



How does Pet-Directed Speech affect horses?

Plotine Jardat, Ludovic Calandreau, Vitor Hugo Bessa Ferreira, Chloé Gouyet, Céline Parias, Fabrice Reigner, Léa Lansade

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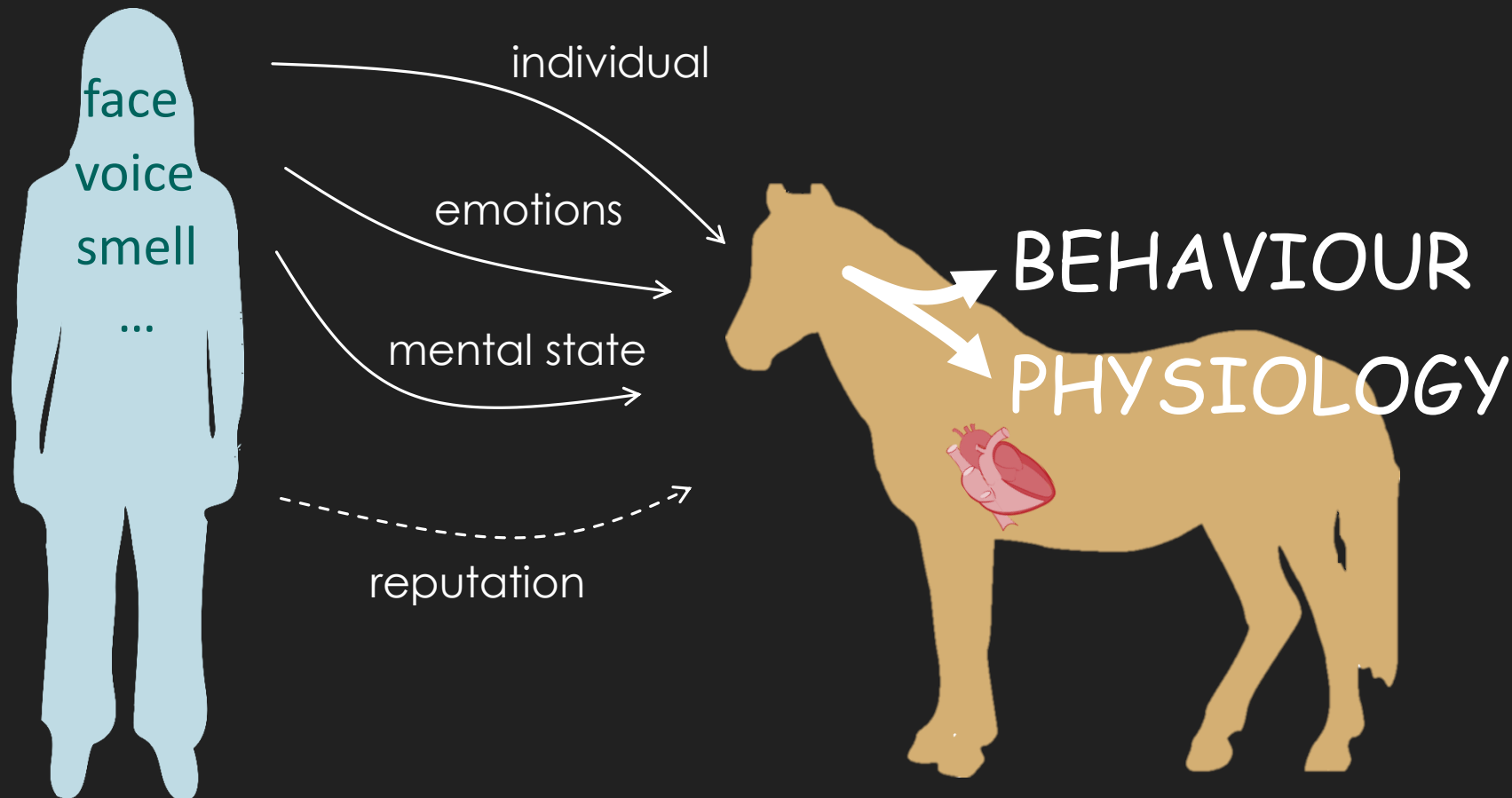


