

Approaches to Interventionary Research on Social Skills Development in Early Childhood

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Overview

- Prosocial Behavior
- Why it is important
- Conceptual background
- Existing interventions
- Current Study
- Methods- Behavioral
- Preliminary results- Behavioral

What is prosocial behavior?



- Prosocial behavior refers to voluntary actions intended to have positive consequences for others, such as helping or benefitting another individual or group (Mussen & Eisenberg-Berg, 1977).
- Examples include helping, sharing, comforting, and cooperating (Brownell, Svetlova, & Nichols, 2009; Svetlova, Nichols, & Brownell, 2010; Warneken & Tomasello, 2007; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992).

Why is it important to improve prosocial behaviors?

- Social and emotional skill building in the early years is instrumental in fostering prosocial behavior (Spinrad & Gal, 2018), which is conducive to emotional health and successful development.
- Prosocial skills in early childhood predict key adult outcomes.
 - stronger academic outcomes
 - more stable employment in adulthood
- Singapore's unique, changing demographic landscape.
- The Ministry of Education's educational goals include character-building and social-emotional adaptability in its students.



Existing Interventions

- K to 8th grade focus has been primarily on empathy-related skills
- Measures comprise of mostly teacher-, parent-, and self-report scales and observational tools.
- Social-emotional development assessments mostly pertain to academic performance, conduct problems, and mental health risk

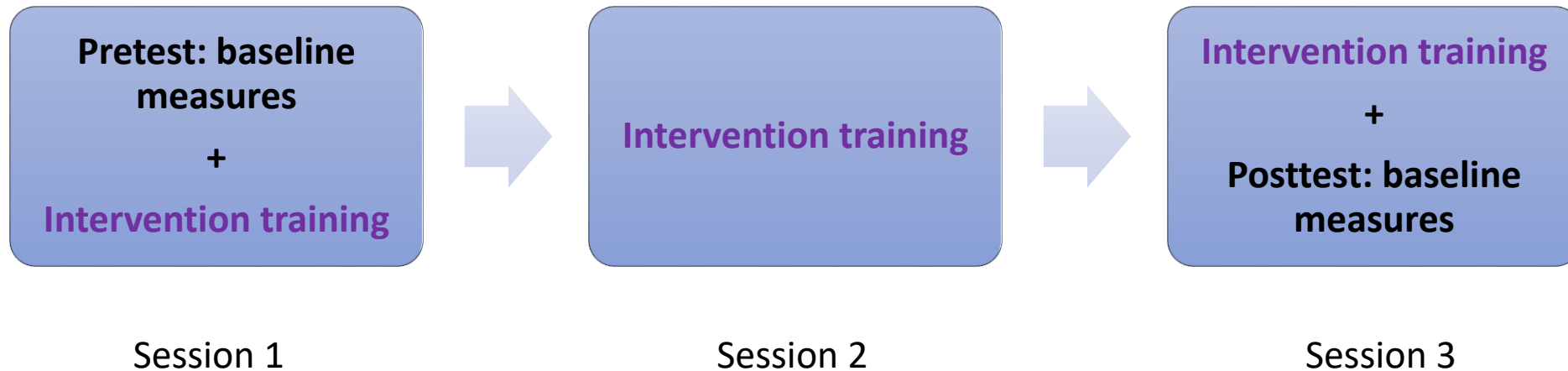
Gaps in the research

- Lack of empirical work on prosocial interventions.
- Identifying certain social-emotional competencies.
- Mechanisms of change.
- Majority of prosocial skills intervention research for preschool and Kindergarten-age children have been conducted in Western populations (Pickens, 2009; Solomon et al., 1988; Shure & Spivak, 1980; Vaughn & Ridley, 1984; Webster-Stratton, Reid, & Hammond, 2001).
- Parenting behaviors have not been tested in association with prosocial behaviors.

Research questions

- How can we improve young children's prosocial behaviors?
- Do these set of intervention strategies improve children's prosocial behaviors?
- What parenting variables and child characteristics are related to prosocial behavior?

Research design



Between-subjects for intervention type: Empathy, Story-telling, ToM

Within-subjects for multiple sessions

Methods- Participants

- $N = 74$
- 41 girls, 33 boys
- Mean age: 61 months old (5 years 1 month old)
- Age range: 36.1 -82.4 months old (3-6 years old)
- Ethnicity: 41 Chinese, 25 Malay, 7 Indian, 1 Others

Methods- Baseline measures

- **Sharing** → Sharing game (Wu & Su, 2014)
- **Sharing under social pressure** → Conformity task & Dictator game combined (Gummerum, Hanoch, Keller, Parsons, & Hummel, 2010)
- **Cooperation** → Ultimatum game (Fehr, Bernhard & Rockenbach, 2008)
- **Emotion knowledge:**
 - Emotion recognition → Emotion face recognition (Rasmussen et al., 2018)
 - Emotion understanding → Pat stories (Rasmussen et al., 2018)

Sharing Tasks

- Beads
- Stickers
- Food-cutting toys

Commenting Phase

These are so cool!



Desiring phase

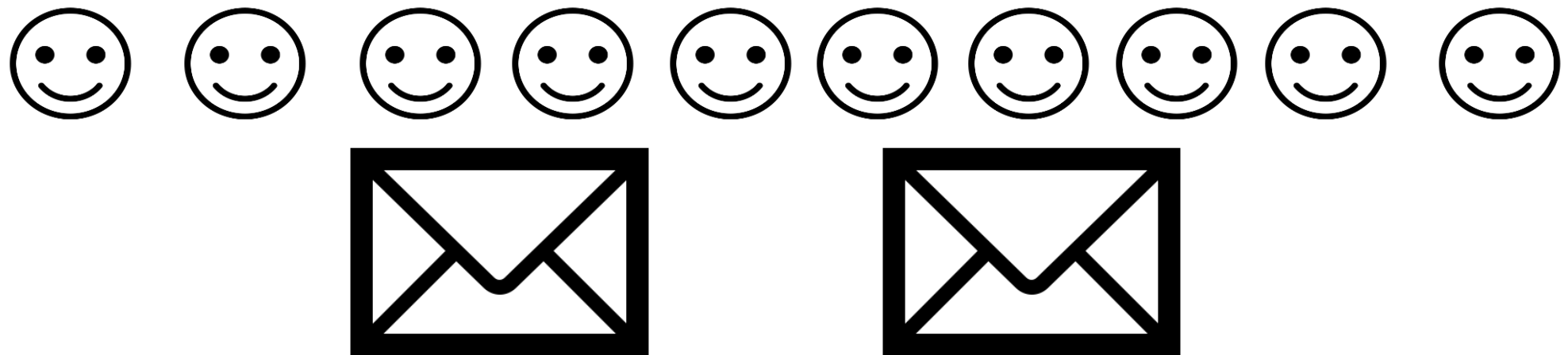
I like these toys! I have none. I want to play with them.

