Exploring Reflexive Pronoun Development and Usage in Mandarin-Learning Toddlers: A Comparative Study of ASD and TD Groups

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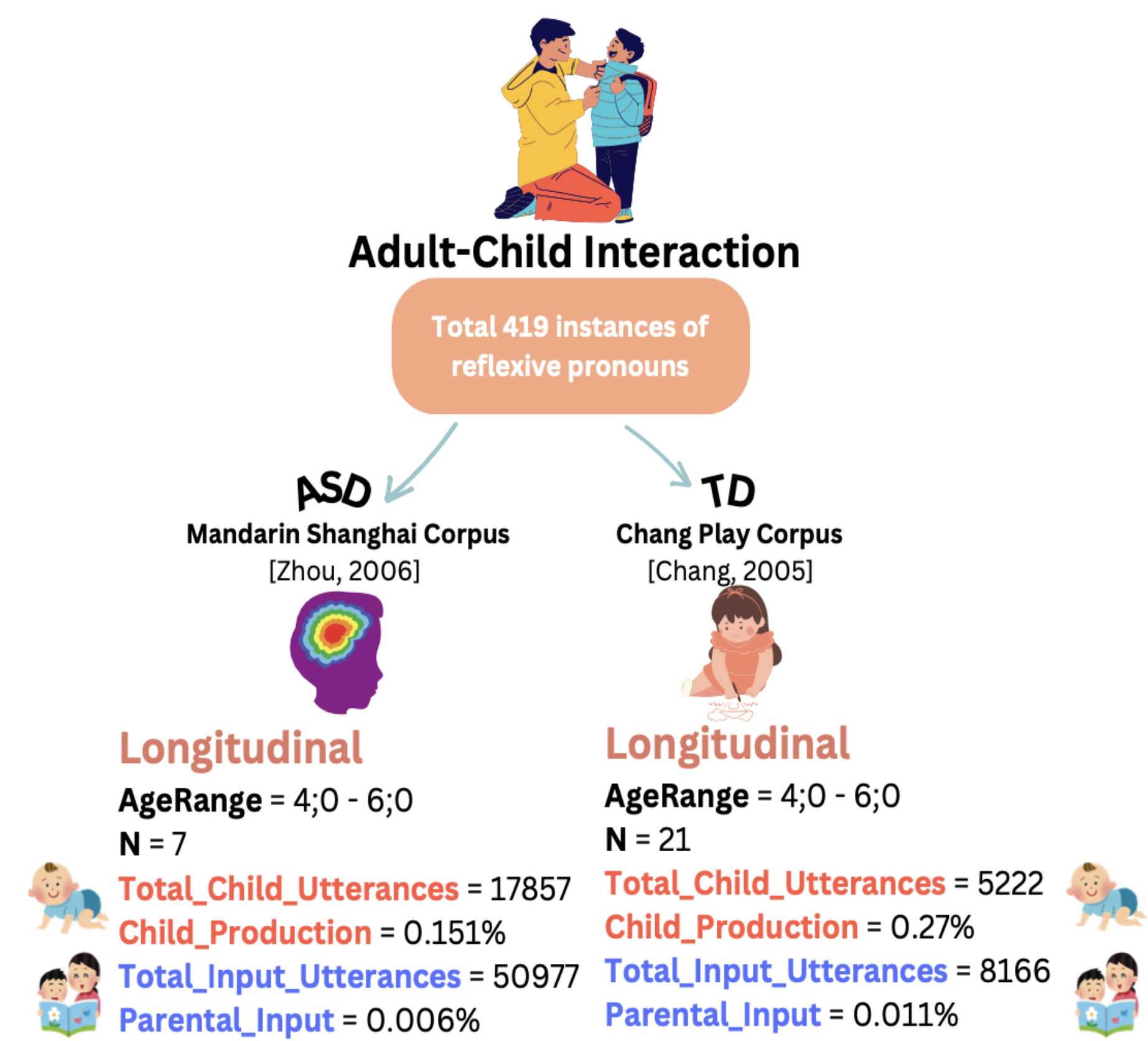
SCAN ME!

