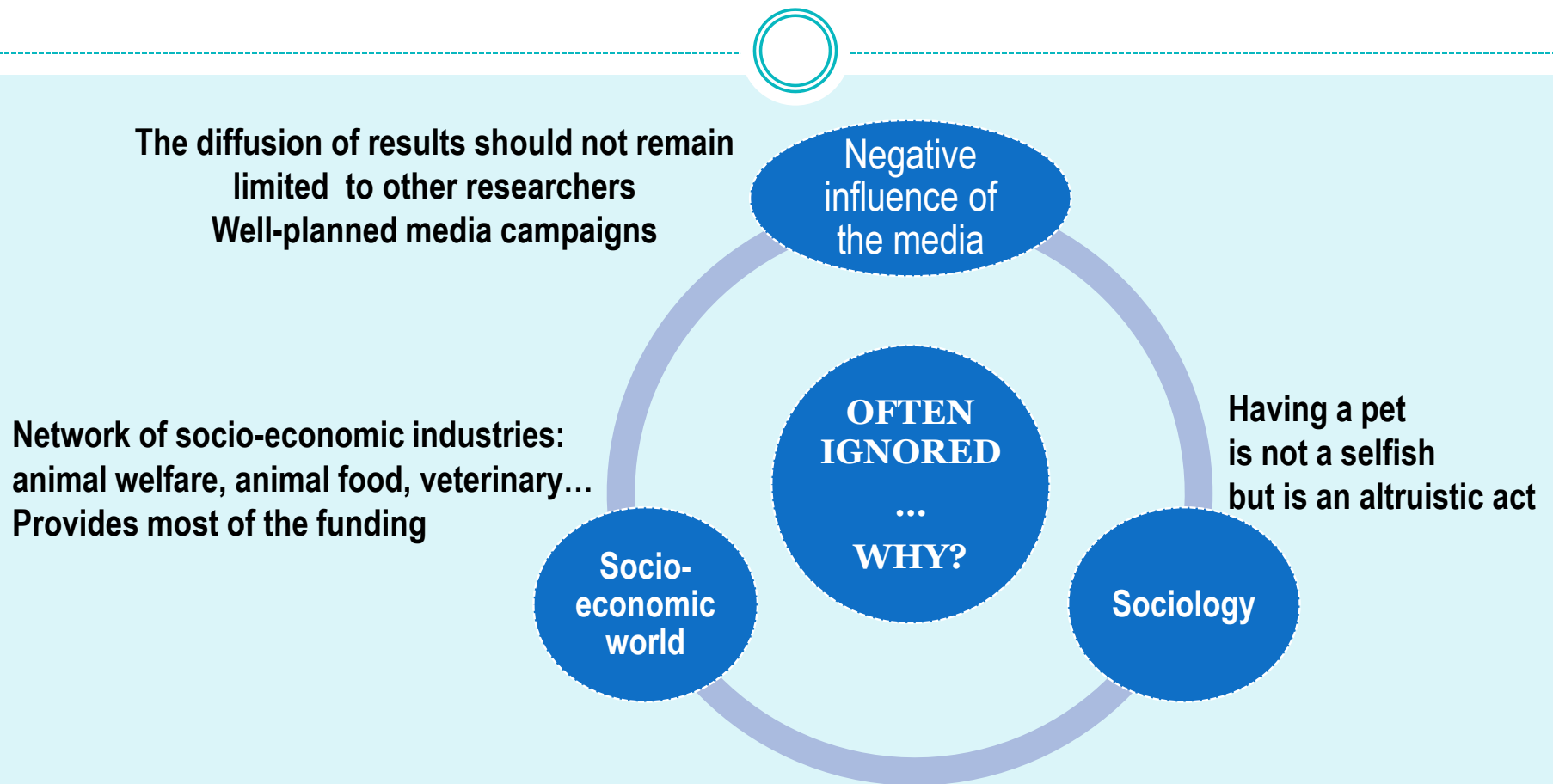


ANOVA-test, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Barker & Dawson (1998)

Effects of AAT?

Absence or negative effects...