The human-horse relationship

Proops and McComb 2010

Trösch et al. 2019

Lansade et al. 2020



PDS and its effects in other species

○ **Pet-Directed Speech (PDS)** ↔ Infant-Directed Speech (IDS)

≠ Adult-directed Speech (ADS)

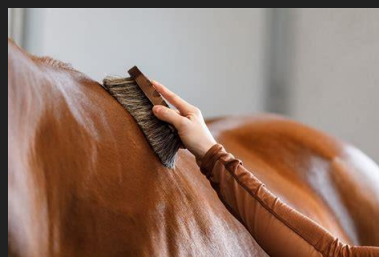
- High, varying pitch
- Slow rate of speech, repeated words, simple syntax and semantics
- In infants, non-human primates and dogs:
 - Increases attention, arousal
 - Influences emotions



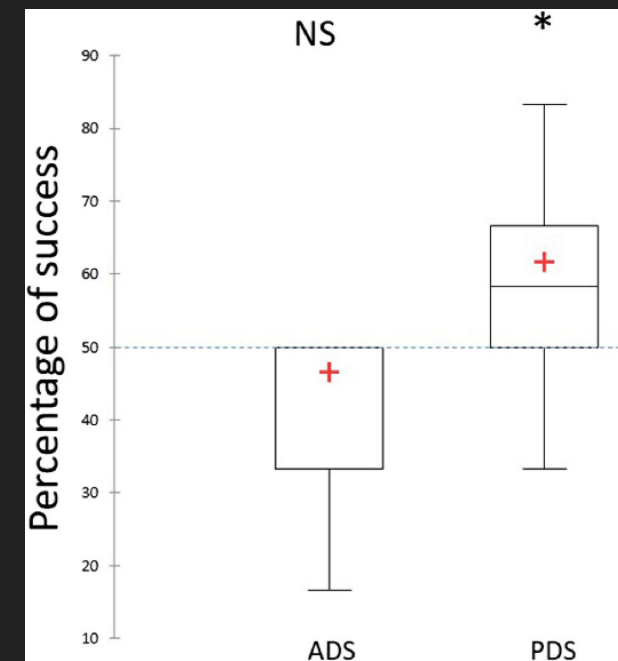
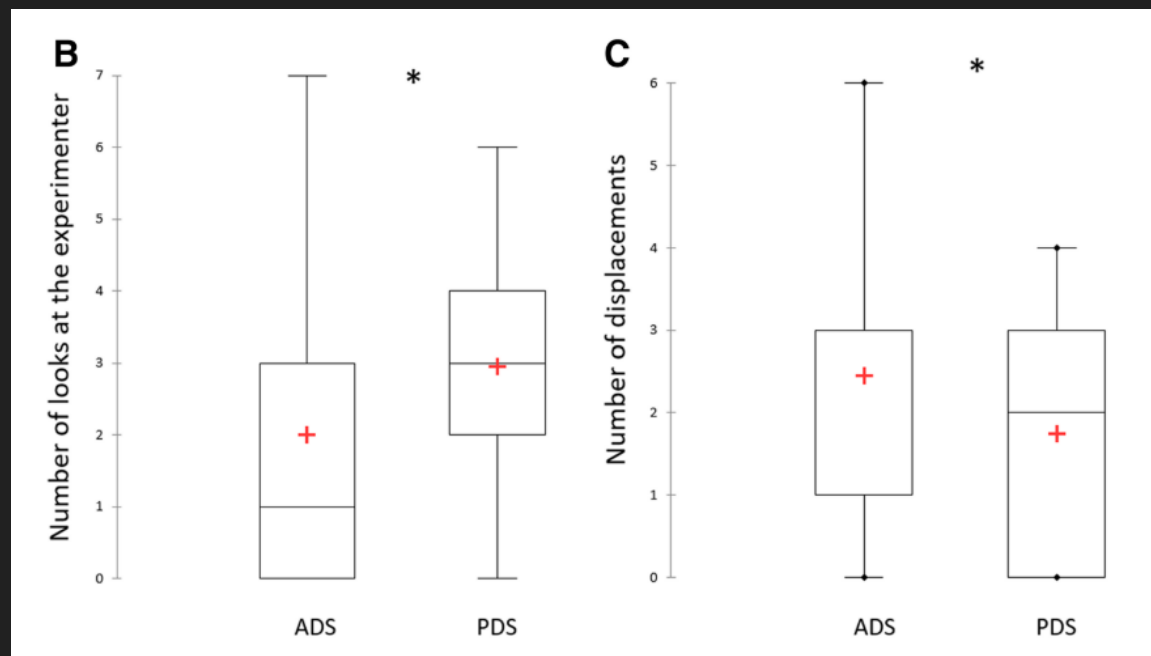
PDS in horses

