

MOTHERS' HAND PREFERENCE DURING DYADIC PLAY EXPERIENCE WITH INFANTS



Introduction

- Mothers had the opportunity to engage in play sessions with their infant when presented with a set of toys.
- Mothers have been seen to influence handedness in their infants through their own preference¹
- Left handed mothers have more of an influence than left handed fathers with developing a baby's handedness².
- **Aim:** To investigate empirically which hand mothers use more while engaging with their infant in a play session, and to investigate whether there is a correlation between mother hand preference during play with objects and infant hand preference for construction.

Methods

Participants

- 31 infants and mothers.
- The infants had to be 4-6 months of age at baseline and were followed until 12 months after the baseline visit date.

Parent-Child Interaction Procedure

- Mothers were given 4 toys to interact with their infant. (Figure 6).
- Interaction was recorded for 5 minutes to be coded later using the software Noldus Observer.

Parent's Interactions

- Interactions were coded and marked as one of five actions: Construction/Deconstruction, Non-Construction, Object Play, Social Play and Non-Play.
- The hand the mother used in the interaction was coded as either Left, Right or Both.

Object Play, Construction and Non-Construction

- Object Play was defined as dyadic interactions in which a toy was shook, rolled etc. (Fig 1. & Fig. 2).
- Construction/Deconstruction play was defined as actions in which mothers constructed or separated the chain link toy (Figure 3).
- Non-Construction play was defined as actions in which mothers utilized the objects as a tool.



Figure 1. Example of Object Play using Right hand



Figure 2. Example of Object Play using Left hand



Figure 3. Example of Construction using Both Hands

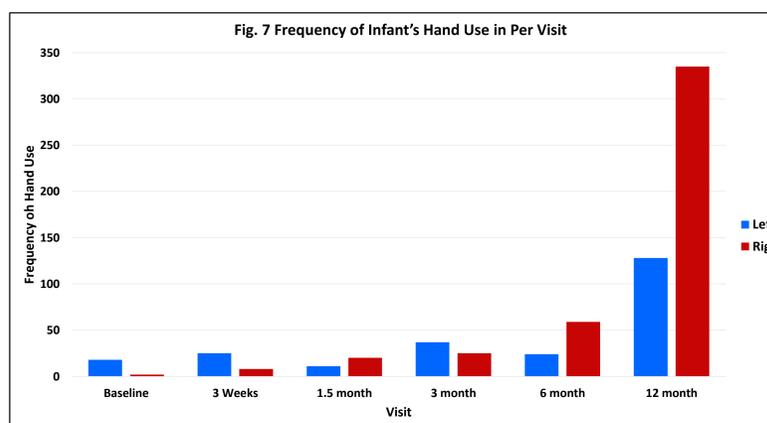
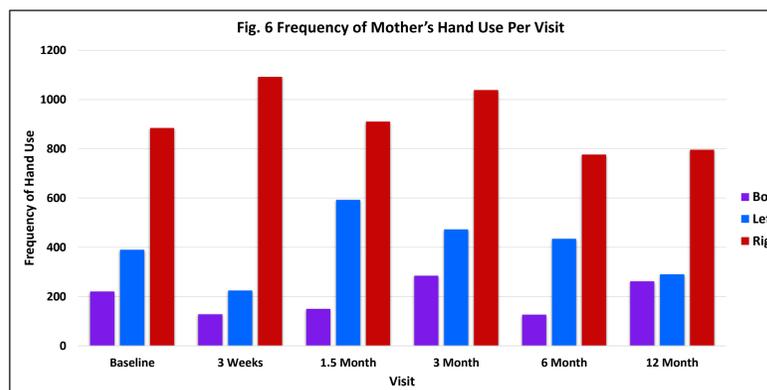
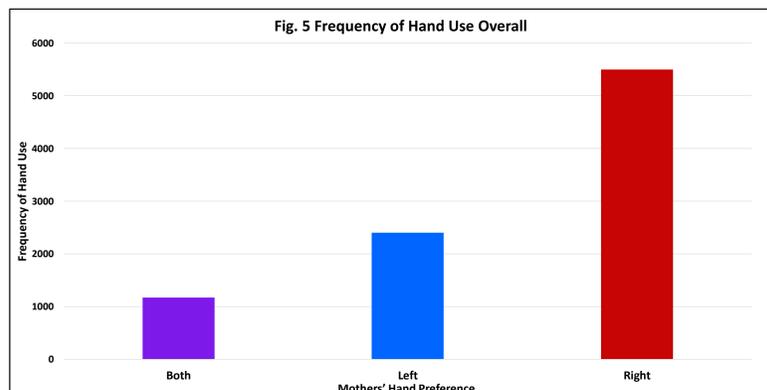


Figure 4. Example of Combination Task

Object Construction/Combination Task

- Babies were given 6 sets of building blocks/cups
- Construction included: stacking, nesting, affixing, or placing
- Combination included: pressing, clanking, repeat nesting, unsuccessful construction, or attempting
- Allowed to play with each set of toys for 30 seconds then the interaction were recorded to be coded using the software Noldus Observer

Results



Analyses

- Figure 5 illustrates on average which hand the mothers used during the interactions with their infants.
- Figure 6 illustrates on average how many actions the mother engaged with her right, left or both hand(s) per visit.
- Figure 7 illustrates on average how many actions the infant engaged with their right or left hands per visit.
- A Pearson correlation between mothers' hand use during play and baby handedness during a construction task was conducted. The correlation between mother hand preference during play and infant handedness during a separate construction task is not correlated ($r(df) = .08, p > .05$).

Discussion

- Observations revealed that mothers performed more right-handed actions than left-handed actions across all play types and visits while engaging with their infant. Which may result in asymmetrical play experience for infants with a burgeoning hand preference.
- As for frequency by visit, mothers engaged in more right handed actions across all visits. Research presented by Carlson and Harris² supported after an infants first year, infants with a minimum one left-handed parent demonstrated strong left-hand use. In our study, we see a strong right hand use among mothers and we would predict that their infants will be more likely right handed.
- Our correlation was not significant, this could be due to using different handedness assessments for mother and infant. As a result the assessments show different kinds of handedness for mothers compared to infants. However, in previous research¹ it is expected that the mothers' handedness influences the handedness of the baby.

References & Acknowledgements

¹Harkins, D. A., & Michel, G. F. (1988). Evidence for a maternal effect on infant hand-use preferences. *Developmental Psychobiology*, 21(6), 535-541.

²Carlson, D. F., & Harris, L. J. (1985). Development of the infants hand preference for visually directed reaching: Preliminary report of a longitudinal study. *Infant Mental Health Journal*, 6(3), 158-174



Figure 8. PCI Toys