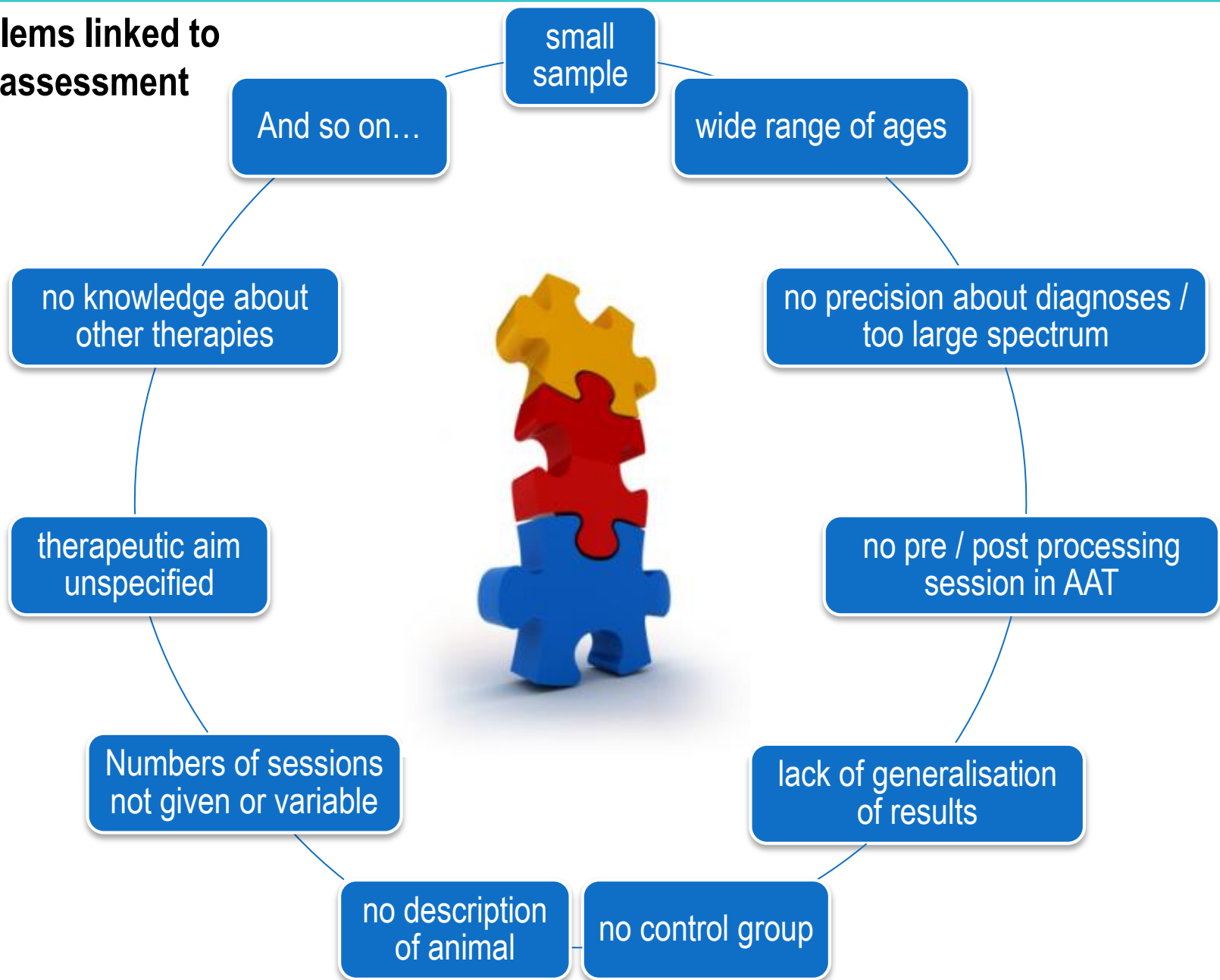


The danger?

Scientific work "directed" by economic stakes // A need for scientific and objective research

Beck & Katcher (1985), Hines (2003), Michalon et al (2008)

Problems linked to AAT assessment



For example: Animals & people with autism



Years	1989	2002	2006	2009	2010	Submitted
Authors	<i>Redefer & Goodman</i>	<i>Martin & Farnum</i>	<i>Sams et al</i>	<i>Bass et al</i>	<i>O'Haire et al</i>	<i>Grandgeorge et al</i>
N	12	10	22	34 (15 ASD)	81 (27 TA)	260 ASD (28 for the study)
Age (y.)	5-10	3-13	7-13	5-10	5-13	6-33
Animals						
Leader	←—————Therapist—————→			←Non-therapist→		Nobody
Contact	←—————During the sessions—————→			School		Home
Format	←—————Individual—————→			2 groups	3 groups	4 groups

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Martin & Farnum (2002)



AIM:

