

# First impressions matter: Warm-up play impacts toddlers' cooperative ability with a same-aged peer

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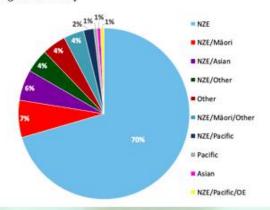


## Introduction

- · 2-year-olds can coordinate their actions with same-aged peers, although their ability is not as well-developed as older chldren (Brownell et al., 2006).
- · Markers of a cooperative interacton quality such as affiliative or antagonistic behviour shapes the extent to which cooperative partners can and are willing to attain shared goals (e.g., Endedijk et al., 2015; Schuhmacher et al., 2015.
- · One possibility is that these social behaviours convey cooperative intentionality (Hunnius et al., 2009).
- . It remains unknown whether peers' first impressions (i.e., the quality of an initial interaction) supports their initial interacton

## **Participants**

- N = 95 dayds (Male = 43, Female = 52)
- M = 22.7 months; SD = 1.87 months
  Subsample of The Origins and Roots of Cooperative Action longitudinal study



## **Procedure & Coding**

#### 1. WARM-UP PLAY (8 min)





BLOCK 1 (first 90 seconds)

BLOCK 2 (last 90 seconds)

#### INTERACTION QUALITY

Affiliation YES NO Smiling, helping, enthusiasm

Antagonism YES|NO Hindering, negative directing

### 2. COOPERATION (3 min)



INTERACTION QUALITY

Affiliation YES NO Smiling, helping, enthusiasm

Antagonism YES|NO Hindering, negative directing

### Results

Results for Generalised Estimating Equations Using Warm-up Play Interaction Quality as Predictors of Cooperative Task Interaction Quality and Ability

Warm-Up Interaction Quality	Outcomes									
	Cooperative Task Interaction Quality				Cooperative Task Ability					
	Affiliation		Antagonism		Initiating		Responding		Success	
	Estimate	$X^s$	Estimate	$X^{\circ}$	Estimate	$X^{r}$	Estimate	$X^{s}$	Estimate	X
Affiliation Block 1	.57(.40)	2.05	.23(.43)	.29	.58(.26)	4.88*	-,38(,30)	1.61	-,05(.04)	1.41
Affiliation Block 2	.03(.39)	.01	35(.49)	.51	.06(.32)	.03	.11(.32)	.12	02(.03)	.56
Antagonism Block 1	1.18(.52)	5.07*	1.44(.59)	6.03*	.05(.50)	.01	-73(-45)	2.67	~.13(.11)	1.52

## Discussion

- Behaviours which undermine the initial warm-up interaction quality may not impact cooperative ability, but are prone to emotional spillover across contexts.
- In line with previous research (Schuhmacher et al., 2015), children who initially exhibit behaviours that support cooperative exchanges may be more motivated to cooperate.

First impressions impact future cooperative behaviour. Considerations regarding spillover should be made when designing future studies.



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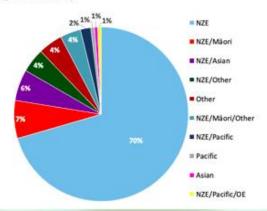
## Introduction

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- . It remains unknown whether peers' first impressions (i.e., the quality of an initial interaction) supports their initial interacton quality supports their future cooperative interaction quality and ability.
- · Exploring this quesiton is key since many studies on toddlers' cooperative ability rely on an intiial warm-up period prior to the cooperative interaciton of key interest.
- · Consistent with spill-over hypotheses, we expected that warm-up affiliation and antagonism would enhance and hinder children's cooperative ability, respectively.

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#### 2. COOPERATION (3 min)



INTERACTION QUALITY

Affiliation YES|NO Smiling, helping, enthusiasm Antagonism YES NO Hindering, negative directing

#### COOPERATIVE ABILITY

Initiating YES|NO Goal achieved & child pressed handle 1st

Responding YES|NO Goal achieved & child pressed handle 2nd

Success YES NO Duad achieved goal of activating the robot

## Results

Antagonism Block 1 1.18(.52) 5.07\* 1.44(.59) 6.03\* .05(.50) .01 .73(.45) 2.67 -.13(.11) 1.52 Antagonism Block 2 .51(.36) 2.01 .15(.44) .12 .32(.08) .78 .11(.32) .12 -.03(.04) .74

Note. Estimated parameters (with standard errors in parentheses) are presented. Standard errors reflect sandwich estimator values. X2 indicates Wald statistic. Block 1 = first 90 seconds of eight-minute warmup interaction. Block 2 = last 90 seconds of eight-minute warm-up interaction. \* indicates p <.05.

- Children who displayed antagonistic behaviour during Block 1 of the warm-up were more likely to show affiliative behaviour and antagonistic behaviour during the cooperative task.
- . Children who displayed affiliative behaviour during Block 1 of the warm-up were more likely to engage in initiating behaviours, but not responding or cooperative success.

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First impressions impact future cooperative behaviour. Considerations regarding spillover should be made when designing future studies.