Requesting phase

Would you please give me some to play with?

Conformity + Dictator game

- 10 stickers
- Distribution into 2 envelopes (self vs. other kid)
- Manipulation: “Other 2 kids who played game before gave away all their stickers.”
- Distribution into 2 envelopes (self vs. other kid)





Participant's envelope



"Other" child's envelope

Methods- Emotion knowledge

- Emotion recognition

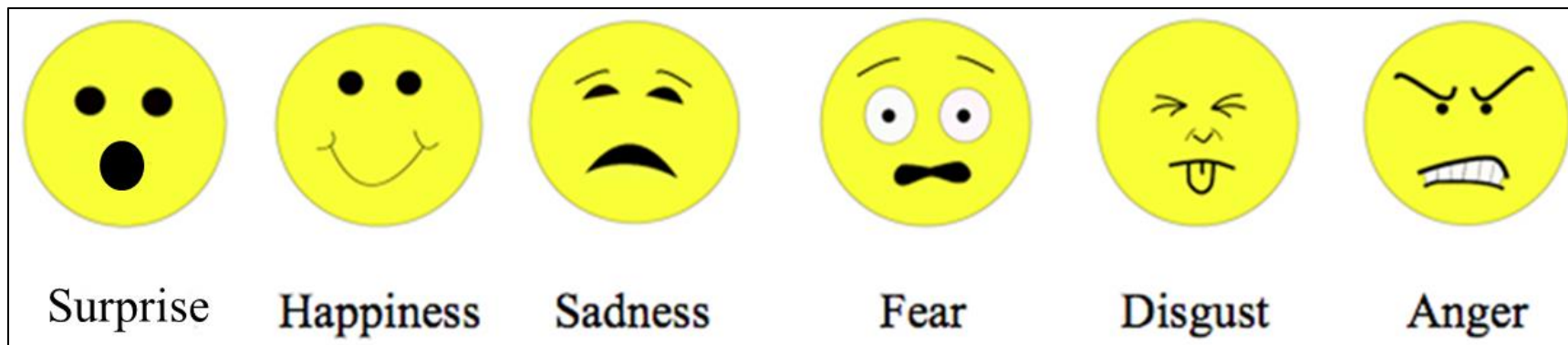
“What is this person feeling?”



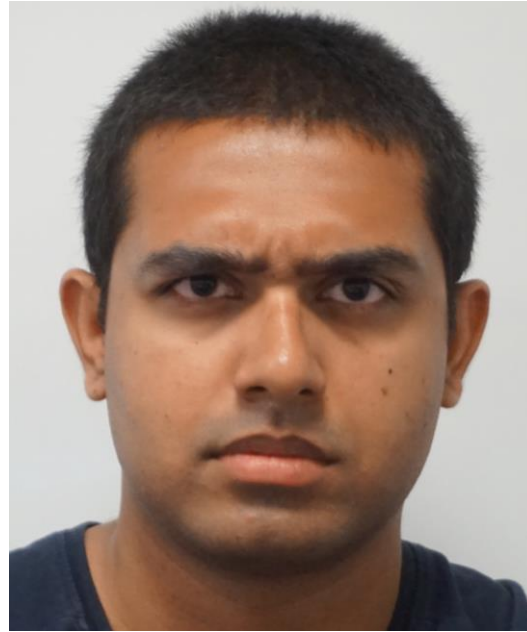
- Emotion understanding







Pat stories:

Ex) “How would Pat feel if he/she wanted a bike for her/his birthday, but he/she didn't get one?”



“What is this person feeling?”



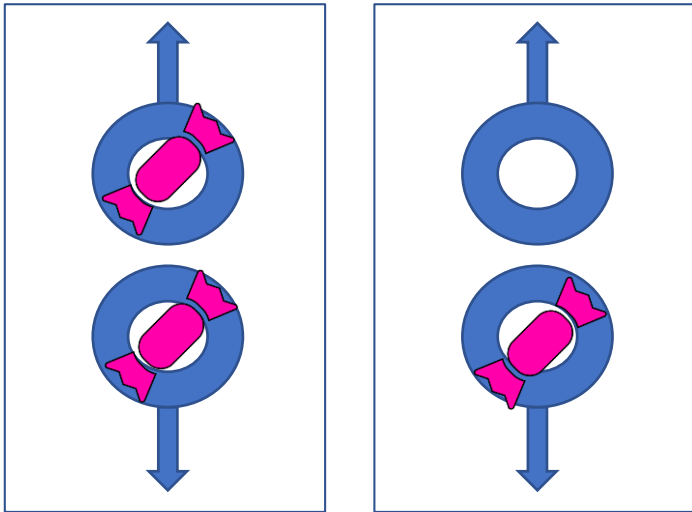
					
Surprise	Happiness	Sadness	Fear	Disgust	Anger

Cooperation Task

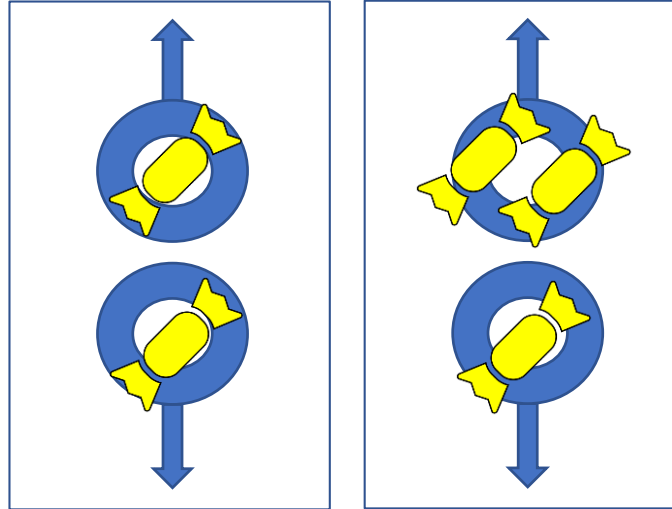
- Ultimatum game
 - Ingroup vs. outgroup