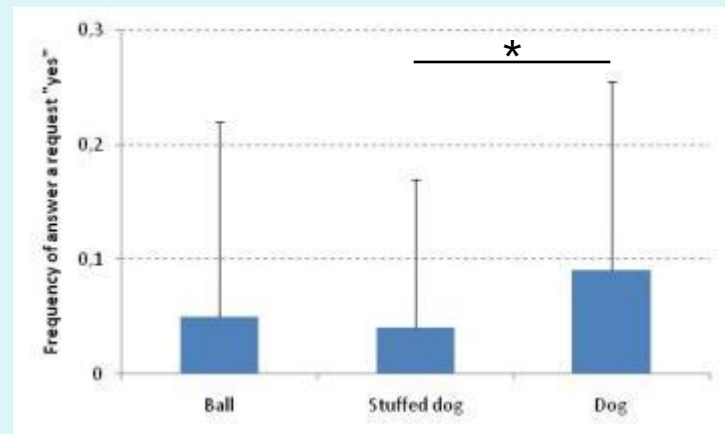
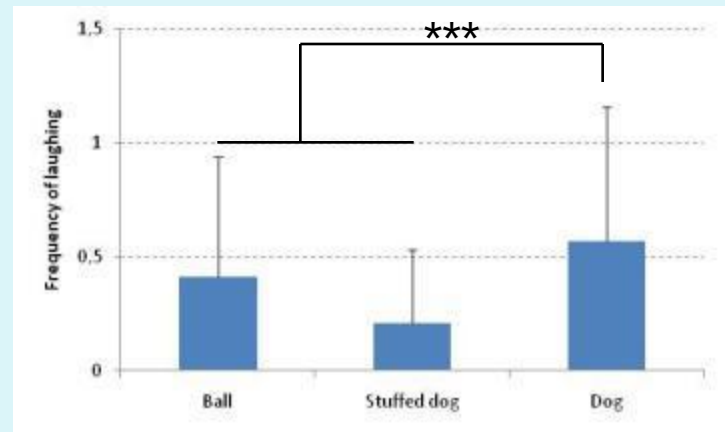
- Effects of interactions with dogs on **10** children with **PDD (2-7 years old)**

QUESTION:

- Is a dog more attractive than a non-social toy or a stuffed dog?

RESULTS:

- With dog:
 - more laughing
 - more aware of social environment





Martin & Farnum (2002)



AIM:

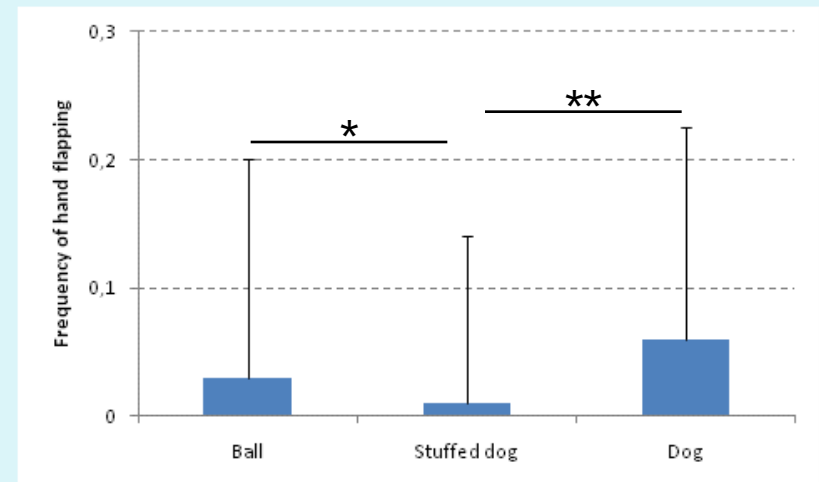
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PROBLEMS?

- More hand flapping (stereotypies) with dog**
- Use of three different dogs => what effects?**

Animals & people with autism



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Bass *et al.* (2009)

AIM:

- Assess the influence of AAT with horses for some children with autism
- Compare children “with AAT” to children on “a waiting list”

QUESTION:

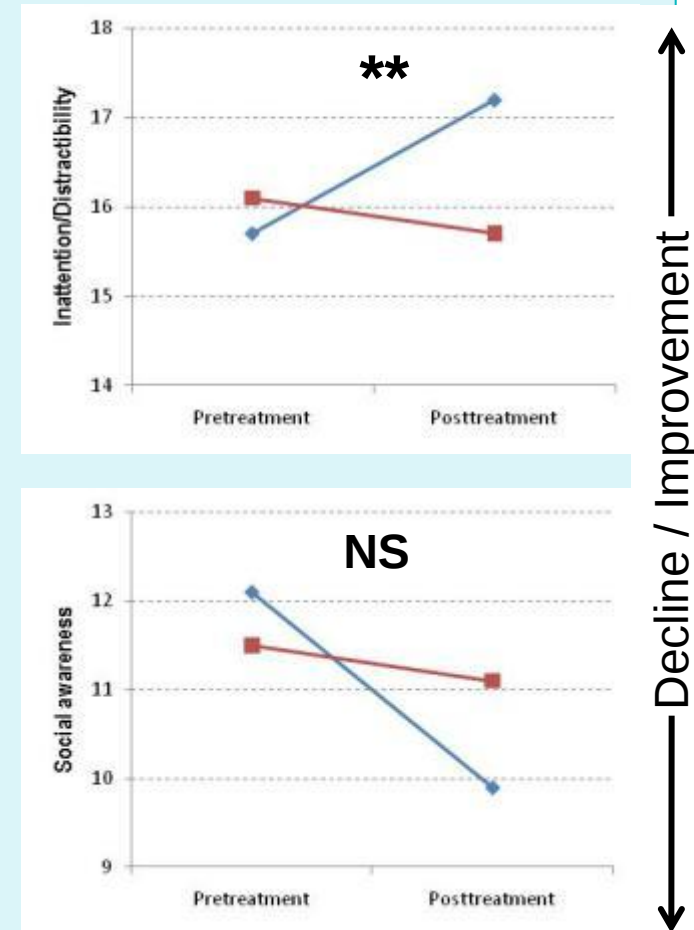
- Can AAT improve social functioning effectively?

RESULTS:

- ↗ sensorial, social response & motivation, attention
- = or ↘ social cognition, awareness

PROBLEMS:

- Scales proposed to parents/professors after AAT
- ⇒ What objectivity?



For example: Animals & people with autism

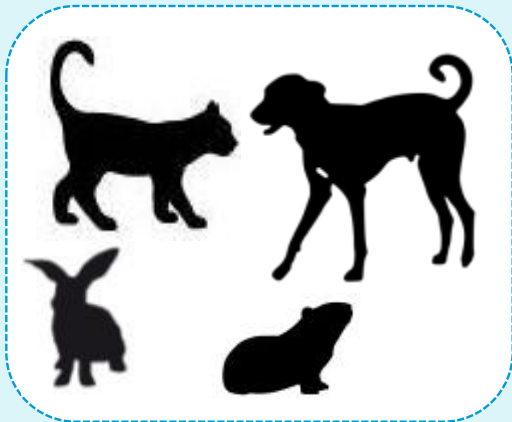


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Example with a scientific approach



Is the introduction of pets into families with children with autism associated with improvements of these children's social skills?



Pets arrive after child is 5 years old	++	} Improvement of - offering to share - offering comfort
Pets always in home (present before birth)	0	
Never any pets in home	0	

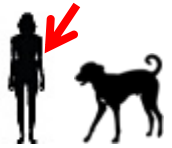
The arrival of a pet in a family appears to boost the development of social skills

The Strange Animal Situation Test

How do humans behave when encountering an unfamiliar pet ?

Cat (Mertens & Turner 1988)

Rabbit (Ricard & Allard 1993)



Data are sporadic & species poorly adapted

4 Guinea pigs



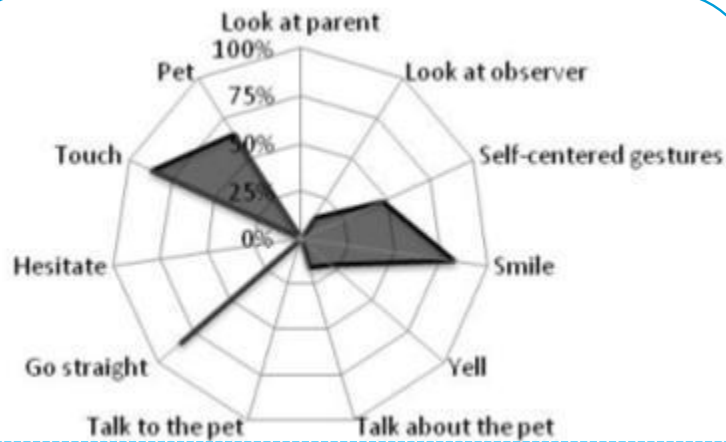
90 children 6-12 years old
(59 typical & 31 autistic)