Lansade et al. 2021

During grooming



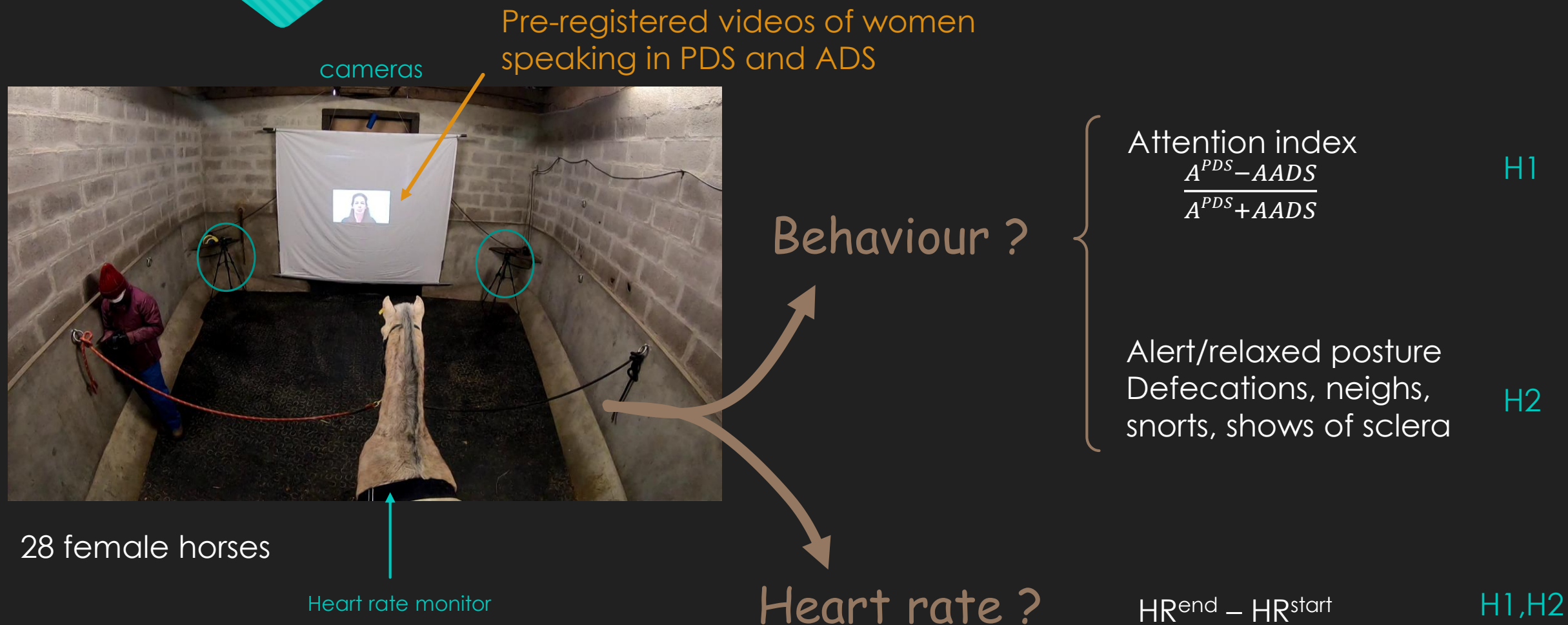
Pointing task



Hypotheses

- **H1**: PDS helps to attract horses' attention and has an arousing effect on them
- **H2**: PDS influences the valence of emotions felt by horses, making them more positive