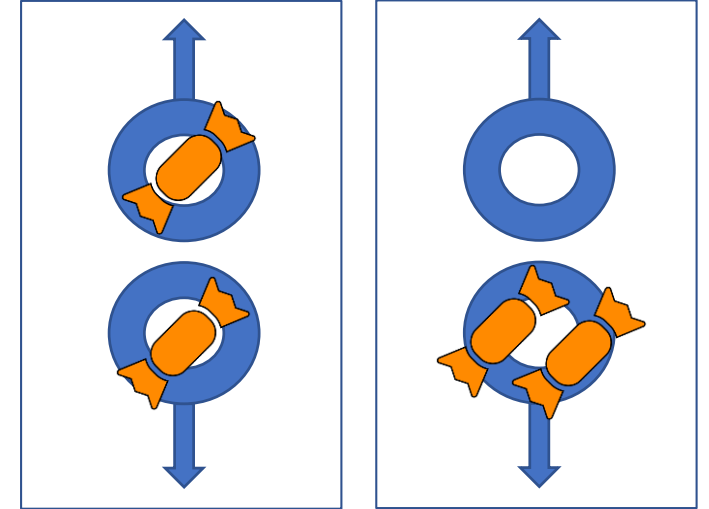
Prosocial treatment



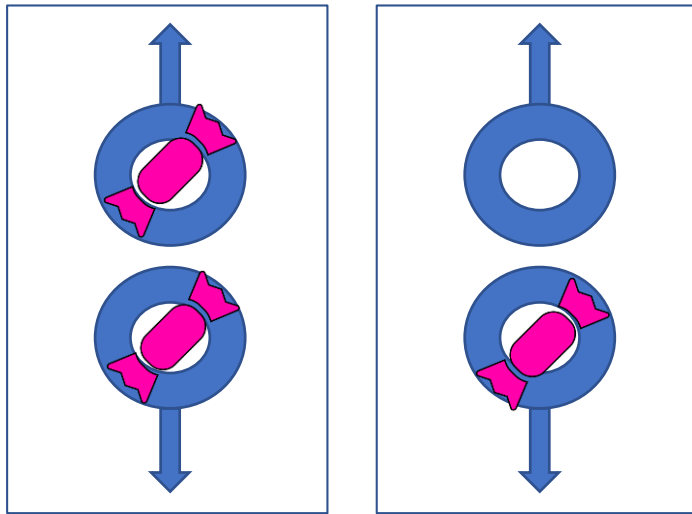
Envy treatment



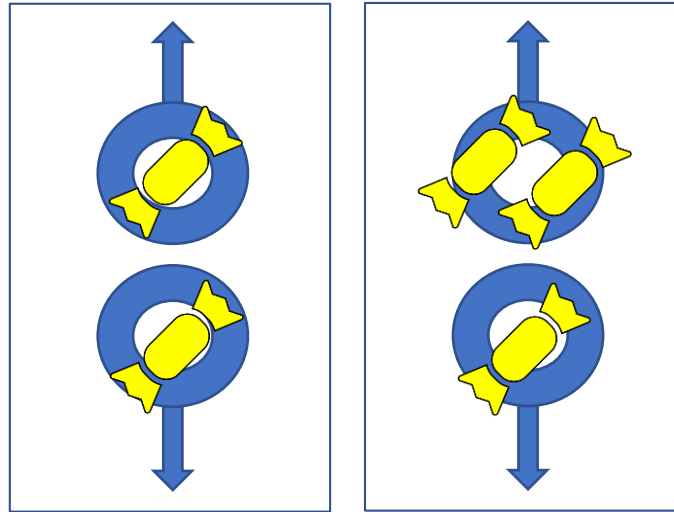
Sharing treatment



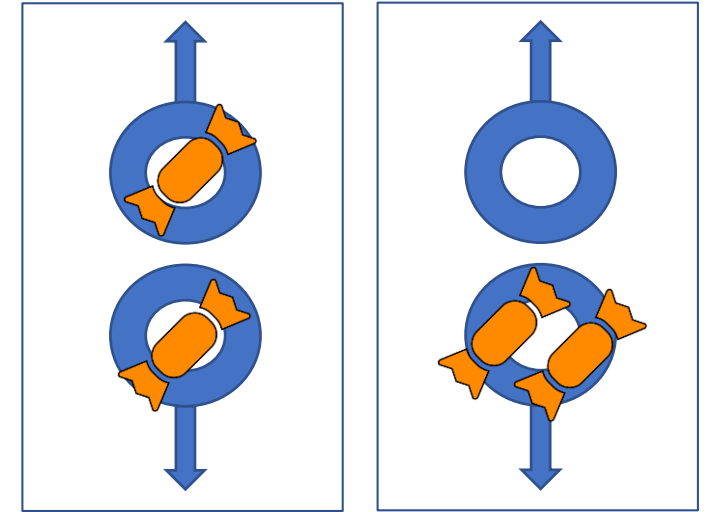
Prosocial treatment



Envy treatment



Sharing treatment



Leadership

- Experimenter: “I have here two toys. Which one would you like to play with?”
- “You can definitely play with that toy but that means Toby [puppet/other child] has to play with this other toy. Can you speak to Toby so that he feels better about playing with this other toy?”



VS.



