

# How Do South Korean Infants Interact With Objects At Home?

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## Background & Objective

- Objects are in various environments, and playing with them is crucial for infants' learning (Needham, 2016)
- During the first years, infants progressively gain better control over their manual actions and use these skills to explore their surroundings (Lockman & Tamis-LeMonda, 2021)
- Manual interactions with objects provide infants with valuable information about their physical properties and functions, facilitating perceptual development, biomechanical skill, and symbolic capacities (Gibson, 1988; Needham, 2000; Palmer, 1989; Ruff et al., 1984; Soska et al., 2010; Rachwani et al., 2020; Tamis-LeMonda & Lockman, 2020)
- Specifically, everyday object interactions constitute an early, universal context for learning, offering rich information about object properties and what infants' bodies can do during play (Swirbul et al., 2022)
- This study aims to examine the object interactions of South Korean infants through natural observation in daily environments as a preliminary step towards a broader, cross-cultural comparison.

## Methods

- Participants: The study included 18 infants aged 12 months (7 boys;  $M = 12.4$ ), with half of them being crawlers and the other half walkers
- Procedure
  - A trained researcher visited homes to videotape infants and their mothers for 1 hour, following PLAY project protocols
  - During the 1-hour natural play session, the infants engaged in play with toys or objects, had meals, and explored the room
- Data Coding
  - Videos were coded by authorized investigators in the Databrary video library (<https://nyu.databrary.org/volume/1593>) using Datavyu
  - According to the object interaction coding manual (<https://play-project.org>), an object bout was defined as the manual displacement of one or more objects, with the onset and offset of each bout coded over time
  - If the infant's hand left the object and didn't displace with any objects for 3 seconds, it was coded as an offset of object bout
- Interobserver reliability
  - Four researchers coded 18 videos, and four (20%) of the total videos were used for interobserver reliability analysis
  - The interobserver reliability for accumulated durations of object bouts and break bouts of each video was .96, .93, .90, and .96, and the overall reliability was .94

## Results

- The total number of object bouts was 1501, and each infant produced from 114 to 216 object bouts per hour ( $M = 166.8$ )
- During the one hour, the duration of object bouts among infants ranged from 30.09% to 66.4%
- Out of 18 infants, 13 of them spent time with objects for an average of more than 30 minutes

