

Transmitting the environmental norm from parents to children: 3 years longitudinal survey

Kaori Ando, Kayo Yorifuji, Susumu
Ohnuma & Junkichi Sugiura



Aim of the study

- ◆ We examined the changes in children's environmental behaviors and influence from parents by a three-year longitudinal study.
- ◆ Studies on children's environmental behavior are few compared to adults' behaviors.

Observational learning

- ◆ Social learning theory (Bandura, 1977)
 - ◆ Children acquire new behaviors through observational learning
- ◆ For environmental behaviors which are performed at home, parental influences are expected to be most relevant.
- ◆ Yorifuji (2003) Parents' behavior had the strongest effects on children's behavior.

Internalization of Social Norms

- ◆ The current study focuses on the role of **subjective norm** and **personal norm**.
 - ◆ Subjective norm: Expectations from significant others (Fishbein & Ajzen, 1975)
 - ◆ Personal norm: a feeling of moral obligation that one should conduct the behavior (Schwartz, 1977)
- ◆ Differences between children and adults
 - ◆ Children have not established environmental personal yet. Thus children are more likely to be influenced by others, particularly by their parents.
- ◆ Changes by years
 - ◆ As children get older, the effect of subjective norm will be smaller while the role of personal norm become bigger (more similar to adults' model).
 - ◆ Subjective norm would be internalized as personal norm.

Hypotheses

- ◆ 1. Children are **more sensitive** to subjective norms than adults.
- ◆ 2. As year passes, children have less effect from subjective norms and larger effect from personal norms.



Method

- The survey was conducted through 2007 to 2009 in elementary schools in Nagoya, Japan with one year interval.
- Distributed questionnaires for students of 3 – 6 grades and one of their parents.
 - ♦ The questionnaires were distributed to all the students in that grade, which allowed us to track the same population.
- The matched data were used for the following analysis.

