



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences



Is the Strange Situation Procedure a reliable method to study attachment in dogs?

*Therese Rehn, Ragen TS McGowan and Linda J Keeling
Department of Animal Environment and Health*

The Strange Situation Procedure (SSP)













(Ainsworth & Bell, 1970)

(e.g. Topál et al., 1998; Fallani et al., 2006; Gácsi et al., 2001; Palmer & Custance, 2008)

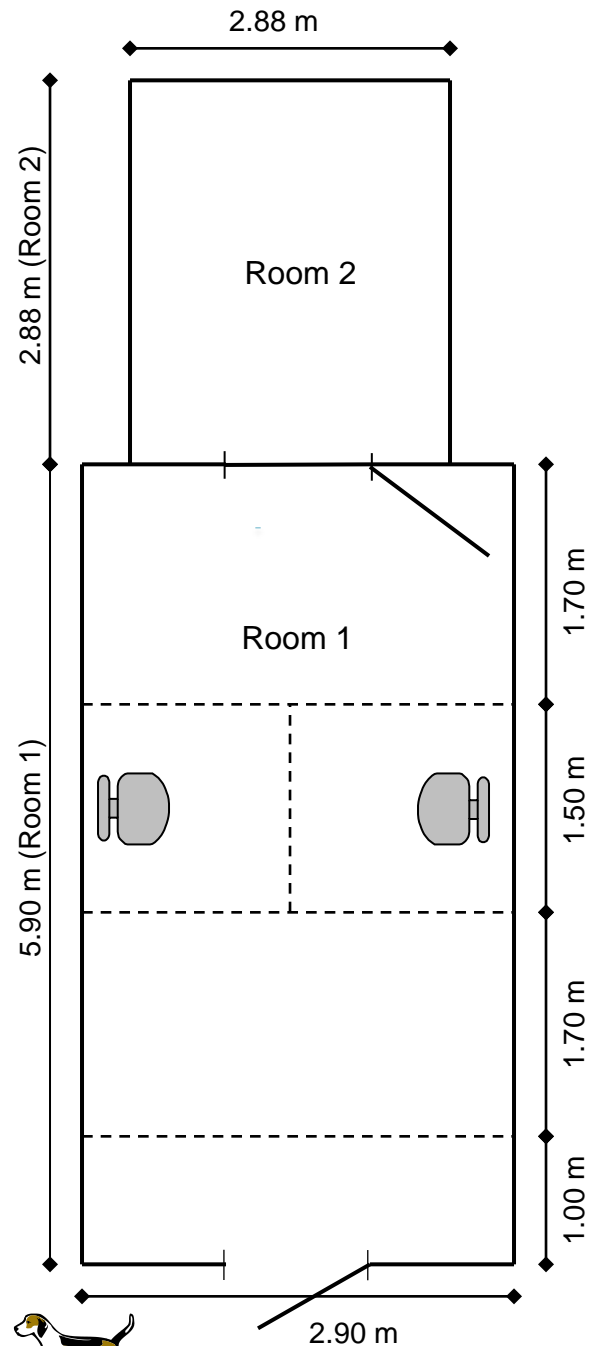
AIM

To investigate the reliability of the SSP when assessing attachment between dogs and humans

SSP test design

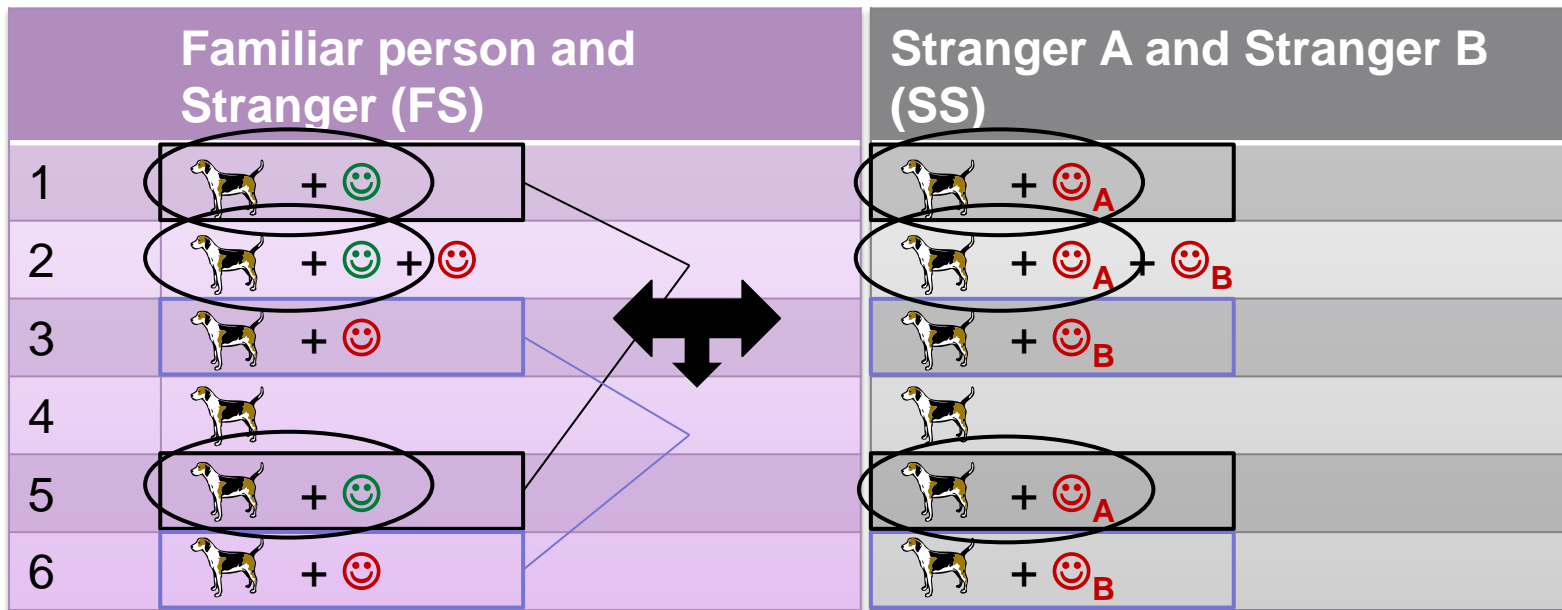
Episode (3min)	Familiar person and Stranger	
1	 + 	<i>Passive</i>
2	 +  + 	<i>Play</i>
3	 + 	<i>Play</i>
4		<i>Alone</i>
5	 + 	<i>Reunion</i>
6	 + 	<i>Reunion</i>

