



# Prevalence of Long Passives in Child Mandarin: Input and Intervention Effects

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## I. Background

### Mandarin passives

- Long passives with an external argument (EA)
  - Zhangsan bei Lisi da-le  
Zhangsan BEI Lisi hit-PERF  
'Zhangsan was hit by Lisi'
- Short passives without an EA
  - Zhangsan bei da-le  
Zhangsan BEI hit-PERF  
'Zhangsan was hit'
- Structural differences (e.g., Huang 1999):
  - The EA is *not projected* in short passives.
  - Only long passives show A'-properties.

### Delayed long passives in child languages

Long passives are acquired late in many languages.

- Comprehension:**  
Long passives are significantly harder for 5yos to understand than short ones in Catalan, Dutch, German, Hebrew, Lithuanian, and Polish (Armon-Lotem et al. 2016).
- Production:**  
English-speaking children rarely produce long passives (e.g. Horgan 1978). Sesotho-speaking children acquire passives early but they mainly produce short passives in spontaneous speech (Kline & Demuth, 2008).

### Intervention Effects

- The dependency between a moved element and its gap is harder for children to establish when it crosses another potential antecedent of the gap, *the intervener* (e.g., Friedmann et al. 2009).
- This difficulty is alleviated by the *featural mismatch* of the moved and the intervening elements (e.g., Adani et al. 2010, Belletti et al. 2012, Mateu & Hyams 2021).



### Predictions

- Long passives will be harder to acquire than short passives in Mandarin. (EA = *intervener*)
- Featural mismatch between the two arguments in long passives alleviates this difficulty.

## II. Corpus Study: Long > Short Passive Asymmetry

### Methods:

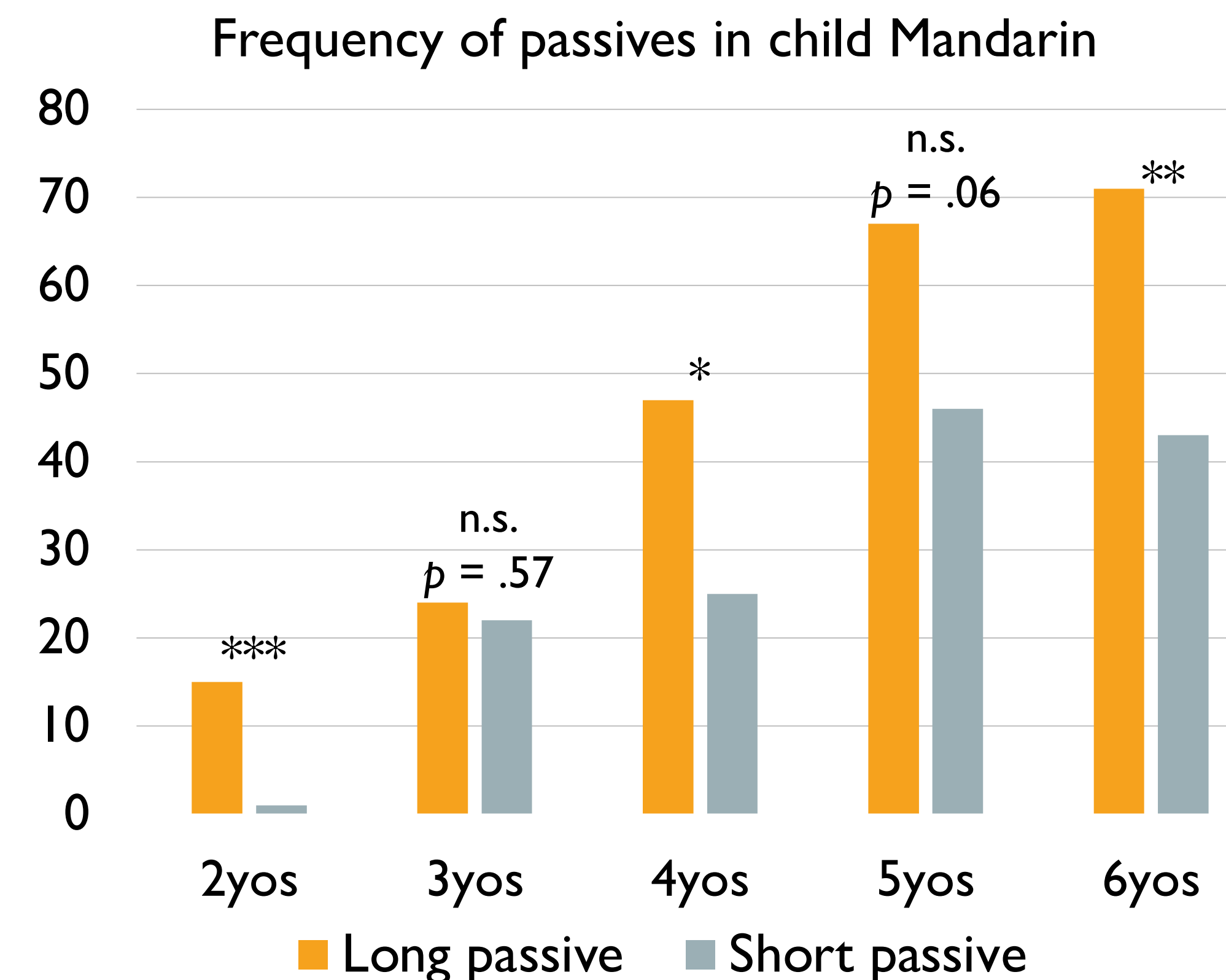
A search for the passive marker *bei* in CHILDES Mandarin corpora (2;0-6;11; N = 1,122) including both naturalistic and narrative speech.