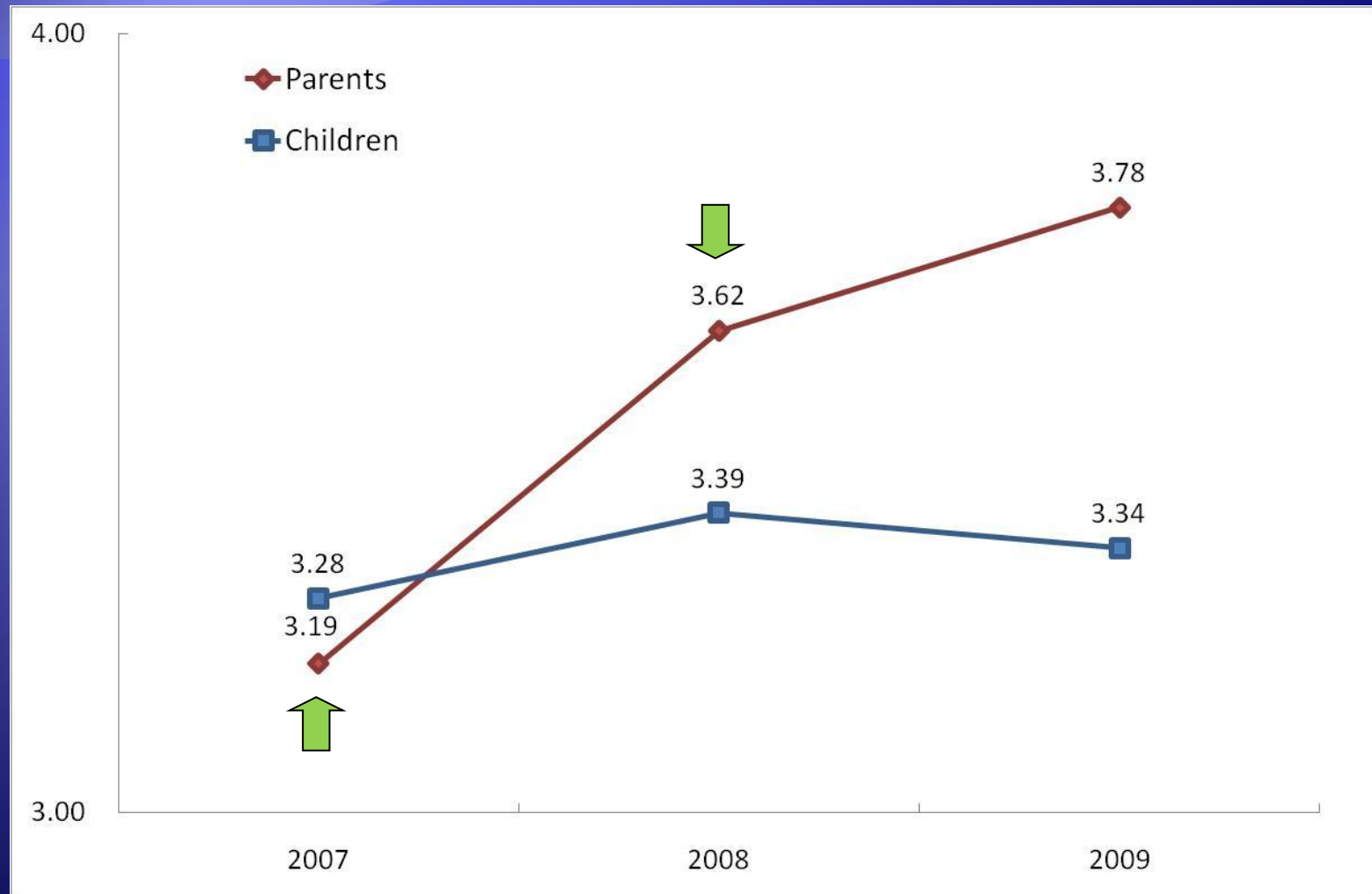
Respondents

Year	Respondents	Valid answers (valid response rate)
2007	Children of 3 rd and 4 th grade(age: 9-10) + one of the parents	214pairs (73.5%)
2008	Children of 4 th and 5 th grade(age: 10-11) + one of the parents	222pairs (76.6%)
2009	Children of 5 th and 6 th grade(age: 11-12) + one of the parents	225pairs (75.3%)