Intervention training

- Theory of mind training: false belief tasks, appearance reality tasks (adapted by Ding et al., 2015; Gopnik & Astington, 1988; Wimer & Perner, 1983)
- Narrative training: Mental State Stories (Ding et al., 2016)
- Empathy training: Daniel Tiger Neighborhood videos (Rasmussen et al., 2018)



Parent questionnaires

- **Parental expectations of child's mature behaviors**

Maturity Demands Scale (Greenberger & Goldberger, 1989) which explores parental views on their child's mature behavior and will measure the extent to which parents expect these behavior by their children; also measures who parents raise their children. This scale should take about 10-15min to complete. It would be completed in hardcopy and returned on the spot.

- **Parent mind-mindedness**

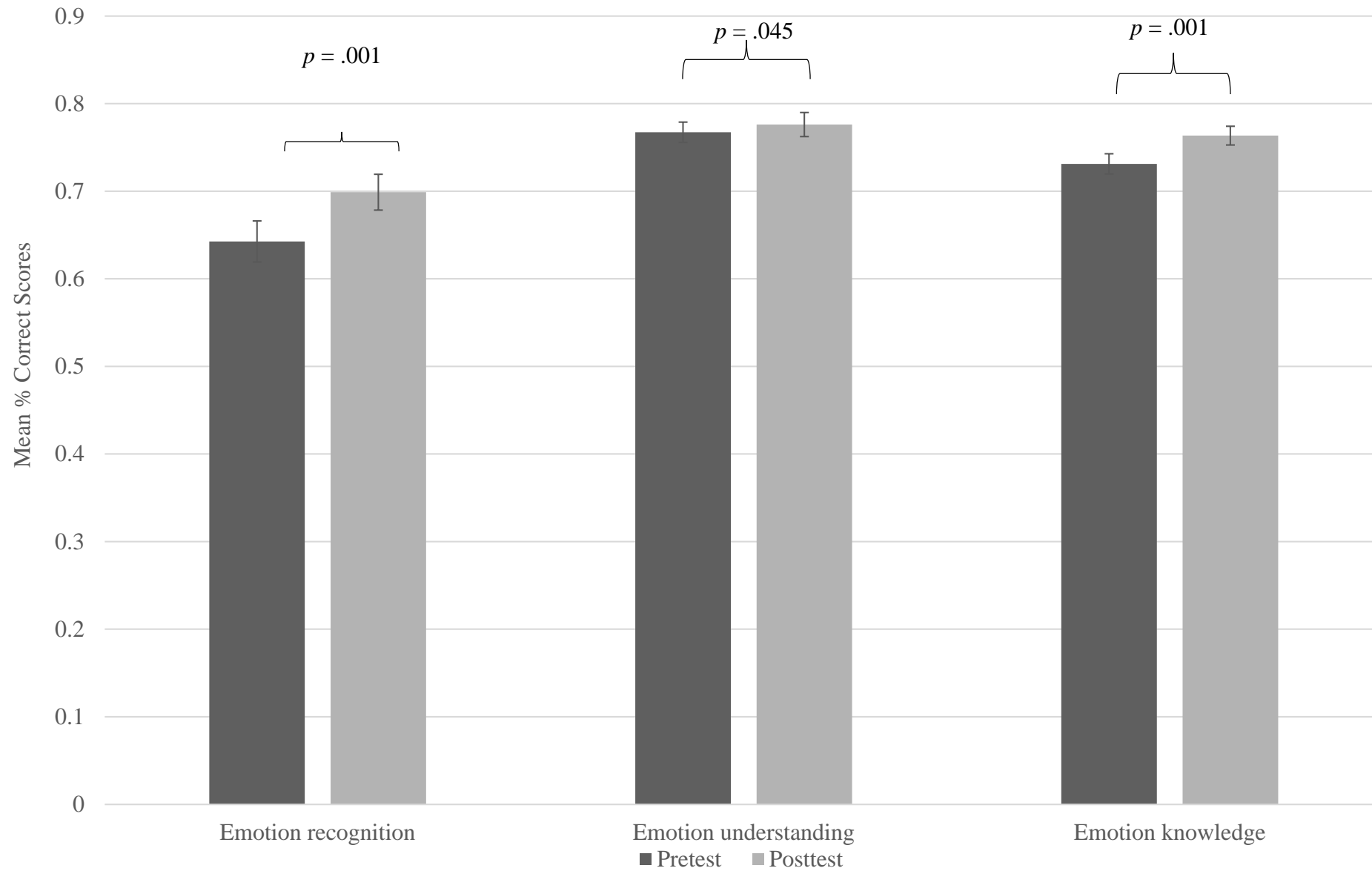
Parent mind-mindedness (Meins & Fernyhough, 2015) uses a brief 5 min interview to measure parent's tendency to view their children as mental agents (this will be conducted by experimenter during the 1st session).

- ***"I'd like to hear your thoughts and feelings about (child's name), in your own words and without my interrupting with any questions or comments. When I ask you to begin, I'd like you to speak for 5 minutes, telling me what kind of a person (child's name) is and how the two of you get along together."***

Results

- No significant differences were found with sharing under pressure (conformity-dictator game)
- No significant differences were found with the sharing game.

Pretest and Posttest Scores for Emotion Variables



Variable	M	SD	Both Genders (age)	Female (age)	Male (age)
Emotion recognition					
Pretest	.68	.12	.468***	.558**	.393
Posttest	.73	.10	.334*	.260	.457*
Emotion understanding					
Pretest	.75	.14	.280*	.415*	.380
Posttest	.77	.12	.275*	.180	.101
Emotion knowledge					
Pretest	.71	.11	.355**	.371*	.444*
Posttest	.75	.11	.401**	.472*	.285

Cooperation game

- scoring (Fehr, Bernhard & Rockenbach, 2008)

Classification of types based on individual behaviour in all three games

	Choice in			Observed frequency in % for		
	Prosocial game [(1,1) vs. (1,0)]	Envy game [(1,1) vs. (1,2)]	Sharing game [(1,1) vs. (2,0)]	3 – 4 years	5 – 6 years	7 – 8 years
strongly egalitarian	(1,1)	(1,1)	(1,1)	4.4	13.9	30.4
weakly egalitarian	(1,1)	(1,1)	(2,0)	17.4	19.4	30.4
strongly generous	(1,1)	(1,2)	(1,1)	4.3	5.6	5.4
weakly generous	(1,1)	(1,2)	(2,0)	39.1	22.2	10.7
ambiguous type	(1,0)	(1,1)	(1,1)	0.0	2.8	5.4
spiteful	(1,0)	(1,1)	(2,0)	21.7	22.2	14.3
ambiguous type	(1,0)	(1,2)	(1,1)	0.0	0.0	3.6
ambiguous type	(1,0)	(1,2)	(2,0)	13.0	13.9	0.0