### Results (2-6yos):

#### Long passives > short passives

( $p < .001$ , binomial test)

- By age: significant in three groups
- By corpus type ( $\chi^2(1) = 12.46, p < .05$ )
  - Naturalistic speech: 70.93% is long
  - Narrative speech: 52.72% is long



### → Why are long passives so frequent in child Mandarin compared to other languages?

#### Potential input effects:

	2-6yos	Child-Directed Speech
Long passives	219 (61.5%)	580 (58.4%)
Short passives	137 (38.5%)	414 (41.6%)

Child vs. CDS: not significantly different ( $\chi^2(1) = 1.09, p = .30$ )

#### But input alone cannot explain everything:

##### Mandarin long passives:

2-4yos (64.2%) vs. CDS for 2-4yos (62.8%)

Sesotho long passives (Kline & Demuth, 2008):

2-4yos (21%) vs. CDS for 2-4yos (60%)

## III. Alleviation of Intervention Effects in Mandarin Long Passives

### An asymmetry between child speech vs. CDS

- Mandarin-speaking children overwhelmingly produce full NP long passives with two arguments that have mismatched animacy features, significant different from their input ( $\chi^2(1) = 23.7, p < .001$ )

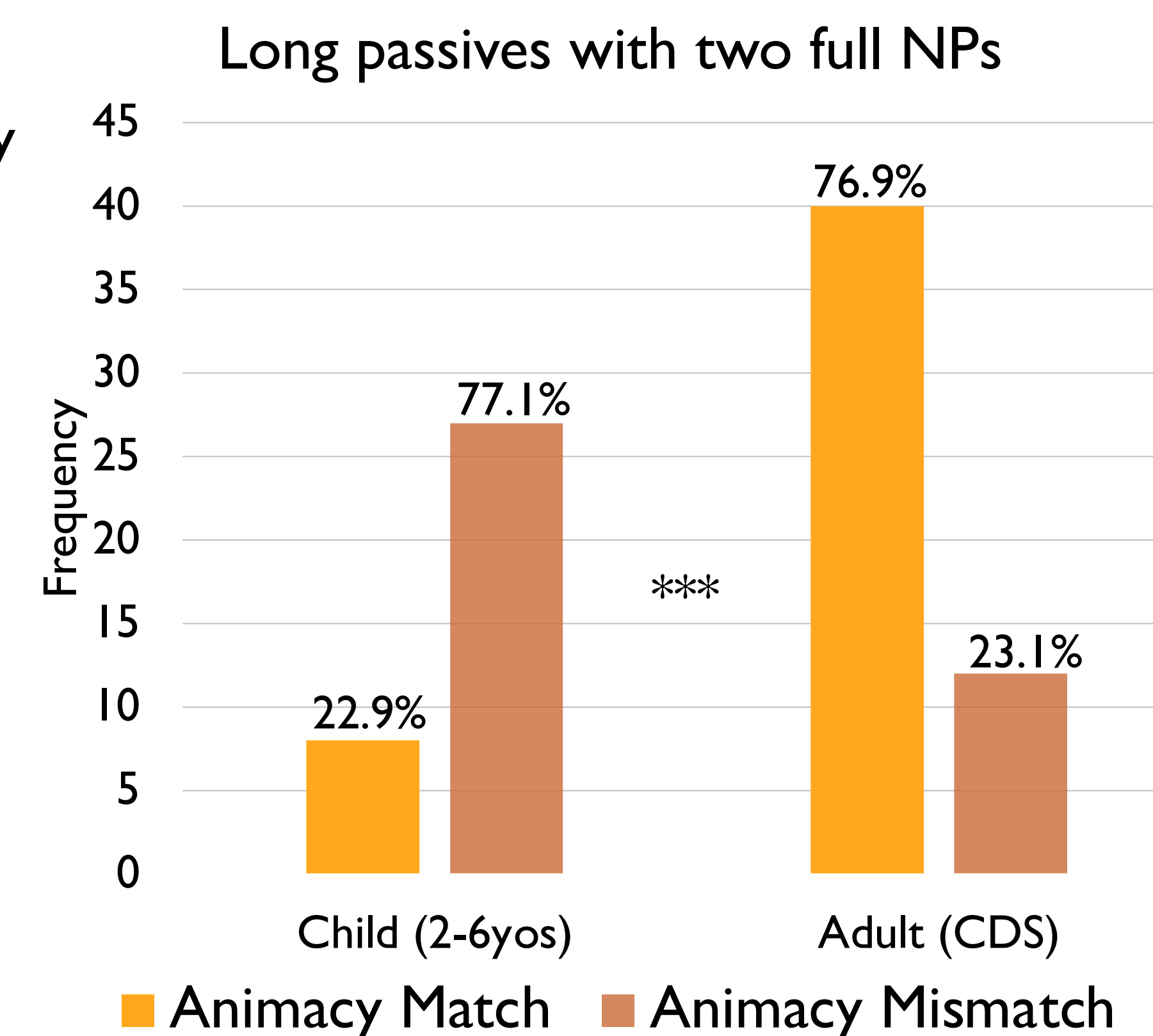
### Proposal: Alleviation of Intervention

The Intervention effect in children's long passives is alleviated by the featural mismatch between the two arguments.

**Prediction:** Long passives with two full NP arguments *matched* in animacy would be hard for children to acquire.

### Indirect evidence from previous studies in Mandarin:

- Xu and Yang's (2008): Long passives with two animacy-matched full-NP arguments are harder for 3-5yos to understand than short passives (ave. 57.3% vs. 88.6% correct).
- No manipulation of featural mis/match in previous studies → ongoing project



## IV. Proposals

- Children produce Mandarin long passive early and frequently due to its prevalence in their input.