Questionnaires

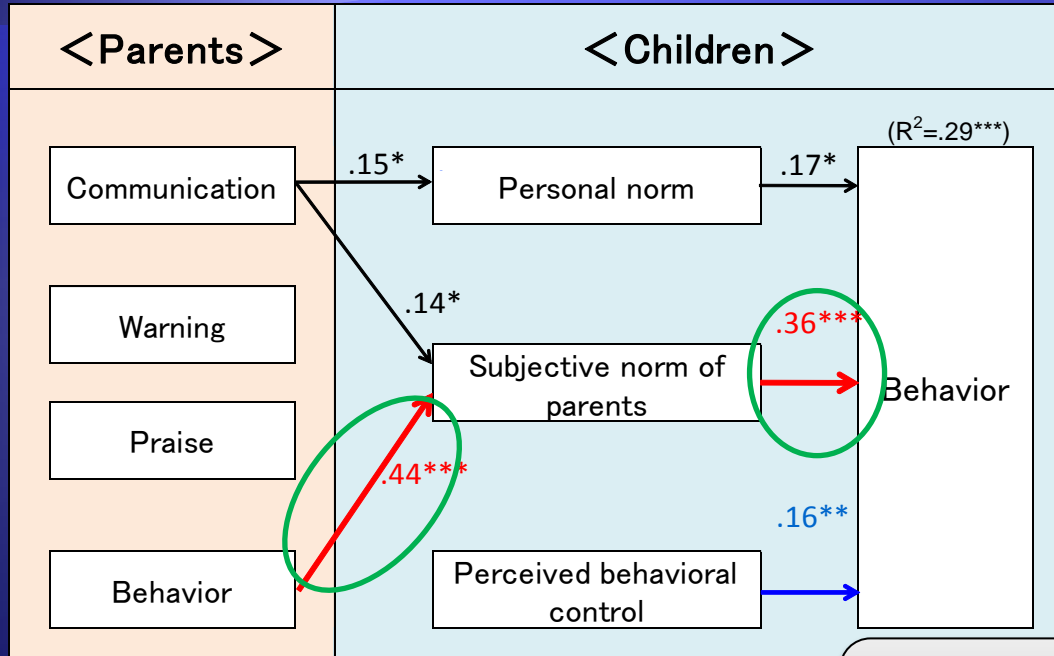
- ◆ Behavioral measures (2 items: **assort used paper**)
 - ◆ Ex. I separate used paper.
- ◆ Cognitive variables
 - ◆ **Personal norm** (2 items)
 - ◆ I feel I am obliged to assort used paper for the sake of environment.
 - ◆ **Subjective norm** (parent: 1 item, children: 2 item)
 - ◆ My parents want me to separate used paper.
 - ◆ **Perceived Behavioral Control** (1 item)
 - ◆ It is difficult for me to keep used paper to bring it for collection of recyclables.
- ◆ Approach from parents
 - ◆ **Environmental communication**
 - ◆ I talk with my child about the bad consequences of using too much paper.
 - ◆ Explicit sanction (warning/praise)
 - ◆ **Warn** (2 items): I warn my child to separate used paper.
 - ◆ **Praise** (2 items) I praise my child if he / she keeps used paper to bring it for collection of recyclables.

Result: Changes in means of assorting behavior

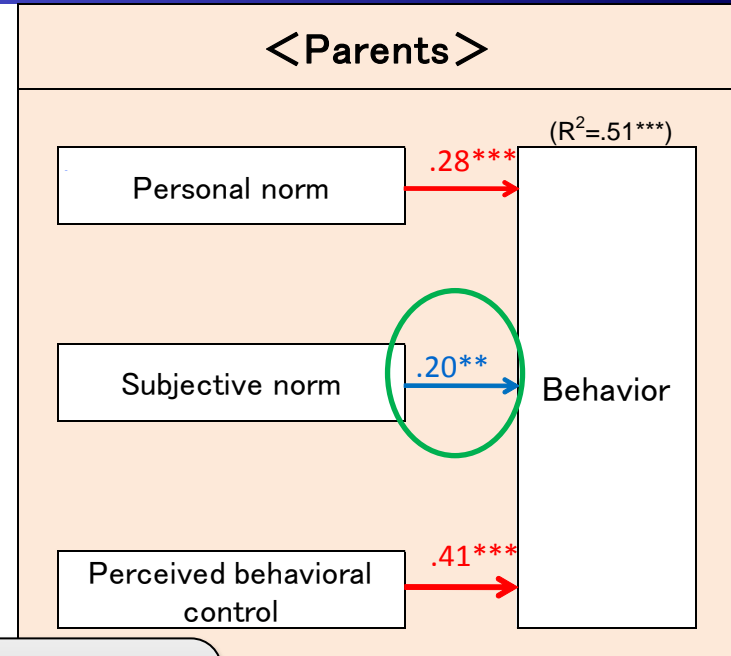


Results of regression analysis (2007: 9-10 years)

