

Parent-guided action facilitates infants' learning about physical events: A cross-cultural study

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Research Questions

What is the role of parental guidance on knowledge acquisition in infancy?

1. In a teaching context, do parents from different cultural communities interact with their infants in different ways?
2. If so, how does it impact infants' learning about physical events?

Background

- Parent-infant interactions are cultural; socialization goals of the larger community are reflected in parental behavior.

(e.g., Chao, 1995; Chavajay & Rogoff, 1999; Rogoff, 2003)

Group	Emphases
Euro-American	freedom, exploration, ...
Chinese	guidance, obedience, ...

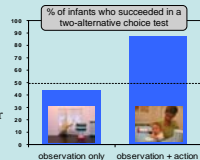
- Infants identify variables that are relevant for predicting the outcomes of physical events.

(e.g., Luo & Baillargeon, 2005; Wang, Baillargeon, & Paterson, 2005)

9 months: identify height as relevant for covering events by watching two or three pairs of staged events in the lab



- Infants learn by observation and action; interaction with a live person can facilitate this learning.



9 months: after watching one pair of covering events demonstrated as staged events (left bar) or in parent-infant interactions (right bar)

(e.g., Kuhl, Tsao, & Liu, 2003; Wang & Baillargeon, in press; Wang & Köhne, 2007; Wilcox, Wood, Chapa, & McCurry, 2007)

Specific Goals

- Compare Euro-American and Taiwanese parental behavior and infant responses in a teaching context
- Examine the effect of teacher identity
- Explore the effect of action quality

Participants

Parent-infant dyads, $n = 16$ in each condition

Infants' mean age = 9 months, 1 day

- Euro-American dyads: in either *parent* or *stranger* condition
- Taiwanese dyads: in either *parent* or *parent-reminder* condition

Procedure

Teaching Phase

During a 3-min session, either the infant's parent (*parent* condition) or an undergraduate research assistant (*stranger* condition) was told to:



1. lower each cover over an object and then lift the cover;
2. alternately use each cover; and
3. allow the infant to play with stimuli.

Parent-reminder condition:

Parents were reminded not to interrupt infants' action.



Test Phase

1. An experimenter picked up one cover and used it to hide the top 1 cm of the toy; she then repeated the same action with the other cover.
2. The experimenter placed a screen in front of the stimuli and hid the toy. When the screen was removed, only the covers were present.
3. The experimenter slid the covers toward the infant. Coders determined which cover the infant chose.



Results

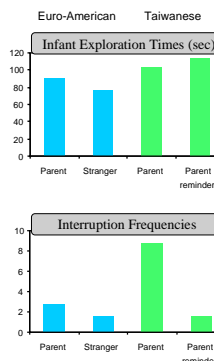
Teaching Phase

Two independent coders coded:

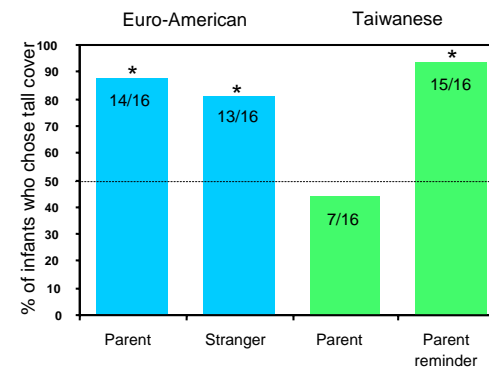
- the number of event cycles demonstrated by each teacher;
- the amount of time each infant spent acting upon the stimuli; and
- the frequencies of the teacher's interrupting infant actions.

Analyses:

No significant differences across conditions were obtained, except for interruption frequencies, $p < .0001$.



Test Phase



Summary

Parental behavior in the teaching session reflected socialization goals.

- In the present study where parents made covering actions and allowed their infants to play with stimuli, Euro-American and Taiwanese parents differed in how often they interrupted infants' action when conflicts of attention arose.
- The difference echoed the overarching goals stressed by the larger community (child exploration or parental guidance).

Effect of teacher identity

- With a 5-min warm-up session prior to teaching, whether it was the parent or a female stranger who carried out the teaching session did not make a significant difference on infants' test responses.

Effect of action quality

- Despite similar durations of their infants' action, frequent interruptions made by Taiwanese parents might have deteriorated the action quality and impeded infants' learning in this context. When parents were reminded not to interrupt, the majority of infants succeeded in the test phase.

References

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