

# Infants' Cooperative Competence is shaped by the Social Context.

## INTRODUCTION

What underlies cooperation?

1. Initiating Joint Attention (IJA):
  - Understanding intentions
  - Sharing own and adopting others' goals (Tomasello & Carpenter, 2007; Wu, Pan, Su, & Gros-Louis, 2013)
2. Social Context:
  - Affiliative behaviour (Endedijk et al., 2015)
  - Antagonistic behaviour (Hart, DeWolf, Wozniak, & Burts, 1992; Williams, Ontai, & Mestergorge, 2010)

## Hypotheses

1. IJA  $\searrow$  Cooperative Ability
2. IJA  $\searrow$  Affiliative behaviour  
IJA  $\searrow$  Antagonistic behaviour
3. Affiliative  $\searrow$  Cooperative Ability
4. Antagonistic  $\searrow$  Cooperative Ability

## METHODS

- 210 14-month-olds ( $M = 14.30$ ,  $SD = .63$ )

Frequency of IJA ( $n = 111$ ,  $M = 5.02$ ,  $SD = 3.61$ , Range= 0-22; modified from Mundy et al., 2003)



Cooperative Ability ( $n = 179$ ; modified from Warneken, Chen, & Tomasello, 2006)



Parallel roles (PR)      Complementary roles (CR)

Averaged across 2 trials per task

	Parallel roles task <i>M (SD)</i>	Complementary roles task <i>M (SD)</i>
<b>Cooperative Ability</b>		
Spatial coordination	3.67 (0.76)	3.41 (0.82)
Did infants choose correct handle? (1-5)		
Success	1.20 (0.80)	1.68 (0.41)
Was the shared goal achieved? (0-2)		
Latency to success (toy retrieval) (seconds)	18.81 (12.60)	5.97 (4.85)
Latency to success (end goal) (seconds)		12.14 (10.83)
<b>Social Context</b>		
Affiliation (How friendly was the infant? (1-7))	1.68 (0.85)	1.08 (0.24)
Antagonistic (How hostile was the infant? (1-7))	1.28 (0.69)	1.04 (0.14)



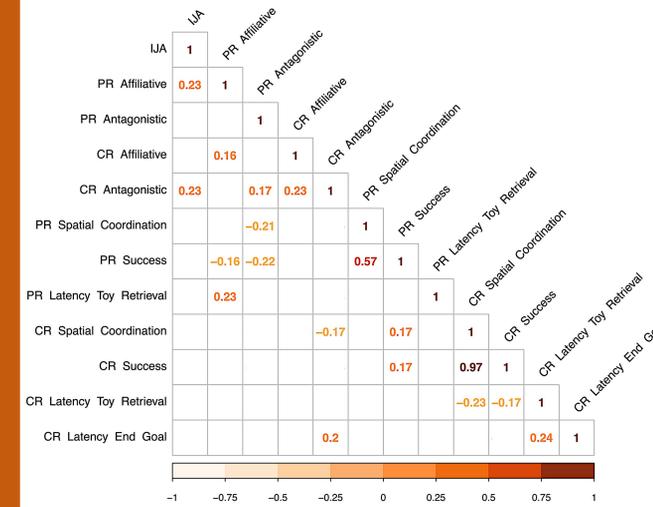
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# Infants' joint attention abilities foster social connections with cooperative partners, but interfere with cooperative ability.

## RESULTS



1. IJA  $\neq$  Cooperative ability
2.  $\uparrow$  IJA =  $\uparrow$  affiliative behaviour (PR task)  
 $\uparrow$  IJA =  $\uparrow$  antagonistic behaviour (CR task)
3.  $\uparrow$  affiliative =  $\downarrow$  success +  $\uparrow$  latency (PR task)  
 $\uparrow$  antagonistic =  $\downarrow$  spatial coordination +  $\downarrow$  success (PR task)  
 $\uparrow$  antagonistic =  $\downarrow$  spatial coordination +  $\uparrow$  latency (CR task)

## DISCUSSION

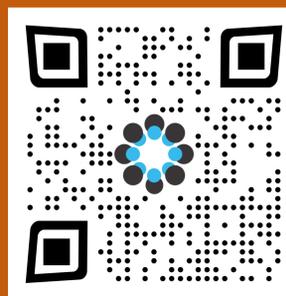
- IJA does not relate to 14-month-olds' cooperative ability, which conflicts with previous work among 17-25-month-olds (Wu et al., 2013)
- IJA positively relates to affiliative and antagonistic behaviour, which suggests it is a social communicative tool for positive and negative emotions.
- Affiliative and antagonistic behaviours hinder cooperative success, suggesting that 14-month-olds lack cognitive capacity to integrate social behaviour and cooperative actions.
- Possible bidirectional relationship between affiliative/antagonistic behaviours and cooperative ability.

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