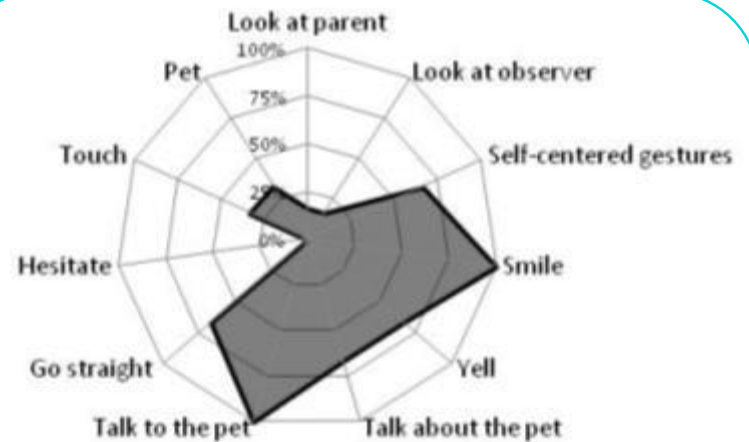
DESIGN

- Observations in their home
- Video recording
- Neutral presence of one parent

(Grandgeorge et al., submitted)



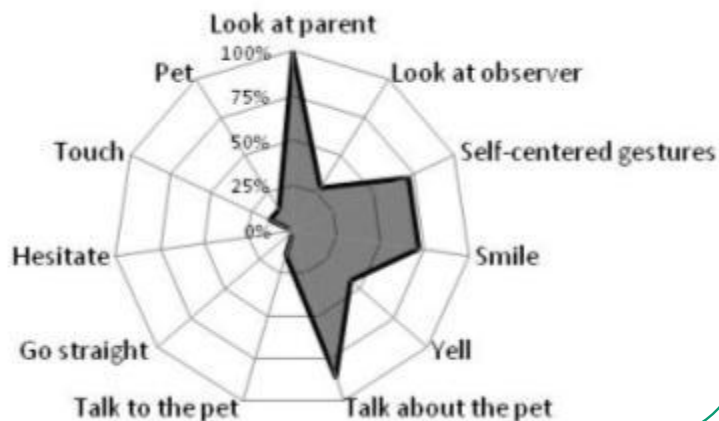
Profile 1: CONFIDENT CHILDREN (n=38)



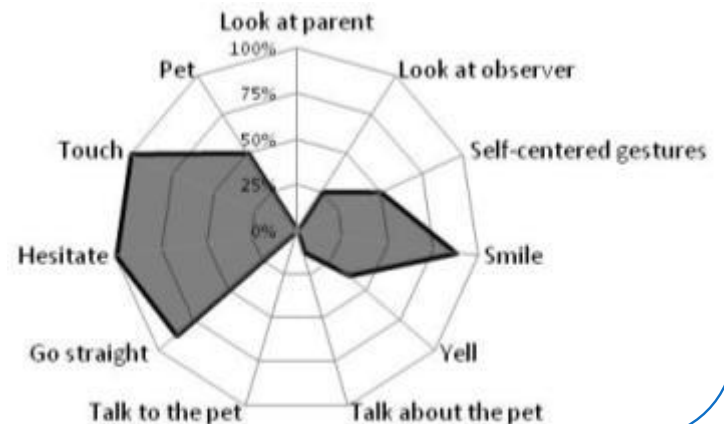
Profile 2: CAREFUL CHILDREN (n=6)

The majority of horse-rider children are confident
Being familiar with large animals may give overconfidence when with a small unfamiliar animal

Profile 3: ANXIOUS CHILDREN (n=7)



Profile 4: INDIRECT CHILDREN (n=8)



To conclude up... with a scientific approach



- Many studies show that animals influence children's social and emotional development
- No robust information about effects on cognition or on sensory skills
- Little information about the risks associated with AAT: zoonosis, security, pets' well-being...

⇒ **Further studies are needed!**

What about horses?



- Improve posture, balance and mobility in developmentally delayed children, in children with diplegia or cerebral palsy
- No robust studies on social, emotional or cognitive improvement

Some precautions are needed

Provide for animals' behavioural and social needs (*i.e.* well-being)

Prohibit inappropriate training methods

Avoid unrealistic expectations (*e.g.* horse is magic)

And so on..

Always with mutual respect



Acknowledgements

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Children, families and pets involved in the project

SHS Doctoral school (University Rennes 2)