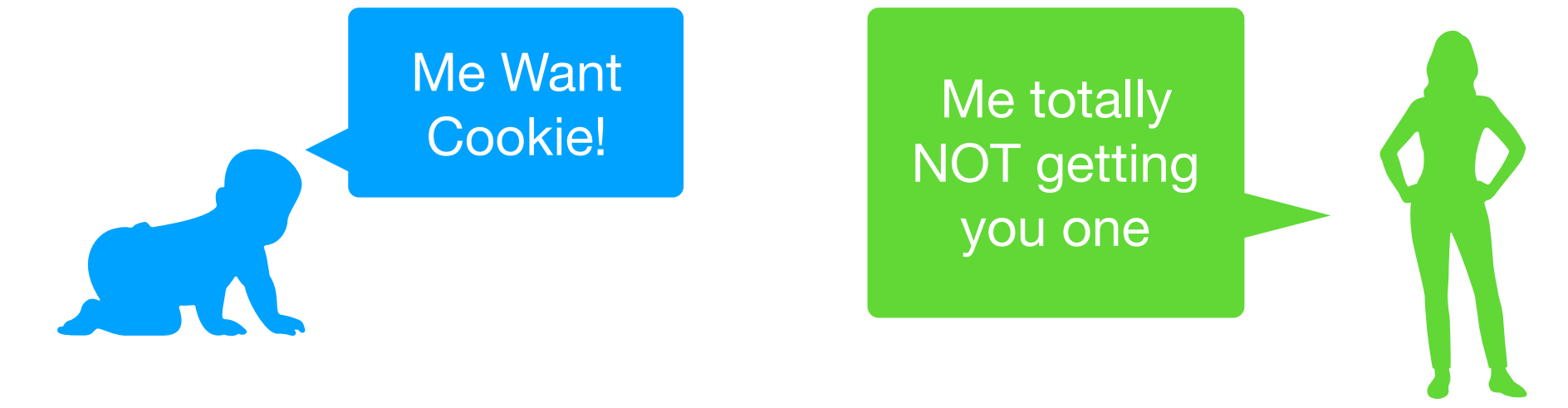


Do Children REALLY Make More Pronoun Errors Than Adults?

Revisiting Pronoun Errors: A Corpus Analysis



INTRODUCTION

English speaking children start to make pronoun case errors from 20 months to 43 months. There are two types of most common case errors:

- Accusative case as subject: *Me want cookies.
- Nominative case as object: *She hit I.

Why do children make pronoun errors?

Generativists proposed Agreement/Tense Omission Model (ATOM; Wexler, 1994) to explain this error that children don't have full syntactic representation on case. Empiricists claims that pronoun use and adult input play more important role (Rispoli, 1999). Putting aside the dispute in explanation, they both agree that pronoun case errors in child language development are FREQUENT, SYSTEMATIC and CHARACTERISTIC.

But what about adults?

Adults make pronoun case errors too, although adults have been treated as "the perfect user" of pronoun case. Adults' input has been well studied in the literature, but adults' errors have been rarely discussed.

Purpose of this study:

This study is going to focus on nominative and accusative case errors, trying to answer:

- Do children really make more pronoun case errors than adults?
- What are the pronoun use patterns in children and adults? Are they the same?
- What are the pronoun case error patterns in children and adults? Are they same?

METHODOLOGY

30 corpora CHILDES
1702 Transcripts
382 Children 20 months - 48 months

Age range and MLU of children

Age Range	MLU		
	n	M	SD
1;8 - 2;6	698	2.6	1.2
2;7 - 3;4	557	5.11	1.7
3;5 - 4;0	1104	5.01	1.8

12 Target Pronouns

I - me;
he - him;
she - her;
we - us;
they - them;
you; it;

- Using NLTK python package, all utterances with target pronouns were sorted out:

1,536,905 children's utterances

- To determine whether the pronoun is used as a subject or object, deterministic grammatical relations tagger GRASP (%gra) line were used (Sagae, Lavie and MacWhinney, 2005).

Example:

*CHI: you have some baby chicks?