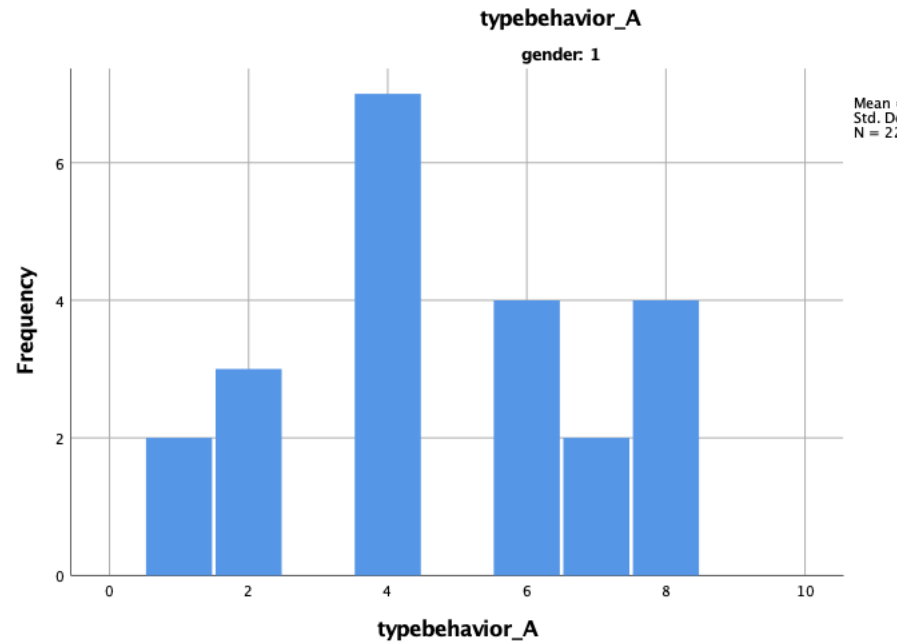
Table S1 Classification of types based on individual behaviour in all three games.

Strongly egalitarian subjects choose the egalitarian allocation in all three games, that is, even when it is costly to share. **Weakly egalitarian** subjects choose the egalitarian allocation only in the prosocial and the envy game but not when it is costly to share.

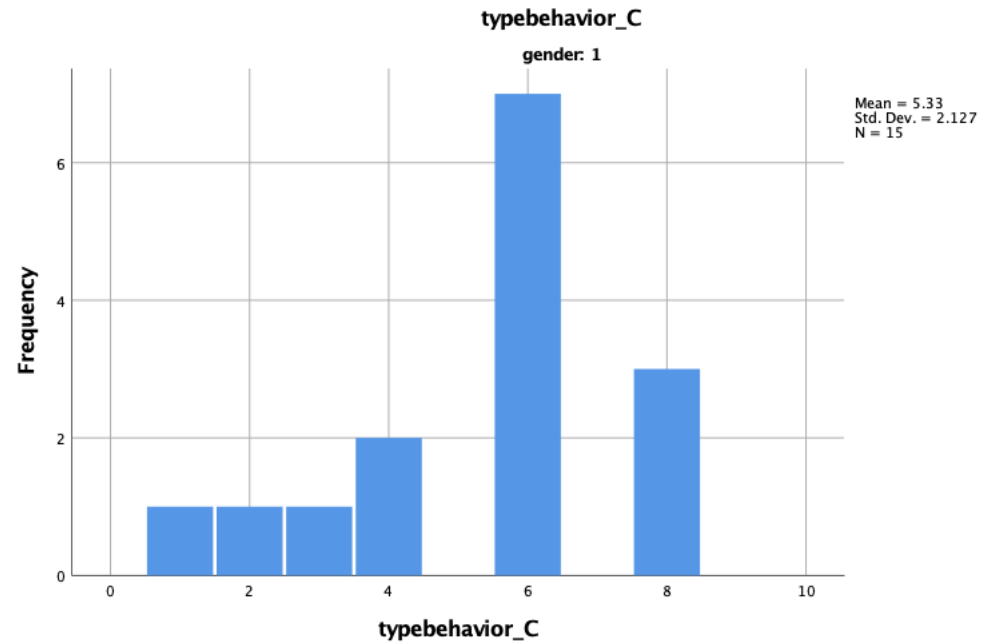
Strongly generous subjects always preferred the allocation that increased the partner's payoff, that is, even in the sharing game. **Weakly generous** subjects only increase the partner's payoff if it is not costly, that is, only in the prosocial and envy game. **Spiteful** subjects are those who consistently preferred the allocation that gave the partner the lowest possible income.

Cooperation game by gender (female)