Background

Reflexive pronouns in Chinese have **four** main categories (Wang and Pan, 2021):

- **Anaphor** as in English, local bound reflexives like *ziji* ('self') and *ta-ziji* ('himself') in Mandarin are governed by binding principles.

- **Generic Pronoun** similar to generic 'one', refer to a generalized or indefinite entity.

- **Intensifier** emphasizes identity and contrast, highlighting the subject's exclusive involvement or self-reference, either adnominally or adverbially.

- **Logophor** refers to the individual whose speech, thoughts, or perspective is represented, often with reflexives in contexts like psych verbs.

- **Typically developing (TD) children** master anaphoric uses by age two and other uses by age four. **Children with Autism Spectrum Disorder (ASD)** show delayed acquisition, mastering anaphoric uses by age six (Durrleman and Delage, 2016; Perovic et al., 2013; Li 2024).

Research Questions

- Which types of reflexive pronouns are notably absent or more prominently used by children with or without ASD, and what insights can we gain about the fragile grammar of ASD children from their syntactic, semantic, and discourse-influenced reflexive use?

- How does parental input influence the production or absence of reflexive pronouns among children with or without ASD?

Dataset

Adult-Child Interaction

Total 419 instances of reflexive pronouns

ASD → Mandarin Shanghai Corpus [Zhou, 2006]

TD → Chang Play Corpus [Chang, 2005]

Longitudinal
AgeRange = 4;0 - 6;0
N = 7
Total_Child_Utterances = 17857
Child_Production = 0.151%
Total_Input_Utterances = 50977
Parental_Input = 0.006%

Longitudinal
AgeRange = 4;0 - 6;0
N = 21
Total_Child_Utterances = 5222
Child_Production = 0.27%
Total_Input_Utterances = 8166
Parental_Input = 0.011%

Acknowledgments

Data Annotation

A total of **419** utterances containing reflexive pronouns were selected: 376 utterances from parental input, and 35 utterances from child production. These were then categorized into **4** main groups: **Examples of different forms of reflexives in Mandarin from Naturalistic Speech:**

(1) Ni keyi **ziji** she yi ge shenme xiang dongwuyuan de dongxi. [ASD Parental Input]
you can **SELF** set one CLF what like zoo POSS thing
'You can set up something like a zoo by itself.' **(Anaphor)**

(2) Yumao yao **ziji** mai hen gui. [ASD Child, 4;0]
feather want **SELF** buy very expensive
'If **one** needs to buy feathers on **their own** it would be expensive.' **(Generic Pronoun)**

(3) Wo-**ziji** de liqi bu gou. [ASD Child, 4;8]
I-**SELF** POSS strength NEG enough
'I don't have enough strength on **my own**.' **(Intensifier)**

(4) kandao **ziji** shi duome piaoliang a. [TD Parental Input]
see **SELF** is very pretty SFP
'See how beautiful **yourself** are .' **(Logophor)**

Results

- **Speech of Parents**: Preliminary findings reveal **no significant differences** in parental input between TD and ASD children, except that TD parents tend to use more generic pronouns and intensifiers compared to ASD parents.

- **Speech of Children**: The TD children begin producing both bare and compound reflexives around the **age of 4;0**, indicating an **earlier** emergence compared to their ASD peers who show a delay with their first production of **compound reflexives at 4;4**, and **bare reflexives at 4;5**.

- Neither group exhibited logophoric use of *ziji*, potentially due to its **rare** occurrences in parental input (N = 3, Input Proportion = 0.01% - 0.04%).

- Anaphoric reflexives were **not observed** in the production of ASD children in the corpus, whereas their TD peers began using them around the age of **5;4**.