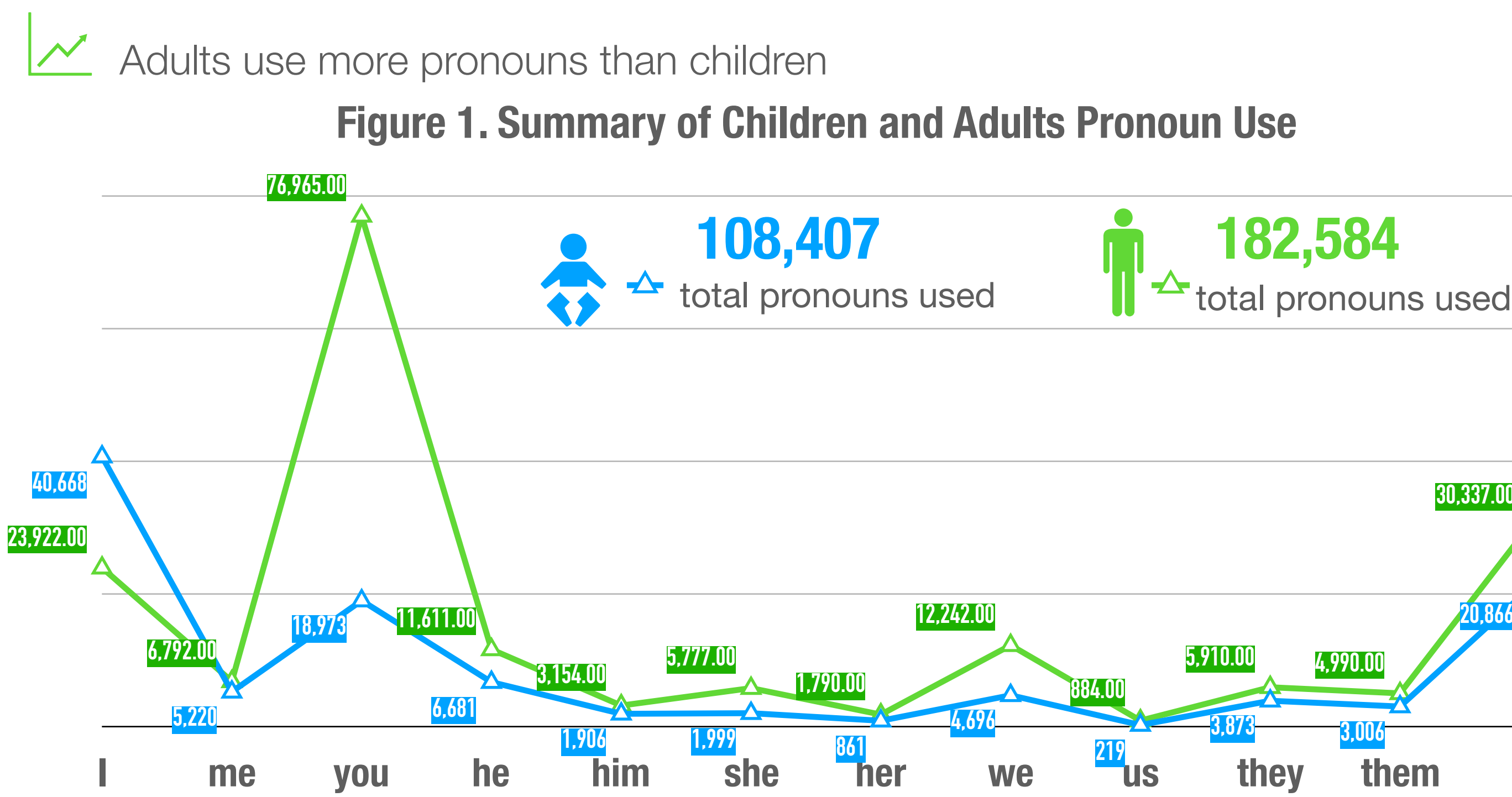
%mor: pro:per|you v|have qn|some n|baby n|chick-PL?

%gra: 1|2|SUBJ 2|0|ROOT 3|4|QUANT 4|5|MOD 5|2|OBJ 6|2|PUNCT

The accuracy of this tagger is 95.8% for subject and 94.1% for OBJ

RESULTS

Part 1. Pronoun Use



Adults and Children have similar use more pronouns use pattern

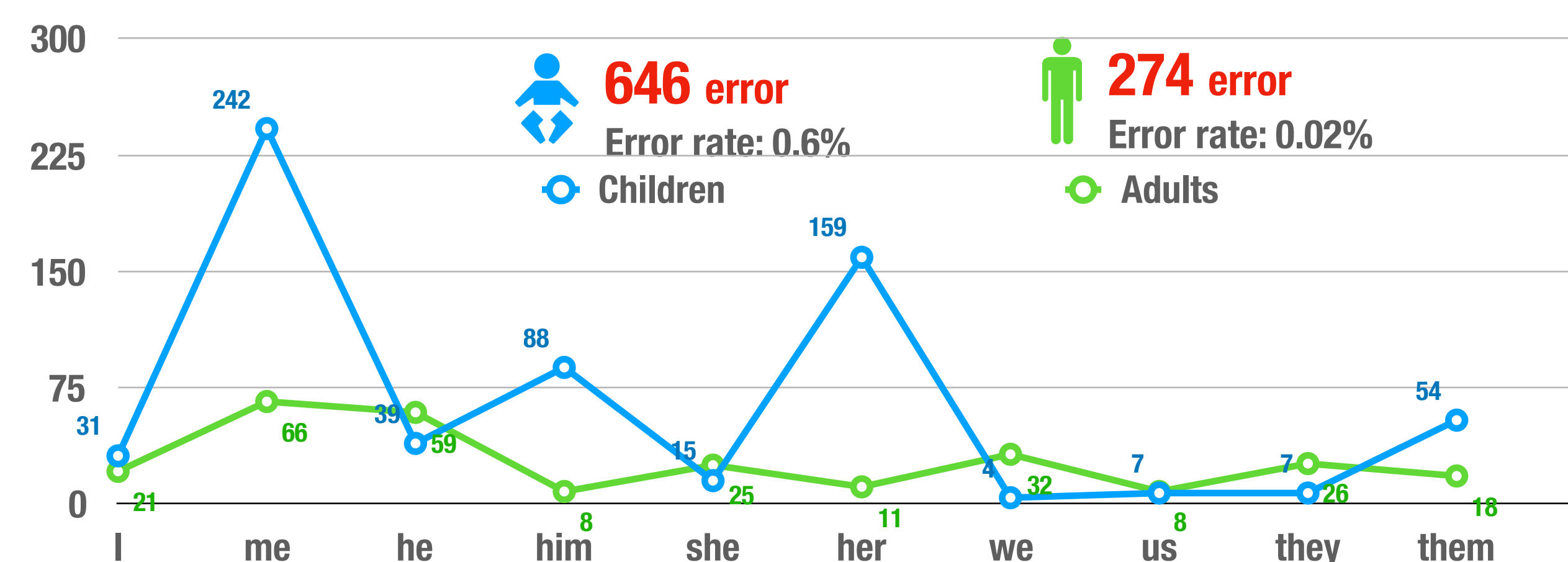
Figure 2. Summary of Pronoun Use Pattern in Children and Adults