 = Familiar person  = Stranger



Method

Between treatment comparison

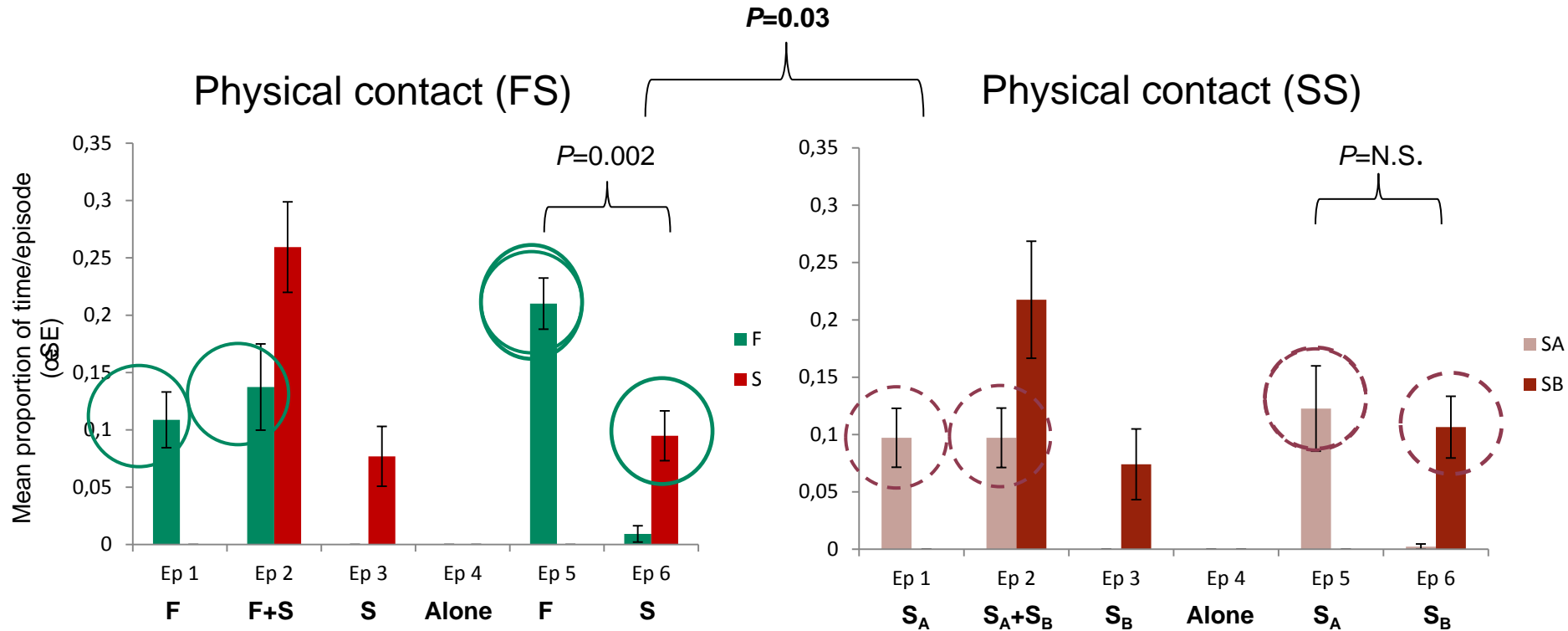


 = Familiar person  = Stranger

12 research beagles (females)
 HR measures (Polar)
 Wilcoxon signed rank tests

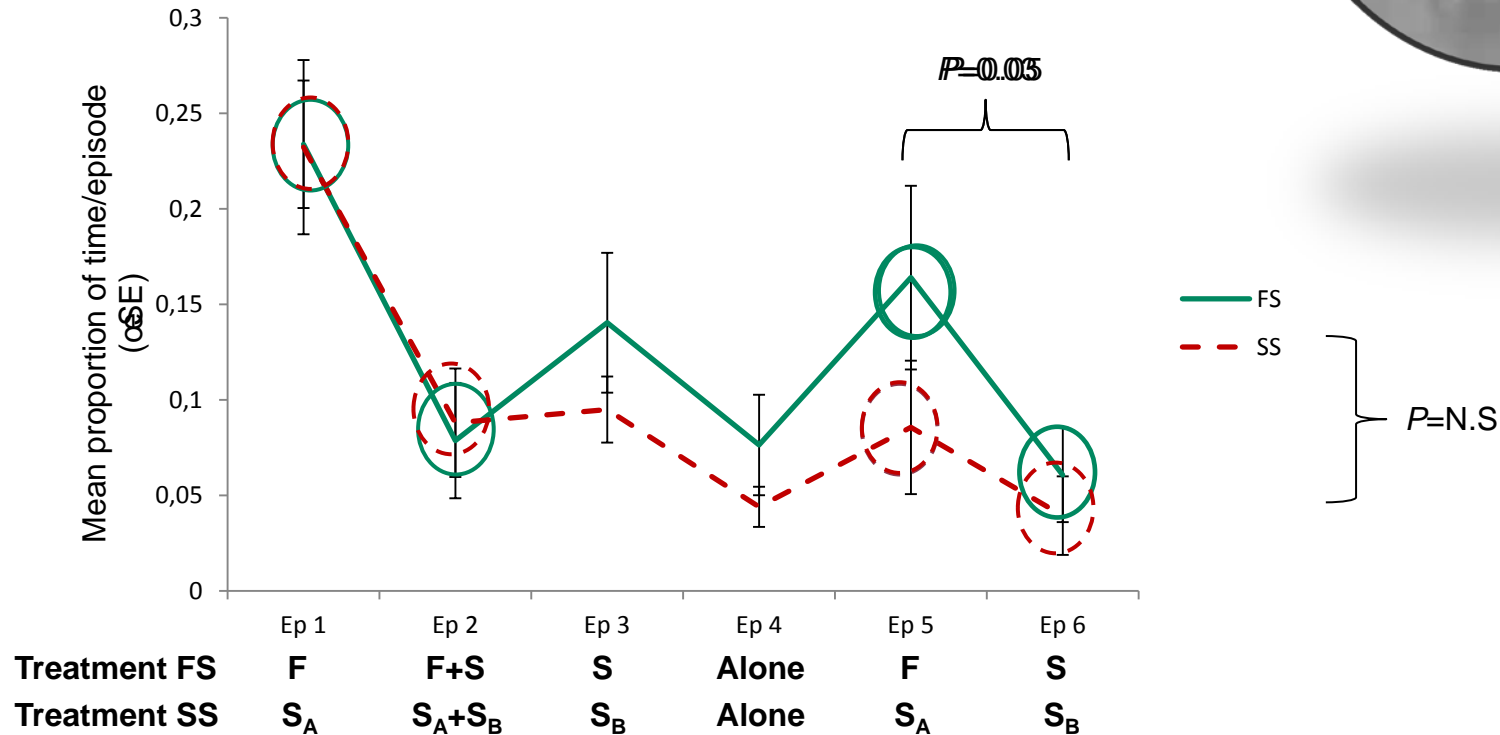
Results: Physical contact

Within treatment comparisons



Results: Exploration

Within treatment comparisons



Results: Greeting behaviour

- Dogs initiated more **physical contact** upon reunion with the familiar person

Tendencies ($P=0.06$) for dogs to...

- **vocalise** more
- show more **tail wagging** and
- express more **body shaking**

...when reunited with the familiar person compared to when reunited with any of the strangers



Summary

	Within FS	Within SS	FS vs. SS
Physical contact	😊 > 😊	N.S.	😊 > 😊 _A
Vocal, TW, BS	😊 > 😊	N.S.	😊 > 😊 _A
Exploration	😊 > 😊	😊 _A > 😊 _B	N.S.

Order effects

Dogs and

Dogs initiated more physical contact with a familiar person. Also, they showed a more intense greeting behaviour at reunion with the familiar person, to whom they had an **established relationship**

The use of SSP in dog attachment studies...

- Dogs scan off the environment quickly
- Dogs show low stranger wariness
- Independent play levels are low
- More challenging situation to activate the attachment system?

THANK YOU FOR LISTENING!

Rehn T, McGowan RTS, Keeling L. Evaluating the Strange Situation Procedure (SSP) to assess the bond between dogs and humans. *PLoS ONE* 8(2): e56938

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