Pretest



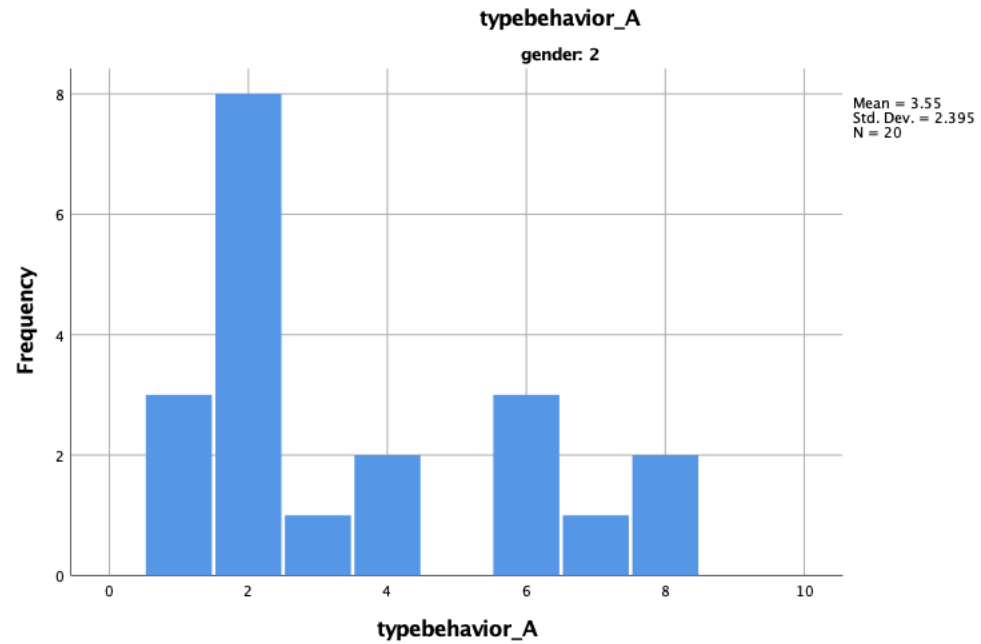
Posttest



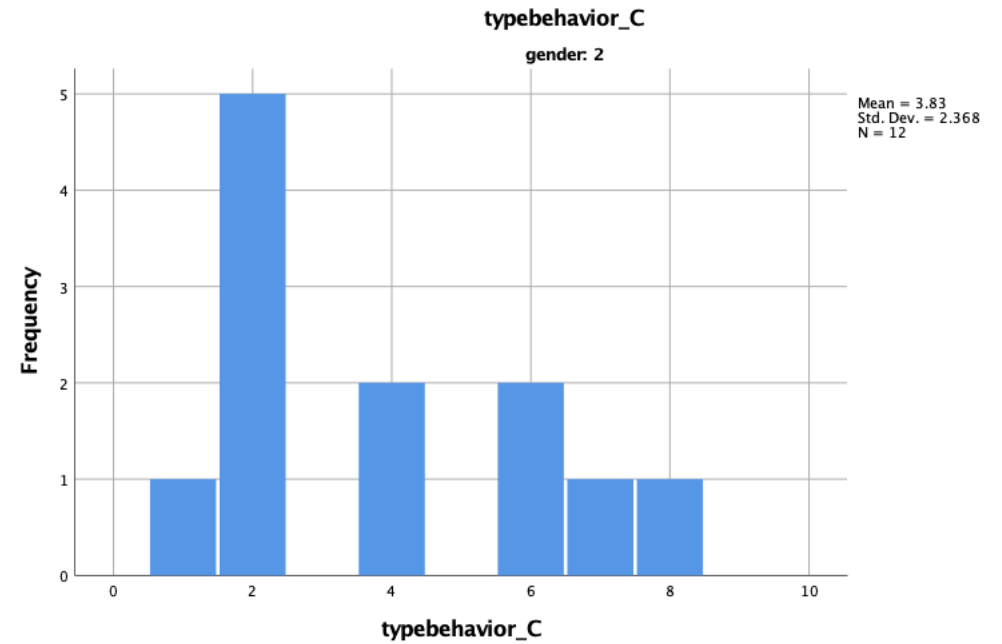
- 1= strongly egalitarian
- 2= weakly egalitarian
- 3= strongly generous
- 4= weakly generous
- 5= ambiguous type
- 6= spiteful
- 7= ambiguous type
- 8= ambiguous type

Cooperation game by gender (male)