Children's behavior



Parents' behavior



Parents' behavior had the strongest effect on subjective norm

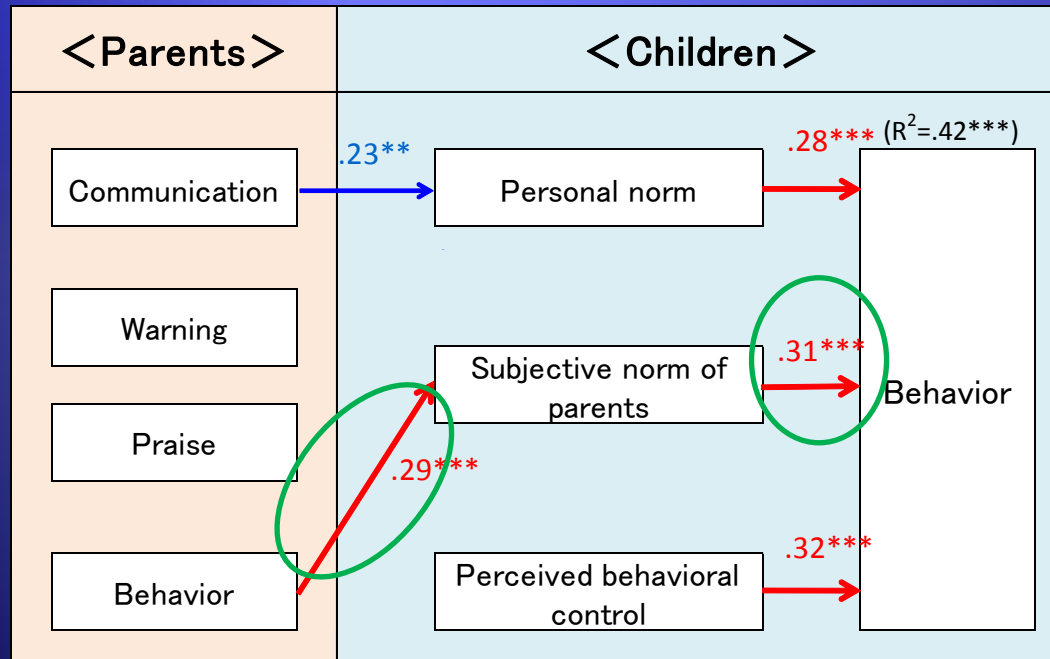
The effect of S.N. was stronger for children

*** $p < .001$, ** $p < .01$, * $p < .05$

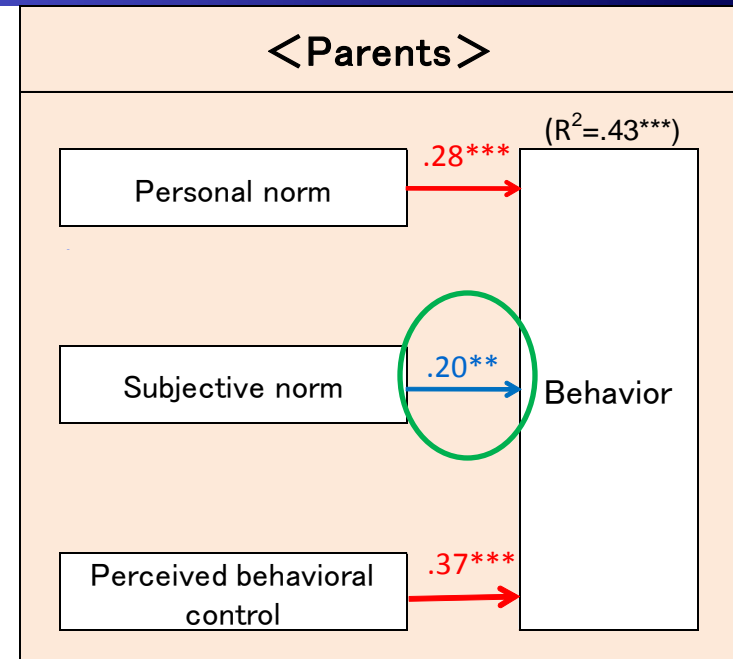
S.N. was the strongest determinant of behavior.