- The acquisition of long passives is also constrained by Intervention Effects triggered by movement crossing the EA.
- This intervention effect is alleviated by the featural mismatch (such as animacy mismatch) between the two arguments in long passives.

## V. Summary and Discussion

### The long > short passive production in child Mandarin:

- Input effects + alleviation of Intervention Effects in long passives via featural mismatch

### Mandarin vs. other languages:

- Syntactic A'-properties distinguish Mandarin long passives from long passives in other languages, which is potentially a reason for the cross-linguistic differences observed here.

### Intervention: a grammatical or processing effect?

- The corpus data presented here do not distinguish between a grammatical vs. a processing approach to children's intervention effects.

### Future work

- Experimental study on the comprehension of long vs. short passives in child Mandarin (ongoing)
- Input vs. intake for Mandarin-speaking children
- Examination of other features in child Mandarin and the effects of featural mis/match in other child languages

### Acknowledgements

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### Selected Reference

[1] Friedmann et al. (2009). Relativized relatives: Types of intervention in the acquisition of A-bar dependencies. *Lingua*. [2] Adani et al. (2010). Grammatical feature dissimilarities make relative clauses easier: A comprehension study with Italian children. *Lingua*. [3] Kline & Demuth (2010). Factors facilitating implicit learning: The case of the Sesotho passive. *Language acquisition*. [4] Xu & Yang. (2008). Children's Acquisition of Passives in Chinese. *The Proceedings of the 9th Tokyo Conference on Psycholinguistics*.