Elucidating effects of social cues on infants' object learning

Gazing and talking help infants learn

Abstract

Although infants learn a variety of knowledge from information obtained from the environment, this learning process has not been fully clarified. This study used an experimental psychological approach to determine whether social cues versus attentional cues might affect infants' learning at different levels. By focusing on a new task to clarify the learning process, our experiments showed that although both attentional cues and social cues affected infants' gaze following, only social cues facilitated their object learning. Furthermore, these social cues influenced the infants' vocabulary acquisition. These findings provide evidence that social cues play a distinct role in infant learning and support Natural Pedagogy Theory, which models human learning mechanisms. We believe our study will not only establish theories on how humans acquire language and knowledge but also contribute to practical childcare and education-support methods such as parent training.

Infant learning theory

Two conflicting theories on cues that help infants learn:

Natural Pedagogy Theory

Social cues such as communication signals are important for infant learning

- Eye contact
- Infant-directed speech
- Gesture

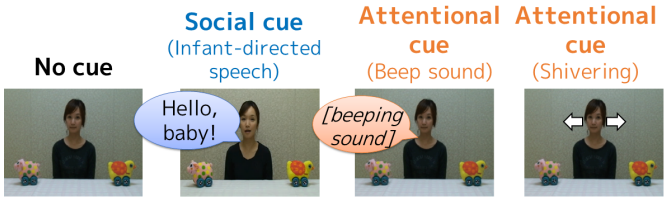
Attentional Arousal Theory

Attentional cues such as attracting attentional arousal are effective in infant learning

- Beep sound
- Lighting
- Shivering

Approach of this study

Effects of social cues and attentional cues on infant learning examined by *experimental psychological approach*

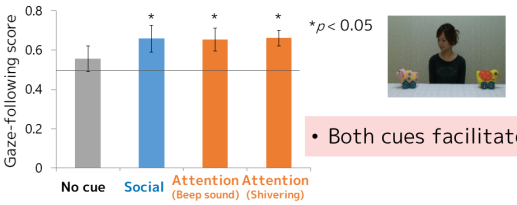


Participants: 140 9-month-old infants

Outcome 1: Clarifying role of social cues

■ Gaze-following test

Measures whether infants look at objects in the direction of model's gaze



- Both cues facilitate gaze following

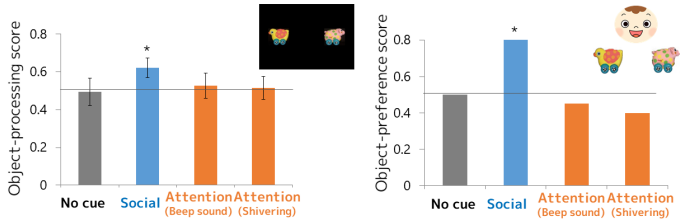
■ Object-learning test

(1) Object-processing test

Measures whether infants recognize objects

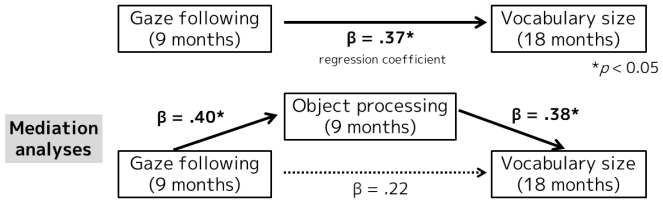
(2) Object-preference test

Evaluation of infants' object choice



- Social cues play a distinct role in infant learning
  ➡supports Natural Pedagogy Theory

Outcome 2 : Vocabulary-acquisition process



- Gaze following at 9 months promotes object processing, and it affects vocabulary development at 18 months
  ➡ Social cues (gaze) and vocabulary acquisition are associated

References

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