Results of regression analysis (2008: 10-11 years)

Children's behavior



Parents' behavior



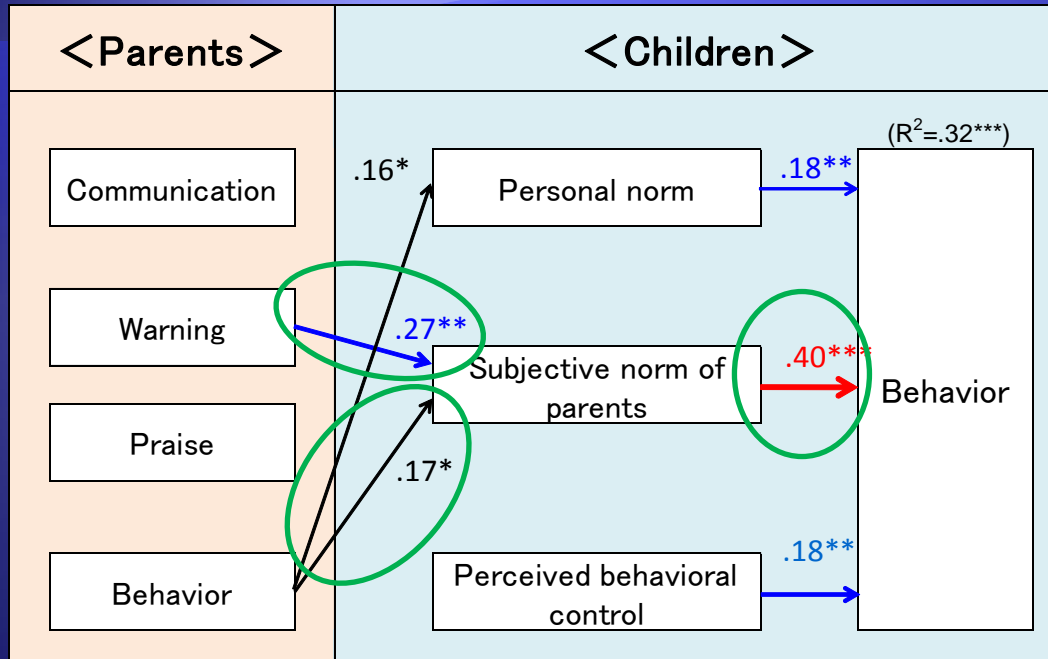
*** $p < .001$, ** $p < .01$, * $p < .05$

The effect of parents' behavior is weaker, but still have important role

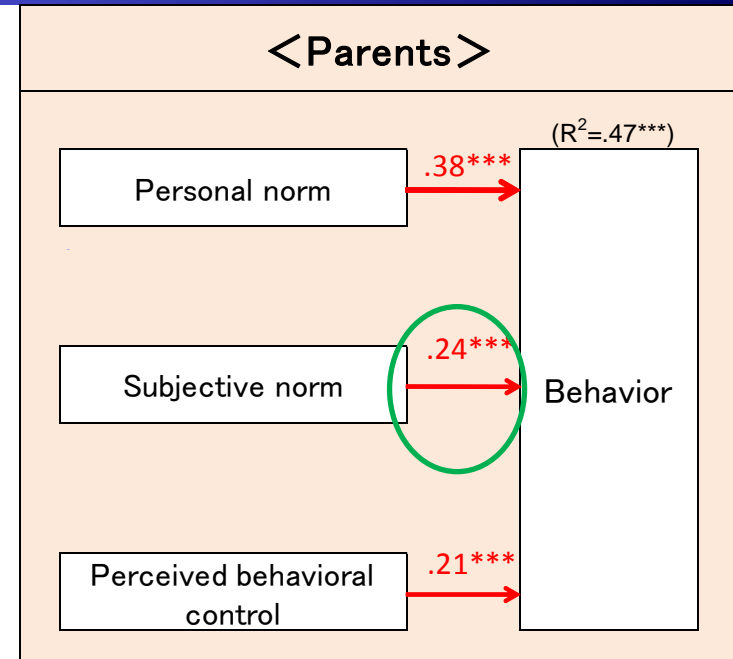
The effect of S.N. was stronger for children