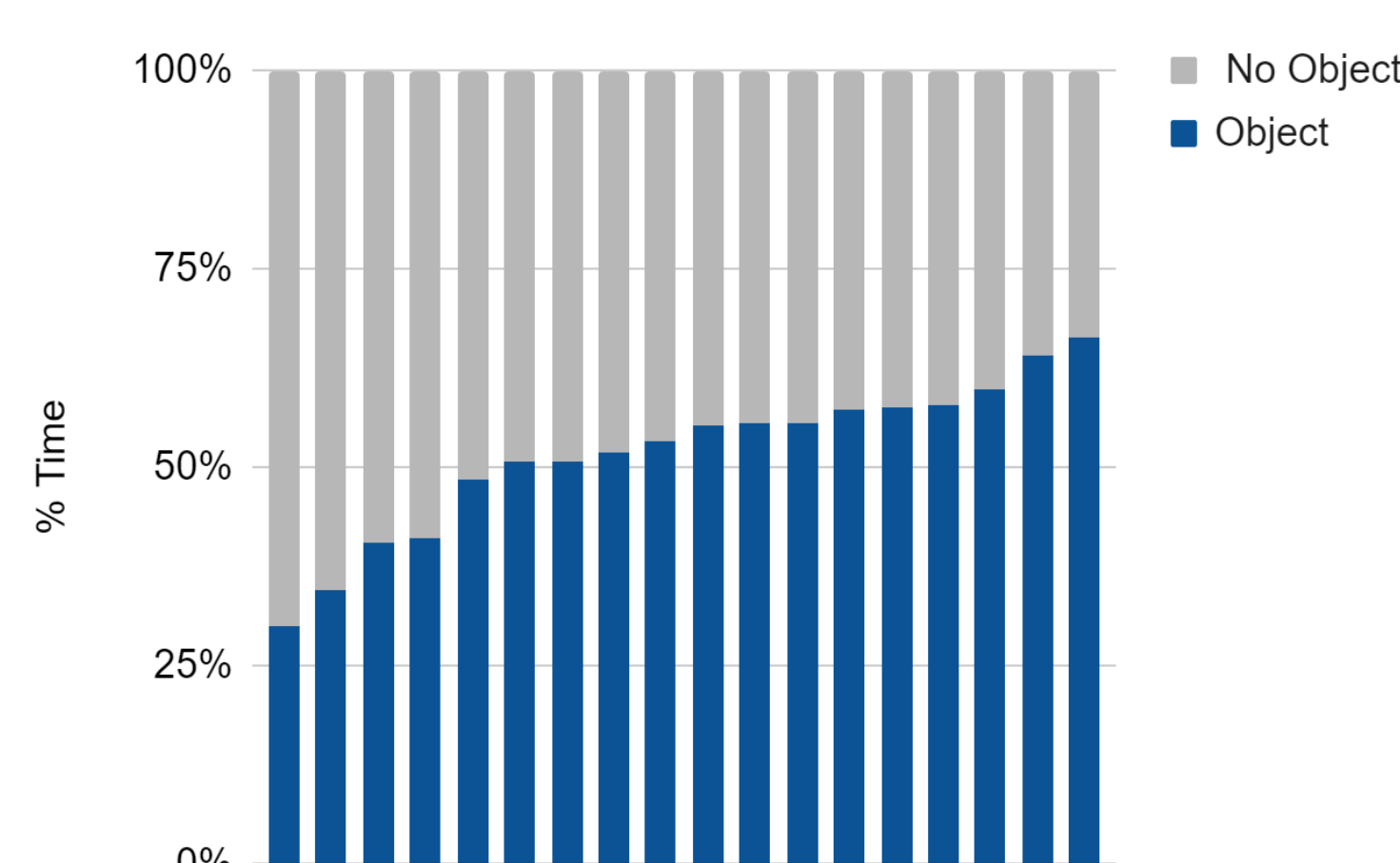


Figure 1. Accumulated percentage of infants' object / no object time

- There was no difference in the duration of object bouts by gender,  $t(17) = .93$ ,  $p = .37$

