

Prosocial behavior of 4-6 year old children with peers

Natural observation in Japanese nursery school

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1. Purpose of this study

■ To clarify the development of prosocial behavior of preschoolers

- ◆ Understanding the development of prosocial behavior is important to clarify the development of social competence, empathy, perspective talking, and so on.
- ◆ According to previous research, individual differences on prosocial development are seen clearly among preschoolers, especially 4–5 year old children.
- ◆ Those previous researches have mainly used questionnaire or laboratory experimental observation.
- ◆ In this study, using natural observation method, I try to reveal *When* (in what condition) the preschooler act prosocially and when they don't, and *Who* is more/less prosocial.
- ◆ To explain the individual differences, I considered the relation between the observed and internal representation parameters scored with MacArthur Story Stem Battery (MSSB), the projection method in which children make stories using dolls and crops.

2. Method

- Sample: 15 preschoolers in a class of 4 year olds (at the start of this study) in a nursery in Japan; 10 girls and 5 boys
- Period of the study: September 2015 to August 2016 (1 year)
- Method:①**Natural observation** for 20 minutes × 18–20 files per child
Coding the occurrence and kind of prosocial behavior (presence of emotional expression by the child receiving help), success of prosocial behavior, and caregivers' participation.
- ②**MacArthur Story Stem Battery(MSSB)**: Picking up 7 stories from the MSSB manual (Emde, Wolf, & Oppenheim, 2003), the stories which include attachment as the theme of story stem, I experimented MSSB short version according to the manual with each child. After at least 6 months later, I experimented again. The scoring is done using The Narrative Coding Manual, Tennessee version (Robinson, Mantz-Simmon, & Macfie, 2009).

3. Result (Nonparametric test & Spearman's rank order correlation)

Adjust the observation parameters

- ◆ The children were involved in some different scenes everyday and I couldn't control the amount of time of each scene they involved. **In free play scene, prosocial behavior frequency is the highest through all periods.** To extract the individual parameter of each child, I compiled dividing those natural scene into the 4 scenes; unison activity (ex. class meeting), life activity (ex. eating, dressed), free play, and waiting for next activity. I counted prosocial behavior frequency, the rate of success and so on per each scene, then take average among the 4 scenes.
- ◆ As this study took 1 year, I divided the data in 4 periods (3 months each). However, probably the data was inadequate; there was neither significant consistency nor patterns of dynamics through the periods; hence time I took the average throughout the year.

Spearman's rank order correlation

	prosocial behavior frequency (per 600 seconds) respond to negative emotion	increase in the prosocial behavior frequency (4th period - 1st period)	rate of success	MSSB theme: mastery	MSSB theme: physical aggression	MSSB theme: non-compliance	MSSB theme: empathy/help from parent	MSSB theme: empathy/help from sibling	MSSB theme: escalation of conflict	MSSB theme: affection	MSSB theme: reparation	MSSB theme: atypical response (neutral)	MSSB theme: atypical response (negative)	MSSB mother representation (positive)	MSSB mother representation (negative)	MSSB father representation (negative)	MSSB child representation (negative)	MSSB grandiose child power	MSSB mother-child relationship expectation	MSSB father-child relationship expectation	MSSB performance (control behavior)	MSSB performance (narrative coherence)
prosocial behavior frequency (per 600 seconds)	0.314	-0.268	.525*	0.323	-.630*	0.142	0.455	-0.289	-0.309	.656**	0.210	-.717**	-0.492	.614*	-.645**	-.698**	-.552*	-.752**	.580*	.711**	-0.397	0.202
prosocial behavior frequency (per 600 seconds) as response to negative emotion		-0.321	-0.307	.517*	0.026	0.433	-0.013	0.244	0.231	0.090	0.026	0.011	0.200	-0.011	-0.341	-0.123	0.209	0.047	0.095	0.233	0.251	0.243
increase in the prosocial behavior frequency (4th period - 1st period)			0.118	-0.229	-0.081	-.648**	-0.098	-0.363	-0.157	0.079	0.331	-0.069	-0.251	-0.286	0.120	0.028	0.014	-0.177	-0.158	-0.349	0.045	-0.374
rate of success				0.018	-.575*	-0.397	0.201	-.630*	-.581*	.594*	0.151	-0.473	-0.498	0.502	-0.184	-0.297	-.666**	-.618*	0.469	0.290	-.563*	0.152

* $p < .05$, ** $p < .01$

Positive correlation

- ◆ Prosocial behavior frequency and rate of success (.525*)
- ◆ Prosocial behavior frequency and MSSB **affection, positive mother representation, mother/father-child relation expectation**
- ◆ Prosocial behavior frequency as a response to negative emotion expression and MSSB **mastery**
- ◆ Rate of success and MSSB **affection**

Negative correlation

- ◆ Prosocial behavior frequency and MSSB **physical aggression, atypical response (neutral), negative mother/father/child representation, grandiose child power**
- ◆ Increase in the prosocial behavior frequency and MSSB **non-compliance**
- ◆ Rate of success and MSSB **physical aggression, empathy/help from sibling, escalation of conflict, grandiose child power, control behavior.**

4. Discussion

■ Positive correlation between prosocial behavior frequency and rate of success

- ◆ The children who do prosocial behavior more frequently can do it effectively. In contrast, the children who scarcely act prosocial behavior often fail to do it effectively. It suggests that, if we consider any intervention to promote the development prosocial behavior, the intervention for the children who often fails to act effective prosocial behavior to peers and who rarely act prosocial behavior to peers.
- ◆ The possible intervention would be the one that supports the effort to act prosocial behavior by the children who are poor to act effectively. For example, caregivers can recognize the children's effort and verbalized it to make other children accept the child's prosocial intent.

■ Correlation between observation parameters and internal representation (MSSB scores) parameters

- ◆ Prosocial behavior frequency correlates positively with relatively warm internal representations, such as affection, positive mother representation, and positive relation expectation and correlates negatively with relatively negative internal representations. It suggests that the children who rarely behave prosocially with peers also tend to have negative representations.
- ◆ MSSB can also be used to screen the children who have difficulty in engaging in prosocial behavior with peers.
- ◆ The result also suggests that we may support children's development of prosocial behavior not only through ethological intervention (reinforcement or teaching how to behave directly), but also by approaching their internal representation (for example, building relationship of trust with caregivers).