Results of regression analysis (2009: 11-12 years)

Children's behavior



Parents' behavior



*** $p < .001$, ** $p < .01$, * $p < .05$

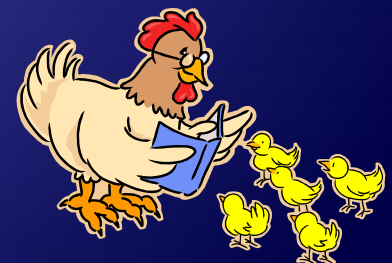
The effect of Parents' behavior was weaker

Warning had effects on S.N.

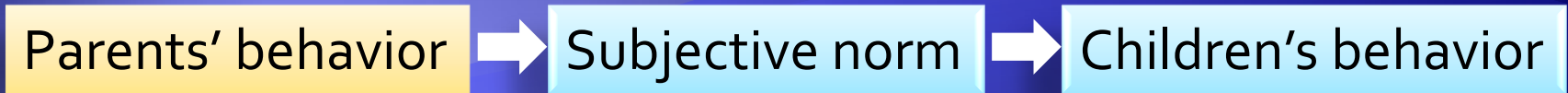
The effect of S.N. was stronger for children

Discussion

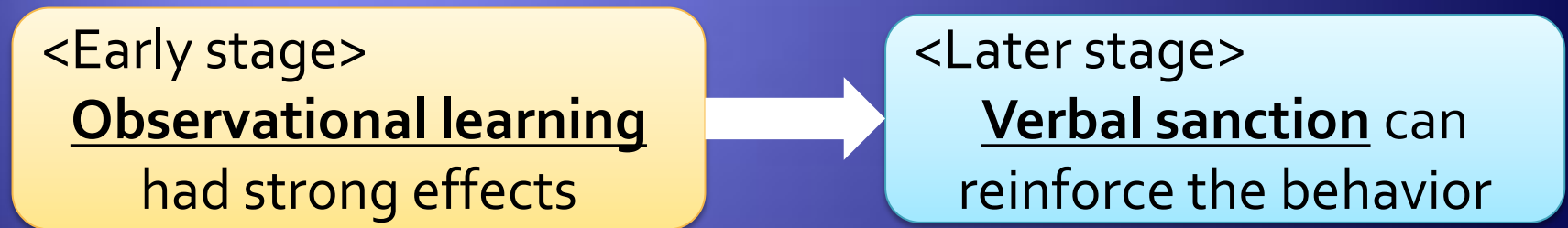
- ◆ Differences between children and adults' model
 - ◆ Children were more likely to be affected by subjective norm (Hypothesis 1 was supported).
 - ◆ Children were more sensitive to others' expectations.
 - ◆ Influence of the norm of the society is not tested yet. Social norm may also have larger effects for children.



- ♦ Observation of parents' behavior had consistent effects through 3 years



- ♦ As the year passes, the influence of parents' behavior got smaller



- ♦ The effect of subjective norm and personal norm on behavior did not show constant change ->Hypothesis 2 was not supported

- ◆ Parents' assorting behavior has increased from 2007 to 2008
 - ◆ It could be the effect of survey itself

Answer to
questionnaires

- Rethink their behaviors



Obtain
feedback

- Know other's attitudes and behaviors concerning paper recycling
- Get knowledge on how to recycle papers