Methods

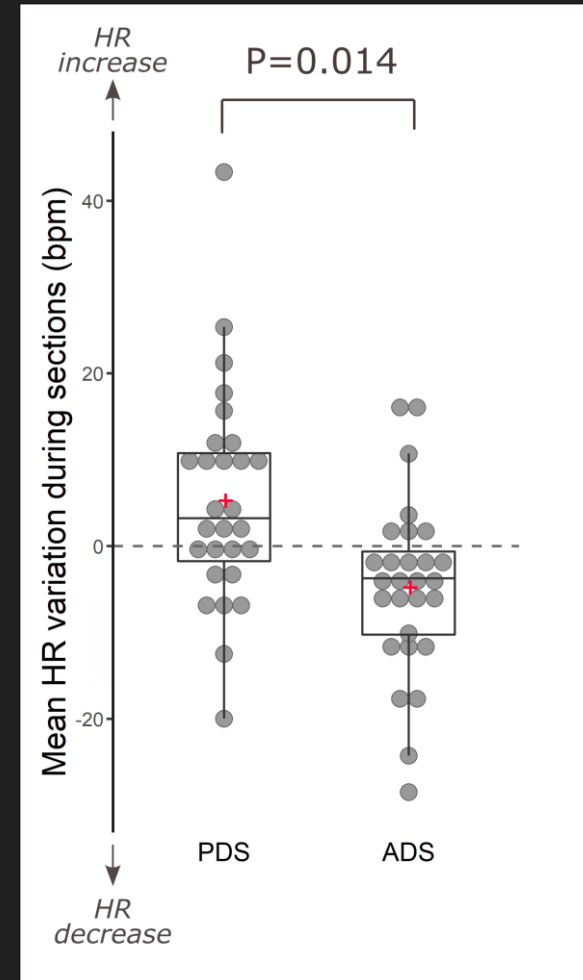
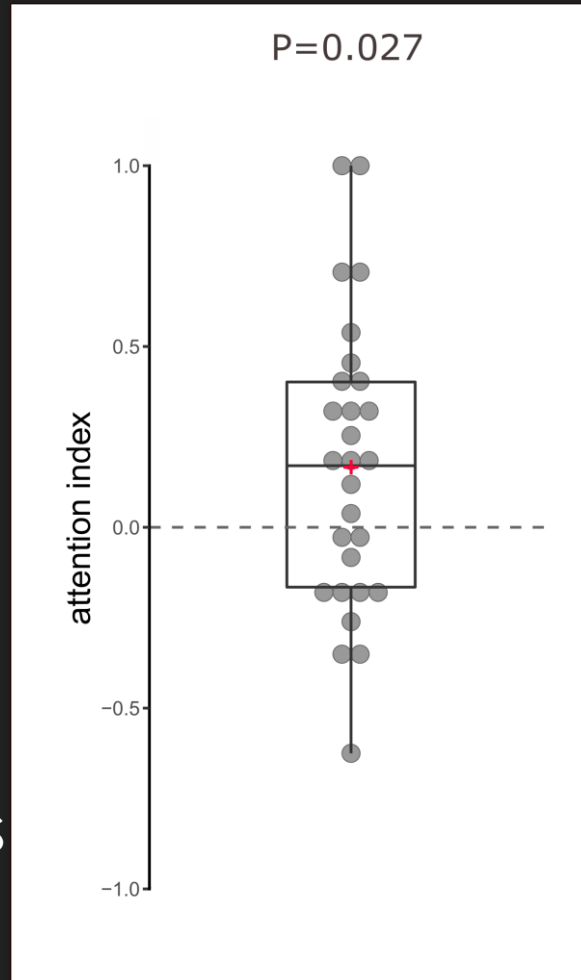


