

# Reflexive Pronouns in Chinese-Learning Monolingual, Bilingual, and Trilingual Toddlers, and Their Parental Input

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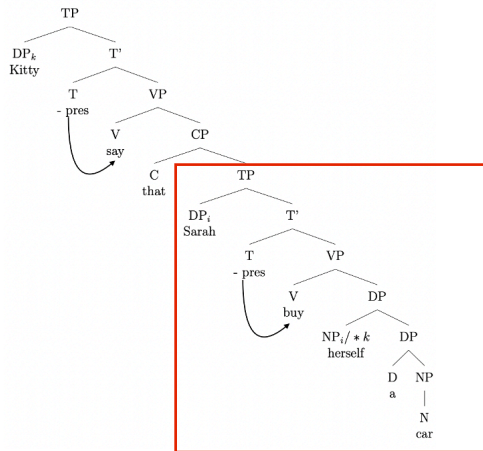
Reflexive pronouns in Chinese have two forms:

- **Compound reflexives** (e.g., *ta-ziji* ‘himself’ in Mandarin) governed by binding principles in ways similar to reflexives in English.
- **Bare reflexives** (e.g., *ziji* in Mandarin, *zi6gei2* in Cantonese) functioning as local anaphors, generic pronouns or intensifiers [6] (examples in Data Annotation).
- English-speaking children use reflexive pronouns as a generic pronoun in addition to anaphorical and logophorical use before age 7 [7, 1], Mandarin children exhibit a fundamental grasp of the local and long-distance (LD) function of bare reflexive around age 4 [4].

## Binding Principle A: Anaphor

- The reflexive in English is captured by Binding Principle A.
- **Definition:** Anaphor must be bound in their binding domain or their governing category. In another words, the binding domain of an anaphor is the smallest TP containing anaphor and an antecedent which c-commands the anaphor [2].
- A reflexive is an anaphor that coindexed with an NP that c-commands the anaphor in the same binding domain.

# Binding Principle A Example



- In this sentence "Kitty saw that Sarah bought herself a car," the anaphor "herself" must refer back to "Sarah," who is the antecedent c-commands the anaphor in the binding domain.

# The Properties of *Ziji*

- The Chinese bare reflexive *ziji* is challenging the Binding Principle A.
- It can be bound by a non-local and non-c-commanding antecedent (Long Distantly or LD bound) as well as locally bound [3].

# Ziji Binding Example

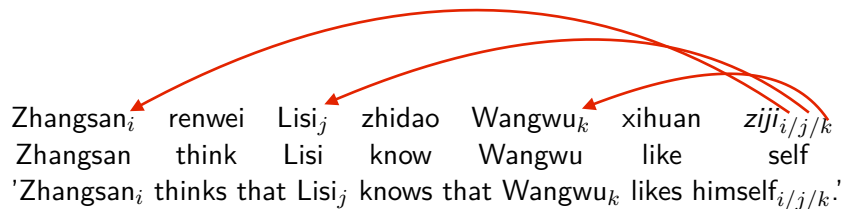


Table: Ziji Binding Example

- There are three potential antecedents for *ziji*:
  - The local subject: Wangwu
  - The intermediate subject: Lisi
  - The matrix subject: Zhangsan.

# Examples of Different Forms of Reflexives in Mandarin

There are three different types of reflexive in Mandarin Chinese that are influenced by syntactical or discourse properties[6]:

- **Anaphor**: reflexives obeying Binding Principle A

erzi<sub>i</sub> hai meng-jian le ziji<sub>i</sub> zai gen pengyou-men wan  
son also dream-see ASP self PROG with friend-PL play  
'The son also dreamed about him(self) playing with friends.' (Parental input, 2;9)

- **Generic Pronoun**: reflexives used as personal pronouns

ziji shua ya  
self brush teeth  
'Brush (my) teeth by myself.' (Amy, 2;3, Trilingual)

- **Intensifier**: reflexives emphasized through discourse or prosody

ni xiang ziji du  
you want self read  
'You want to read by yourself.' (Eason, 2;0, Monolingual Mandarin)

# Research Questions

- What types of reflexive pronouns are notably absent or more prominently used by children learning Chinese (Mandarin or Cantonese)?
- How do parental input and cross-linguistic influence affect the absence of reflexive pronouns among these children?



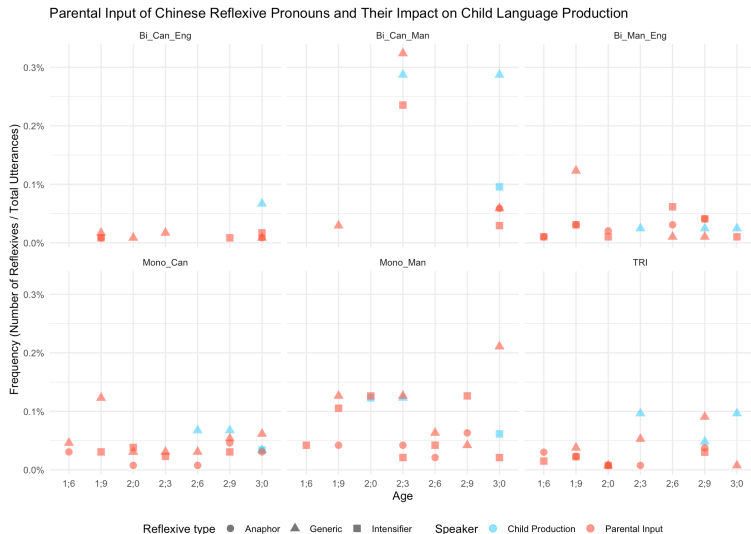
- 367 instances of reflexive pronouns produced by monolingual ( $n = 17$ ), bilingual ( $n = 23$ ) and trilingual ( $n = 9$ ) toddlers (total  $n = 49$ ) and their parents in naturalistic adult-child play sessions
- Extracted from Early Additive Child Multilingual Corpus [5]
- Sampled longitudinally over 1.5 years (1;6-3;0)