Increase
feasibility

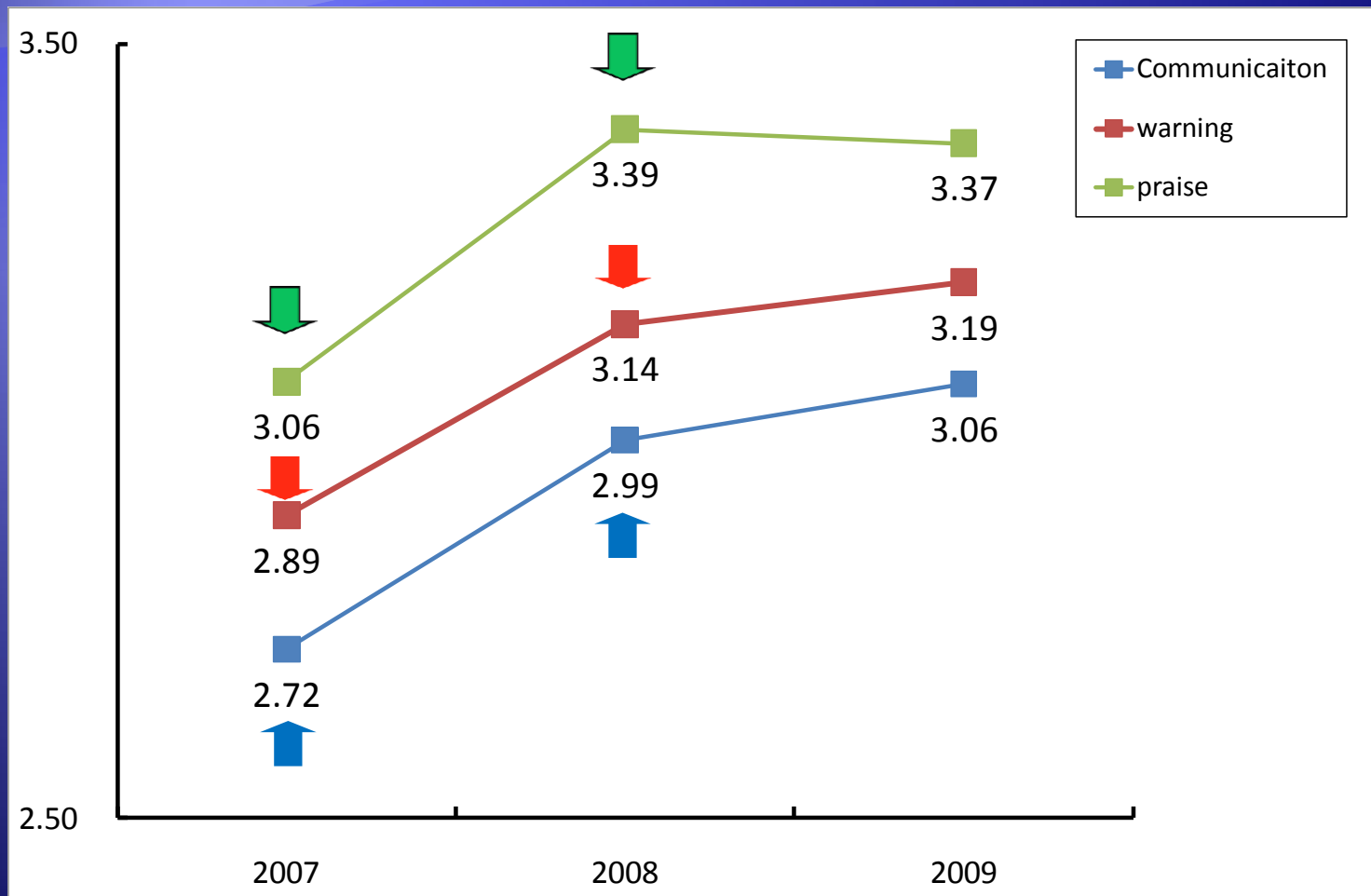
- Parents' assorting behavior has increased