Parental Input and Child Production of Reflexive Pronouns in ASD and TD Groups

Speaker ✳ Parental ■ Production   Category ● Anaphor ● Generic Pronoun ● Intensifier ● Logophor
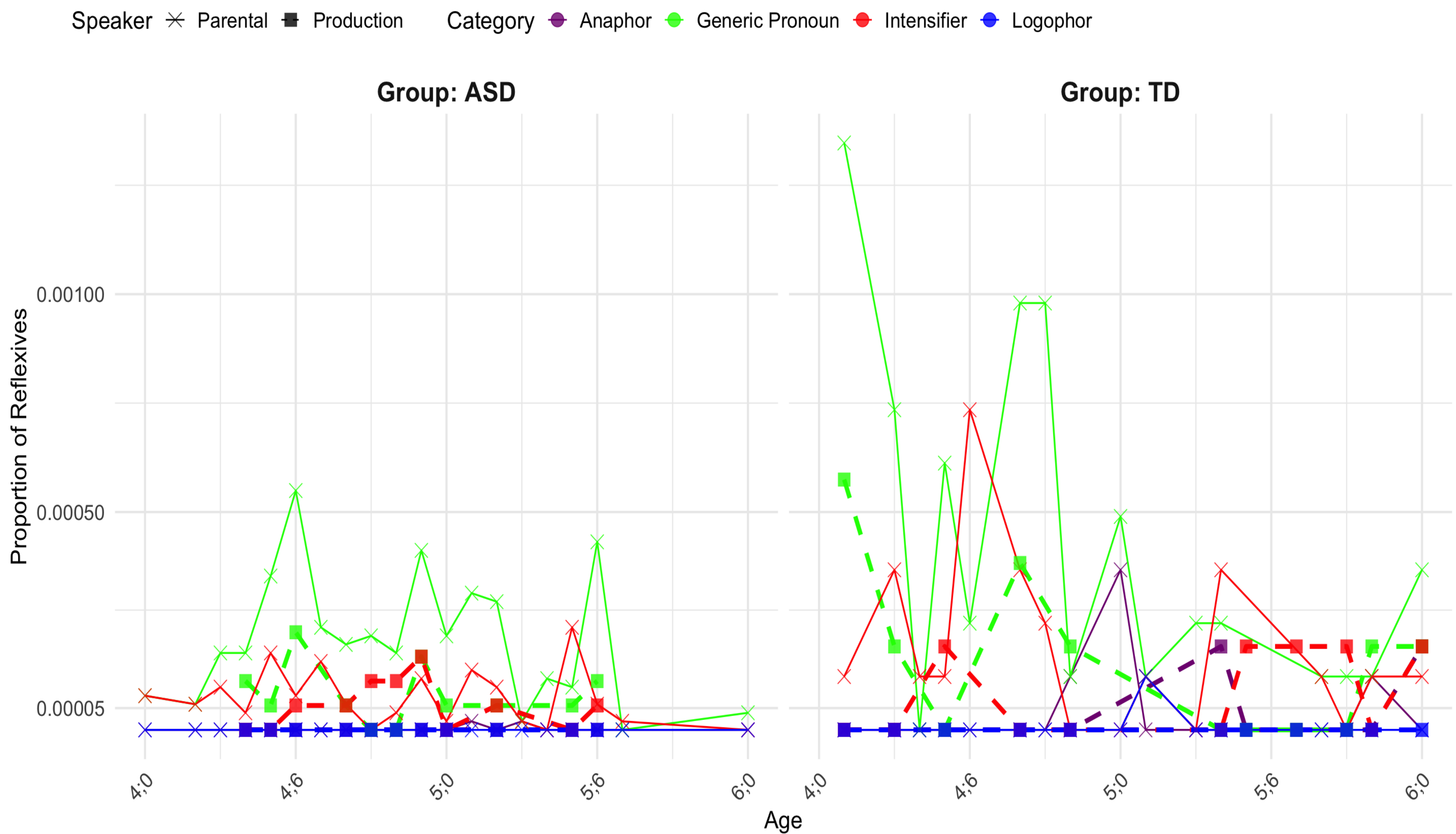
Conclusion

- The non-anaphoric uses were the **most common** usages observed in both ASD and TD groups, emerging as early as **4;0**.

- Our results show that **anaphoric** uses are **less common** in naturalistic settings compared to other uses. Children with ASD demonstrate **better** mastery of non-anaphoric uses, which rely on discourse, than anaphoric uses, which require syntactic processing. This suggests **a delay in syntactic development** compared to their TD peers.