

# Having a different point: A cross-linguistic study of Chinese and Dutch mothers' pointing behaviour during shared-book reading

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Studies show that pointing gestures during mother-child interaction guide children's attention and facilitate language learning (e.g., Rohlfing et al., 2012; Pan et al., 2005). Despite evidence of variations in pointing across cultures (Kita, 2003), there is limited research comparing maternal pointing across languages and cultures. This study aims to explore potential differences in pointing behavior between Chinese and Dutch mothers during shared-book reading and examine the relationship between maternal pointing and children's vocabulary size.

Forty-four mother-child dyads, including 22 Dutch and 22 Chinese participants, with 18-month-old children, participated in a semi-spontaneous shared-book reading task. The book was identical for both languages and each page featured a target word in Dutch or Chinese on the left side (e.g., *appel*/苹果), accompanying illustration on the right side. No additional text was provided aside from the target words. The pointing behavior exhibited during the task was coded in ELAN and categorized into two types: normal pointing and hand-in-hand pointing (see an example in Figure 1). The frequency of pointing was calculated by dividing the number of pointing instances by the total duration of the shared-book reading session. The children's expressive vocabulary size was measured using Chinese and Dutch versions of the M-CDI. We analyzed (1) the differences in mothers' pointing frequency and types as a function of language group (Dutch/Chinese); and (2) their relationship with the M-CDI outcome.

The results revealed four main findings. First, Chinese mothers ( $M = 0.21/s$ ,  $SD = 0.15$ ) pointed significantly more frequently than Dutch mothers ( $M = 0.09/s$ ,  $SD = 0.07$ ,  $p < 0.001$ , see Figure 2). Second, Chinese mothers used a distinctive form of pointing: hand-in-hand pointing, which combines haptic and visual cues. In contrast, Dutch mothers seldom used this type of pointing. Results of a Tobit model regression showed that Chinese mothers used significantly more hand-in-hand pointing ( $\beta = 0.20$ ,  $p = 0.037$ ). Third, Chinese mothers were more likely to point at the orthographic information (target words on the left side) in the book ( $M = 0.007/s$ ,  $SD = 0.016$ ), whereas Dutch mothers rarely did so ( $M = 0.001/s$ ,  $SD = 0.002$ ,  $p = 0.084$ ). Fourth, there was no correlation between pointing frequency and children's vocabulary size in either language (all  $p$ 's  $> 0.1$ ).

These findings highlight notable distinctions in pointing behaviors between Chinese and Dutch mothers during shared-book reading. Chinese mothers may use pointing for didactic purposes more frequently during shared-book reading tasks, as evidenced by their frequent use of deictic pointing and hand-in-hand pointing. Their tendency to point at orthographic information suggests that they may take the lead in the interaction. Furthermore, the higher frequency of pointing to orthographic information among Chinese mothers may promote early sensitivity to literacy.

To summarize, this study uncovers distinct variations in maternal pointing behavior during shared-book reading in two languages with distinct typologies and vastly different cultural backgrounds. The results contribute to our understanding of cross-linguistic variations in multimodal interaction and the role of child-directed gestures in language acquisition.

**Index Terms:** pointing; cross-linguistic differences; mother-child interaction



Figure 1: An example of hand-in-hand pointing used by a Chinese mother.

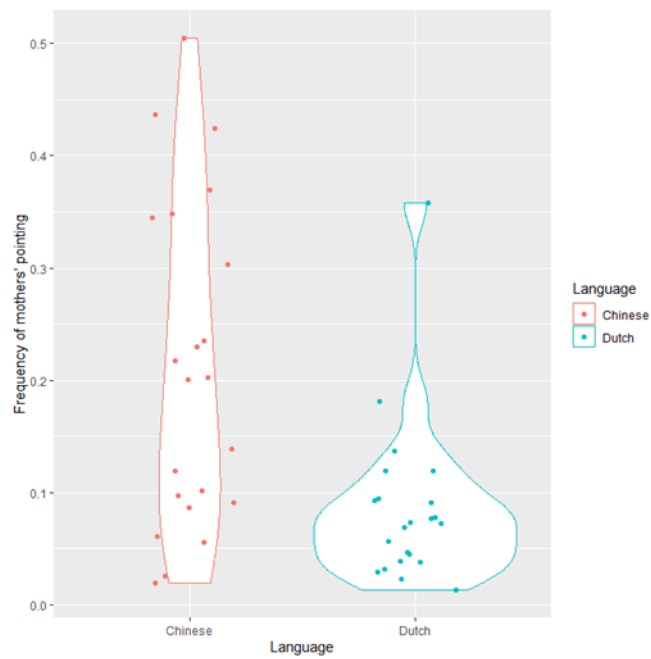


Figure 2: Violin plots of the frequency of mothers' pointing (number of pointing per second) in Chinese and Dutch.

## References

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