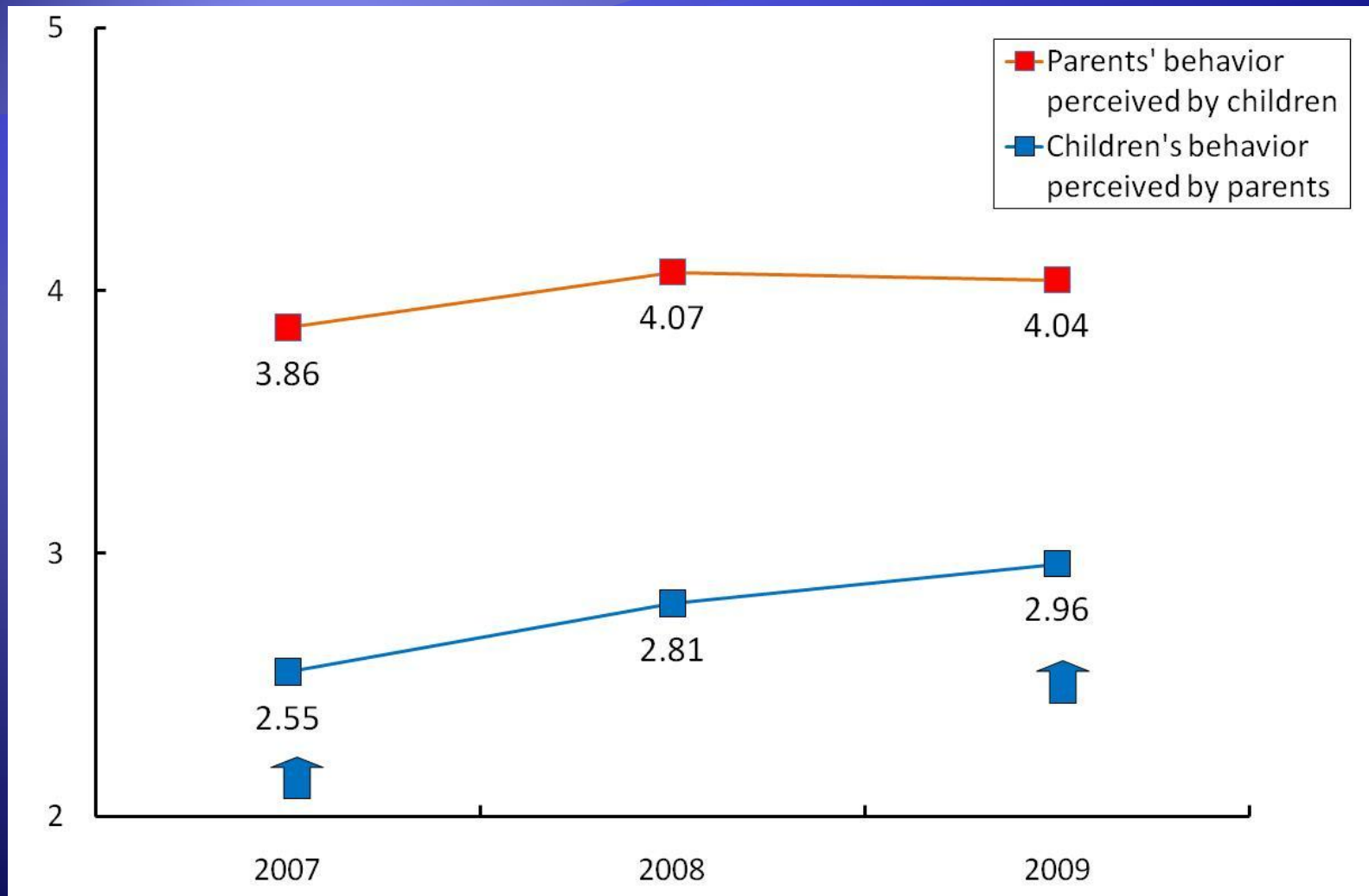
Thank you for your attention!!



Communication and direct sanctions from parents



Perceived behavior



Correlation between subjective norm and personal norm (children)