	Children		Adult	
CASE: NOM vs ACC	72.3%	27.7%	75.3%	24.7%
Person: 1st vs 3rd	60.3%	39.7%	45.1%	54.9%
Number: SG vs PL	86.1%	13.9%	73.5%	26.5%
You: Subj vs Obj	81.3%	18.8%	86.5%	13.5%
It: Subj vs Obj	25.2%	74.8%	33.1%	66.9%

Part 2. Pronoun Case Errors

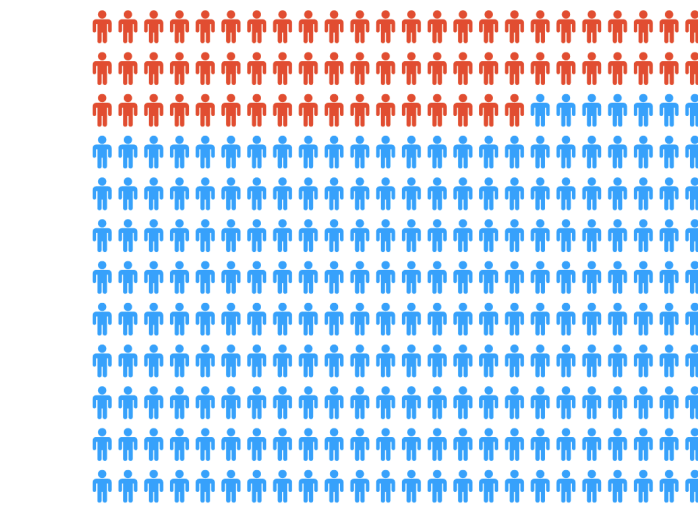
Children make less errors than expected; Adults make more

Figure 3. Summary of Children and Adults Pronoun Errors



Not all children and adults make pronoun errors

86 out of 382 children



79 out of 382 adults



Children who make errors have longer MLU

Comparing MLU of children who made errors and not

Age Range	No Errors		Errors		t-value
	M	SD	M	SD	
1;8 - 2;6	2.6	1.2	3.6	1.0	8.13**
2;7 - 3;4	5.11	1.7	5.3	1.7	1.19
3;5 - 4;0	5.01	1.8	5.8	1.9	6.5**

CONCLUSION

1. Adults and children have similar pronoun use patterns:

- Use more nominative case than accusative case, more first person pronouns, more singular; use you as subject more than object; use it as object more than subject

2. Children do make more pronoun errors than adults; however, not on every pronoun.

3. Adults and children have different pronoun error patterns:

- Children make more accusative case misuse errors (me for I)
- Adults make more nominative case extension errors (I for me)

4. Not all Adults and Children make pronoun errors:

- Only 22.5% of children and 20.7% of adults make pronoun errors.
- Children who make pronoun errors have longer MLU

DISCUSSION

- Also found children's self-initiated repair after pronoun case error:

Chi: her nipped me

Chi: she nipped me (Suppes 020525, line 1092)

Children are able to use pronouns like adults, but they have higher error rates and different error patterns, indicating that there might be other source for this error.

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Sagae, K., Davis, E., Lavie, A., MacWhinney, B., & Wintner, S. (2010). Morphosyntactic annotation of CHILDES transcripts. Journal of child language, 37(3), 705-729.
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All the corpora:
Bates, Bernstein, Bliss, Bloom (1970), Bohannon, Brown, Cornell, Demetras, Feldman, Gleason, Haggerty, Higginson, HSLLD, Kuczaj, MacWhinney, McCune, NewEnglish, Peters, Post, Sachs, Snow, Suppes, Valian, VanHouten, VanKleeck, Warren, Weist.