Pretest

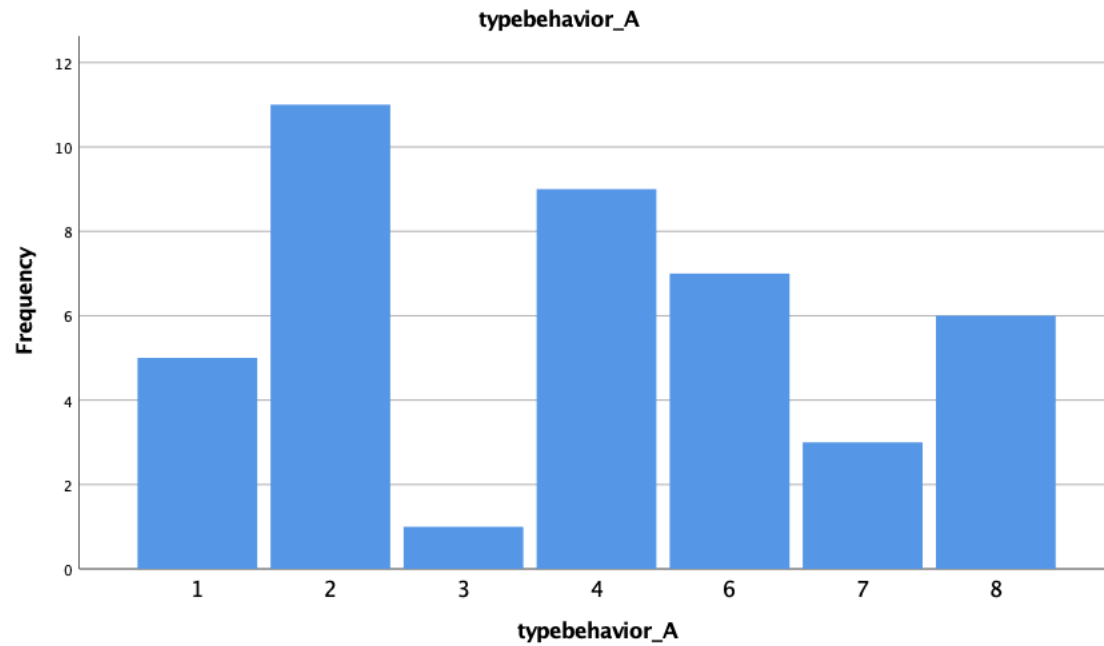


Posttest

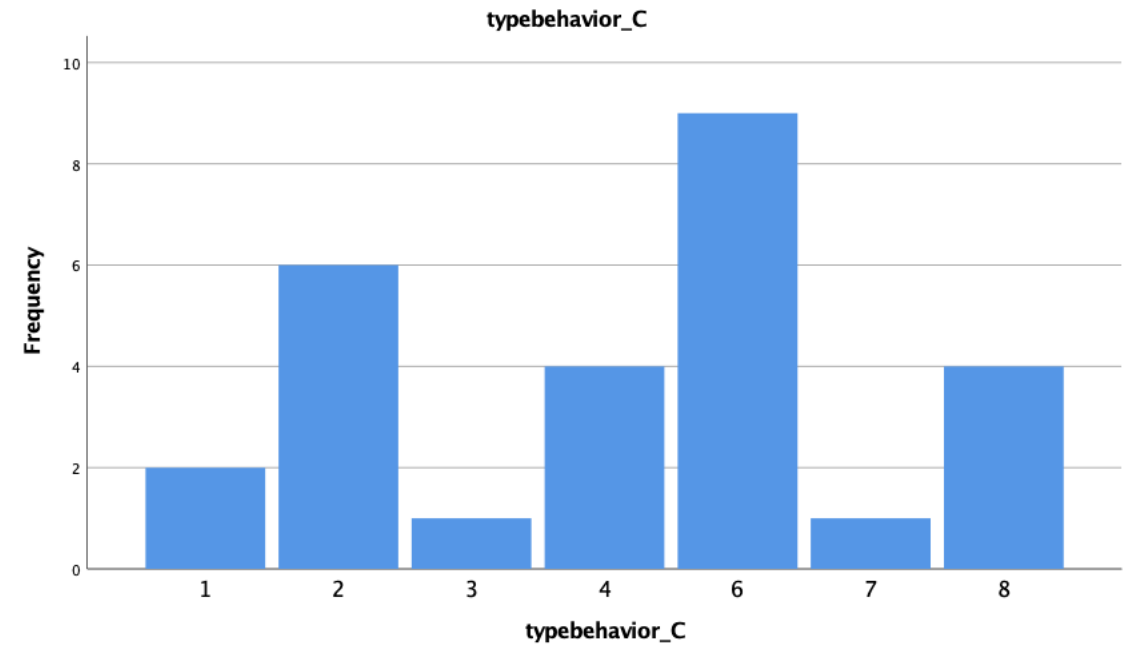


Cooperation: ingroup

Pretest

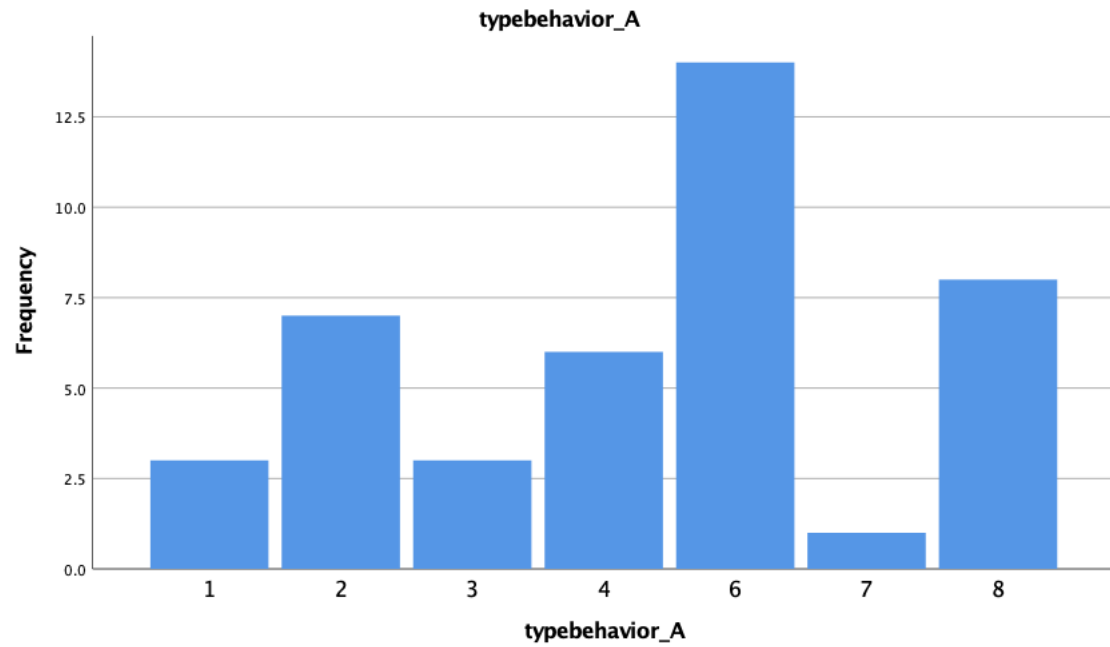


Pottest

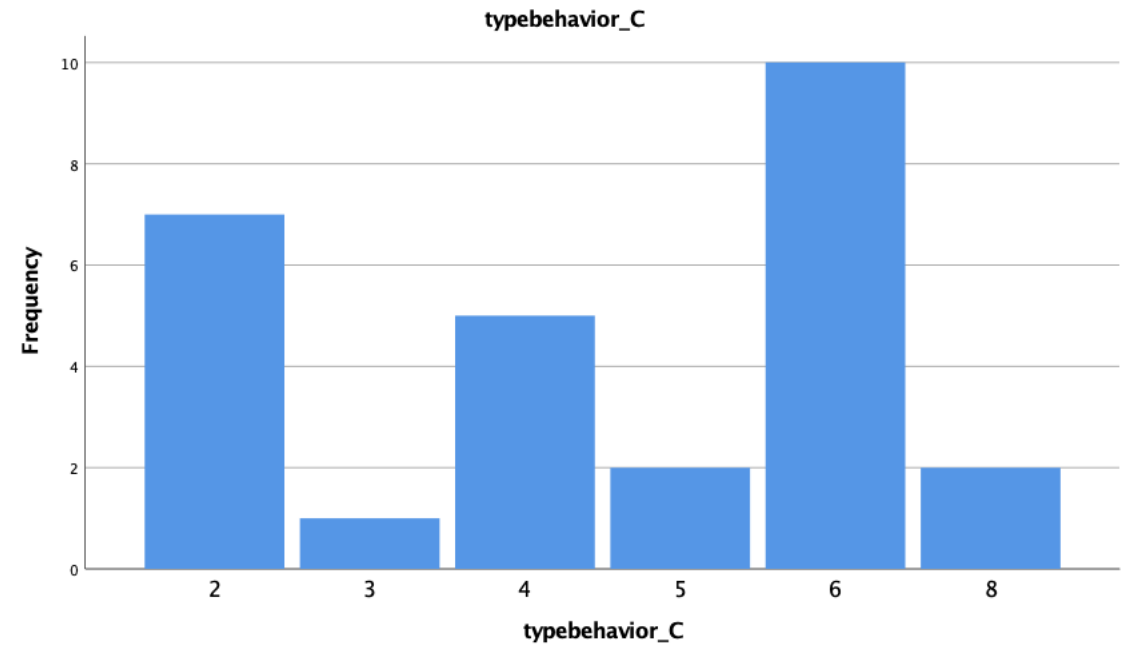


Cooperation: outgroup

Pretest



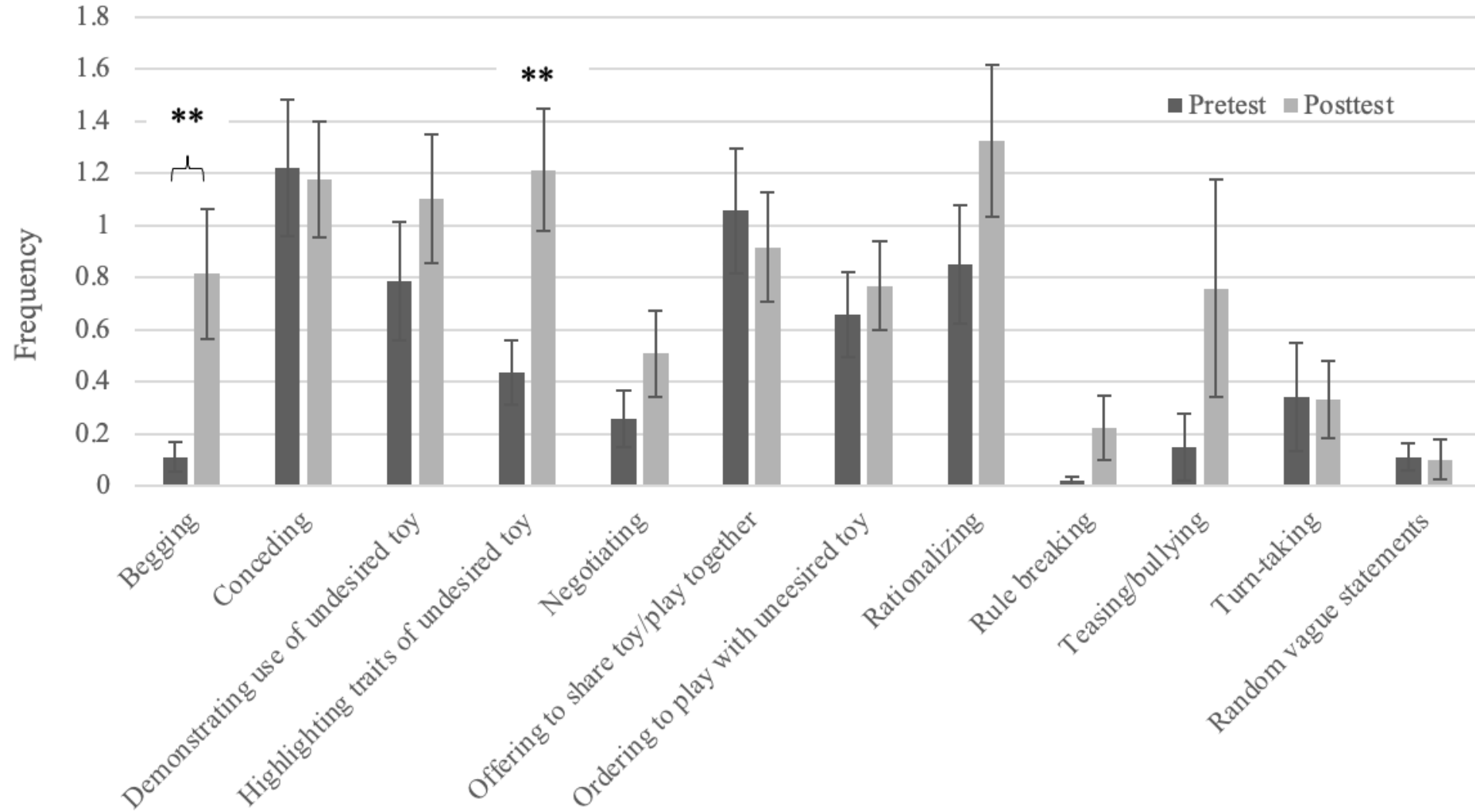
Posttest



Leadership game- data-driven analyses

- Microcodes: offering to share toy/play together, highlighting traits of undesired toy, demonstrating use of undesired toy, teasing/bullying puppet, ordering puppet to play with undesired toy, rationalizing with puppet, giving up desired toy, negotiating, turn-taking, rule-breaking, begging, and random vague statements.
- Macrocodes: passive/internalizing leader, rationalizing/pragmatic/didactic leader, deceptive leader, and authoritative/ aggressive leader

Leadership Behaviors



Note. ** $p < .05$, * $p < .10$.

Future analyses/studies

- Online training sessions
- Parent mind-mindedness
- Parent SES and ToM
- Neuroscience (EEG) correlations

Thank you!

- Everyone for listening!
- Thank you to Professor Rongjun Yu, Professor Jean Yeung, Dr. Nastassja Fischer, Nawal Hashim
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Image sources for this presentation

- <http://summitcounseling.org/blog/how-to-encourage-social-skills-with-your-children/>
- <https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.moneycrashers.com%2Fteach-kids-build-develop-good-character-benefits%2F&psig=AOvVaw3j8rC0iOq8y-vYFWjYuH89&ust=1581148793315000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCIC3n7f8vucCFQAAAAAdAAAAABAD>
- https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.verywellfamily.com%2Ftypes-of-play-2764587&psig=AOvVaw3SvQQLeOXwlnEFG_oMCOk_&ust=1581148850859000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCOj199n8vucCFQAAAAAdAAAAABAE
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