A total of **367** utterances containing reflexive pronouns were selected (332 utterances from parental input and 35 utterances from child production) and categorized into **3** main groups:

## Examples of different forms of reflexive In Mandarin

- **Anaphor:**
  - Parental Input Frequency: 0.607% across all groups
  - Child Production Frequency: 0% (none of the children produced anaphorical *ziji*)
- **Generic Pronoun:**
  - Parental Input Frequency: 1.749% across all groups
  - Child Production Frequency: 1.248% across all groups
- **Intensifier:**
  - Parental Input Frequency: 1.146% across all groups
  - Child Production Frequency: 0.31% across all groups

# Results

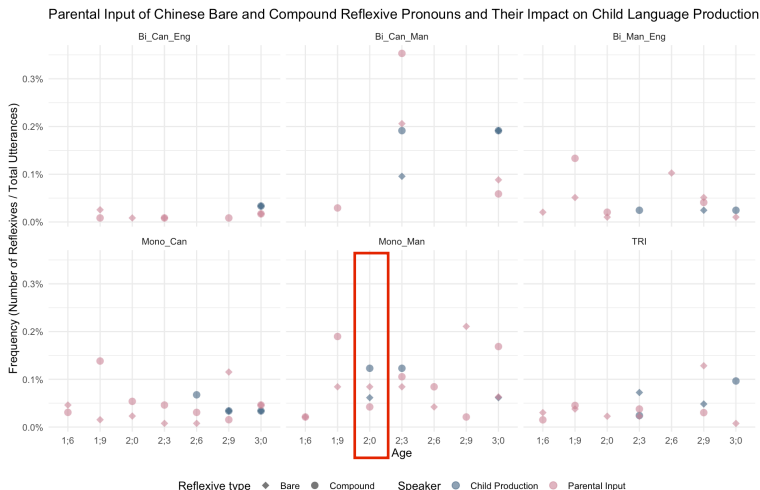


# Results

- Early emergence of bare reflexive around 2;0 from a monolingual Mandarin-speaking children.
- Anaphorical use of reflexive pronouns missing across all groups, consistent with low dosages of anaphorical use in parental input (0.03%).
- Generic use of reflexive pronouns dominates the use of bare reflexives across groups (0.08%) aligning with patterns reported for English children.
- Intensifier use of reflexive pronouns (specific to the Chinese languages; not found in English) is only present in the monolingual and bilingual children who are learning Cantonese, Mandarin or both, and absent from children who are acquiring English alongside one of two of the Chinese languages, suggesting effects of multilingual input and cross-linguistic influence on the production of reflexives in the early years.

# Results

- Early emergence of bare reflexive "ziji" and compound reflexive "wo-ziji" (e.g., myself) by age two among monolingual Mandarin learning children.



# Conclusion

- This study investigated the acquisition of reflexive pronouns in Mandarin and Cantonese among young children, uncovering an early emergence of bare reflexives by age two.
- Findings indicate a lack of anaphoric use, reflecting minimal parental usage, while generic use predominated, similar to trends in English-speaking children [7, 1].
- Notably, the use of reflexives as intensifiers was prominent in monolingual and bilingual children, emphasizing the role of multilingual settings in linguistic development.
- These insights highlight the critical influence of language exposure and cross-linguistic interactions on early language acquisition in bilingual and multilingual contexts.

# References

- [1] Yu-Chin Chien and Kenneth Wexler. "Children's knowledge of locality conditions in binding as evidence for the modularity of syntax and pragmatics". In: *Language acquisition* 1.3 (1990), pp. 225–295.
- [2] Noam Chomsky. "Lectures on government and binding theory". In: *Dordrecht: Foris* (1981).
- [3] Peter Cole, Gabriella Hermon, and Li-May Sung. "Principles and parameters of long-distance reflexives". In: *Linguistic inquiry* (1990), pp. 1–22.
- [4] Ruya Li. *The Acquisition of Anaphora in Child Mandarin: Reflexive Binding and Argument Dropping*. Taylor & Francis, 2024.
- [5] Ziyin Mai. "Early Additive Child Multilingual Corpus". *dataset*. in prep.
- [6] Yingying Wang and Haihua Pan. "Chinese Reflexives". In: *Oxford Research Encyclopedia of Linguistics*. 2021.
- [7] Kenneth Wexler and Yu-Chin Chien. "The Development of Lexical Anaphors and Pronouns.". In: *Papers and reports on child language development* 24 (1985), pp. 138–49.

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