Results: Attention and heart rate

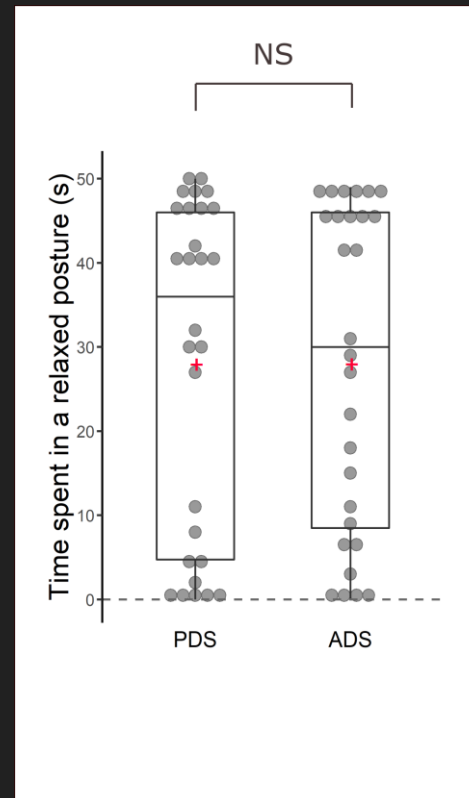
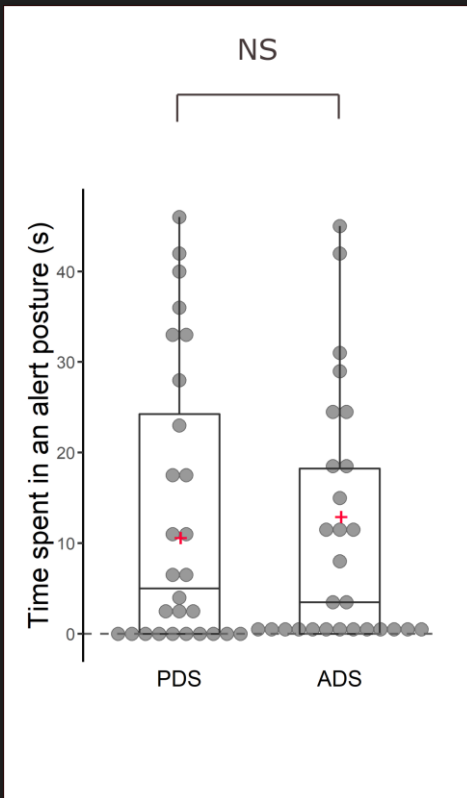
PDS



ADS



Results: emotional indicators



	ADS	PDS	p
Defecations	2/28	1/28	0.500
Neighs	4/28	2/28	0.333
Shows of sclera	7/28	5/28	0.372
Snorts	0/28	0/28	x

NS

Discussion: Horses are aroused by PDS

- Horses were more attentive to PDS than ADS
- Horses' heart rates increased more during PDS than ADS

H1 ✓

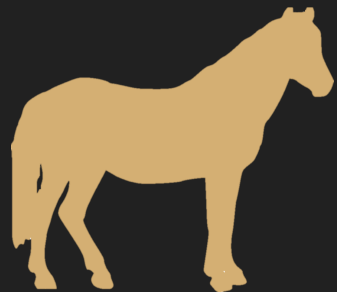
PDS helps to attract horses' attention and has an arousing effect on them

Why this effect of PDS on horses?