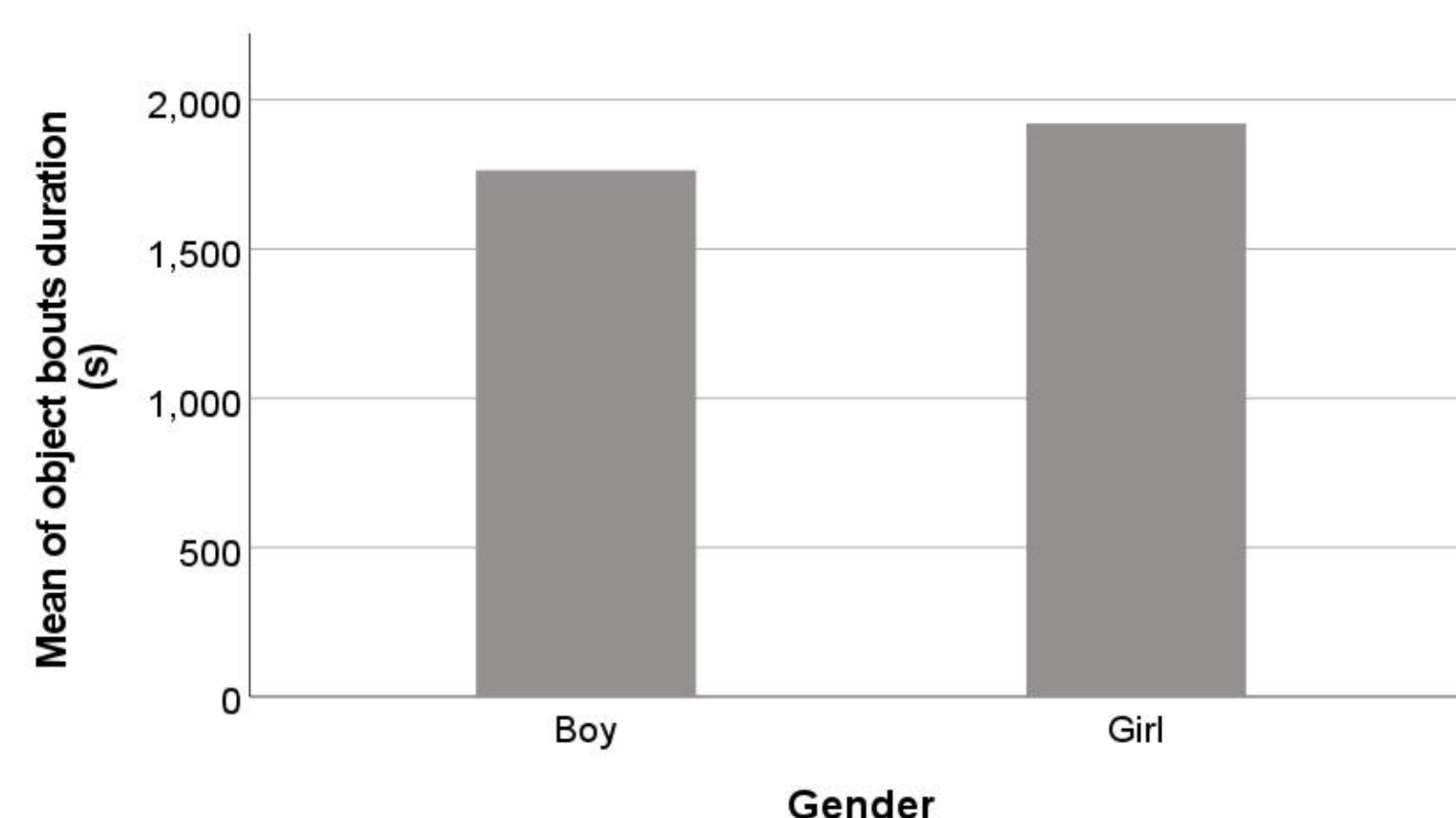


Figure 2. Mean object bouts duration of boy and girl

- Walkers had longer object bouts duration than crawlers,  $t(17) = 3.42$ ,  $p < .01$