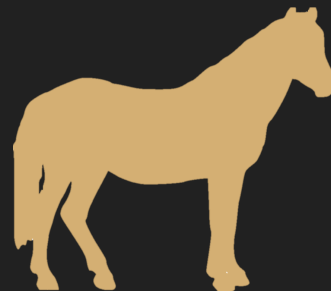
Trösch et al. 2019, 2020

Saint-Georges 2013

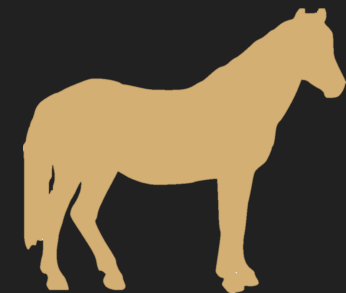
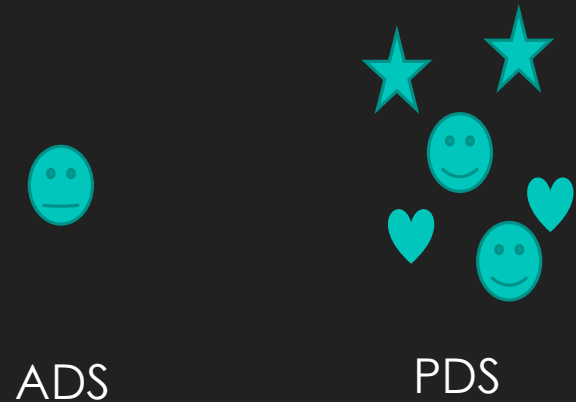
- PDS catches the ear



- PDS carries communication intent



- PDS conveys positive emotions



Discussion: Effect of PDS on horses' emotional state

- Horses were **not more relaxed or less alert**, they did **not** show **less signs of fear**, during PDS than ADS
 - Test not fearful for horses
 - Lack of indicators for positive emotions in horses

H2 ?

No demonstrated influence of PDS on the **valence of emotions** felt by horses

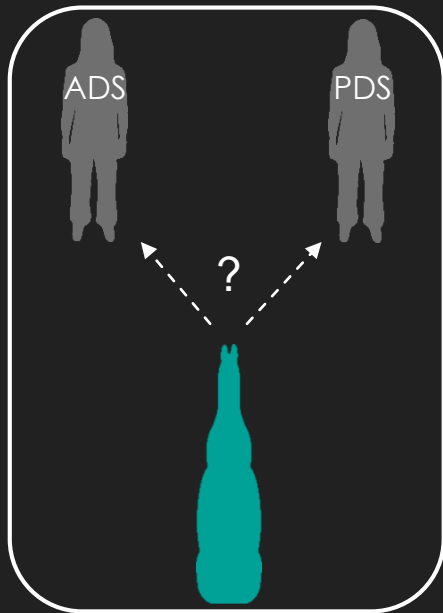
Further experiments

Ben-Aderet et al. 2017

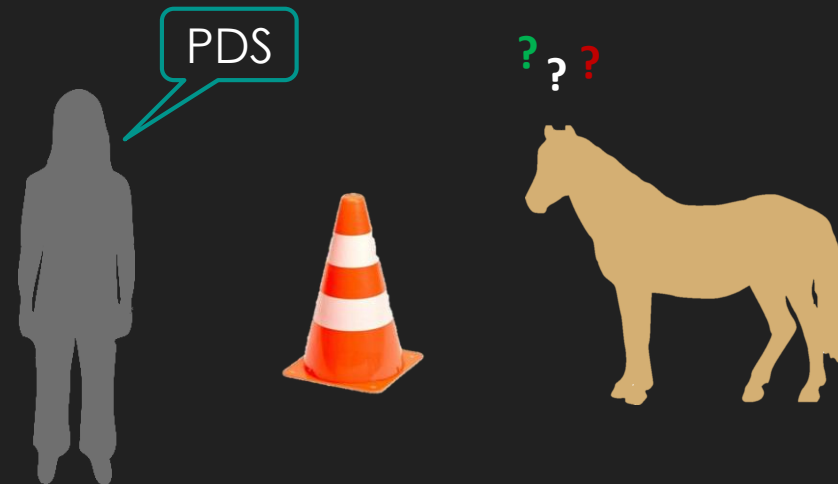
Fernald 1985

Poutaraud et al. 2018

- Preference test




- Novelty test



Conclusion

- PDS is **arousing and attention-drawing** for horses → can be used during **human-horse interactions**
- Broadcasting **pre-registered videos of humans** allows to study horses' perception of us



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