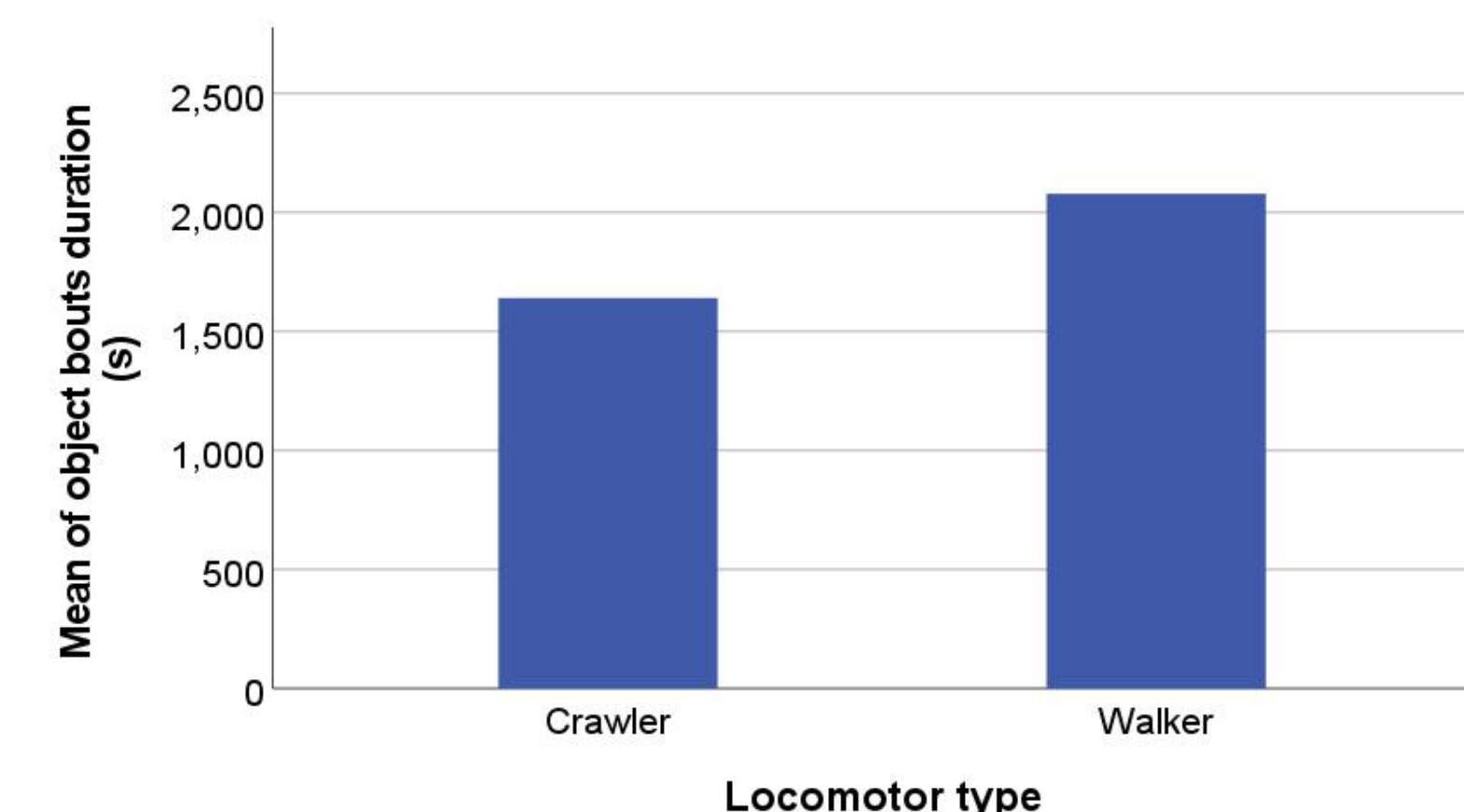


Figure 3. Mean object bouts duration of crawler and walker

- 89.6% of object bouts were shorter than 1 minute, and 10.39% lasted between 1 and 5 minutes
- 93.7% of break bouts were shorter than 1 minute, 5.8% lasted between 1 and 5 minutes, and 0.5% were longer than 5 minutes

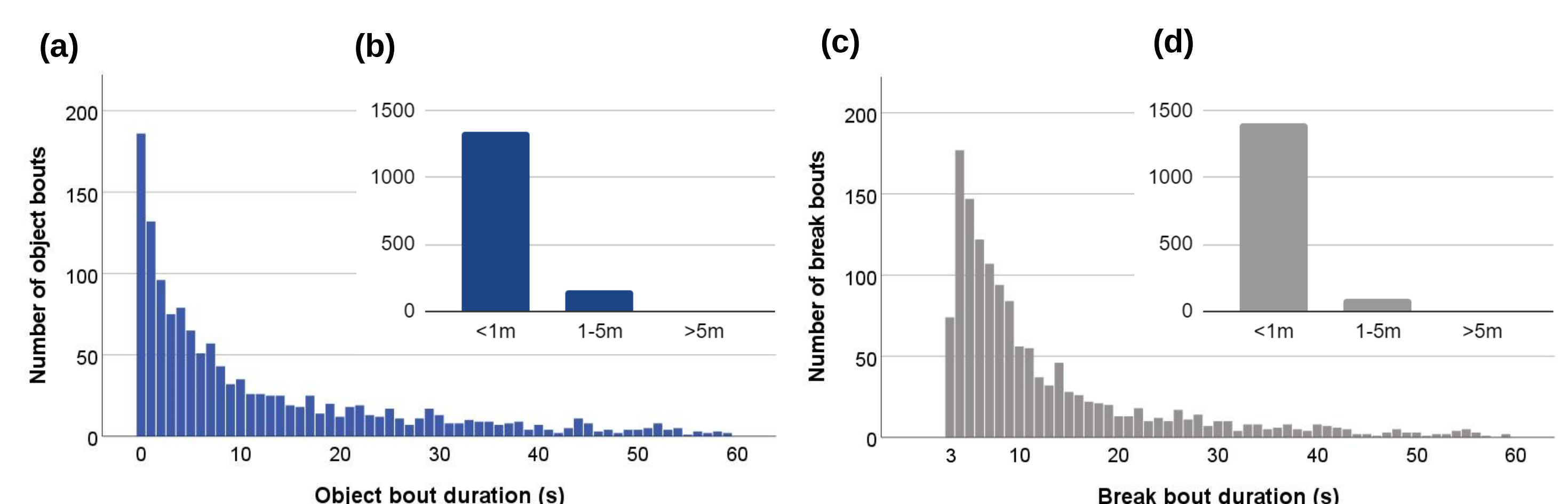


Figure 4. Frequencies of object bouts and break bouts of infants. (a) Number of object bouts <1 min. (b) Frequencies of object bouts <1 min, 1-5 min, >5 min. (c) Number of break(break no object) bouts <1 min. (d) Frequencies of break bouts <1 min, 1-5 min, >5 min

## Discussion

- This study is significant in that it used naturalistic observation to explore Korean infants' object interactions in their daily lives at home
- Short object bouts and break bouts suggest that Korean infants demonstrate rapid transitions while spending time with objects
- The results show that 12-month-old infants of South Korea spent 52% of their time with objects, despite the infants having short object bouts rather than long periods of engagement with objects
- The results of this study show that Korean infants, like infants from the U.S. (Herzberg et al., 2021), can create rich learning opportunities by interacting with objects for short periods
- However, there are limitations. Since all manual displacement, regardless of the infants' intention, were analyzed as object bouts, it is limiting to view this as true object interaction
- Due to time constraints, the number of infants analyzed was limited, and we were not able to look at object bouts at different months of age
- Additionally, it is not possible to determine what the infants interacted with (toy, non-toy, mixed) because we simply analyzed the infants' object interaction time