

A desire to avoid ambiguity or ease processing? Insights from an experimental study of lexical ambiguity in spoken Mandarin using online eye-tracking

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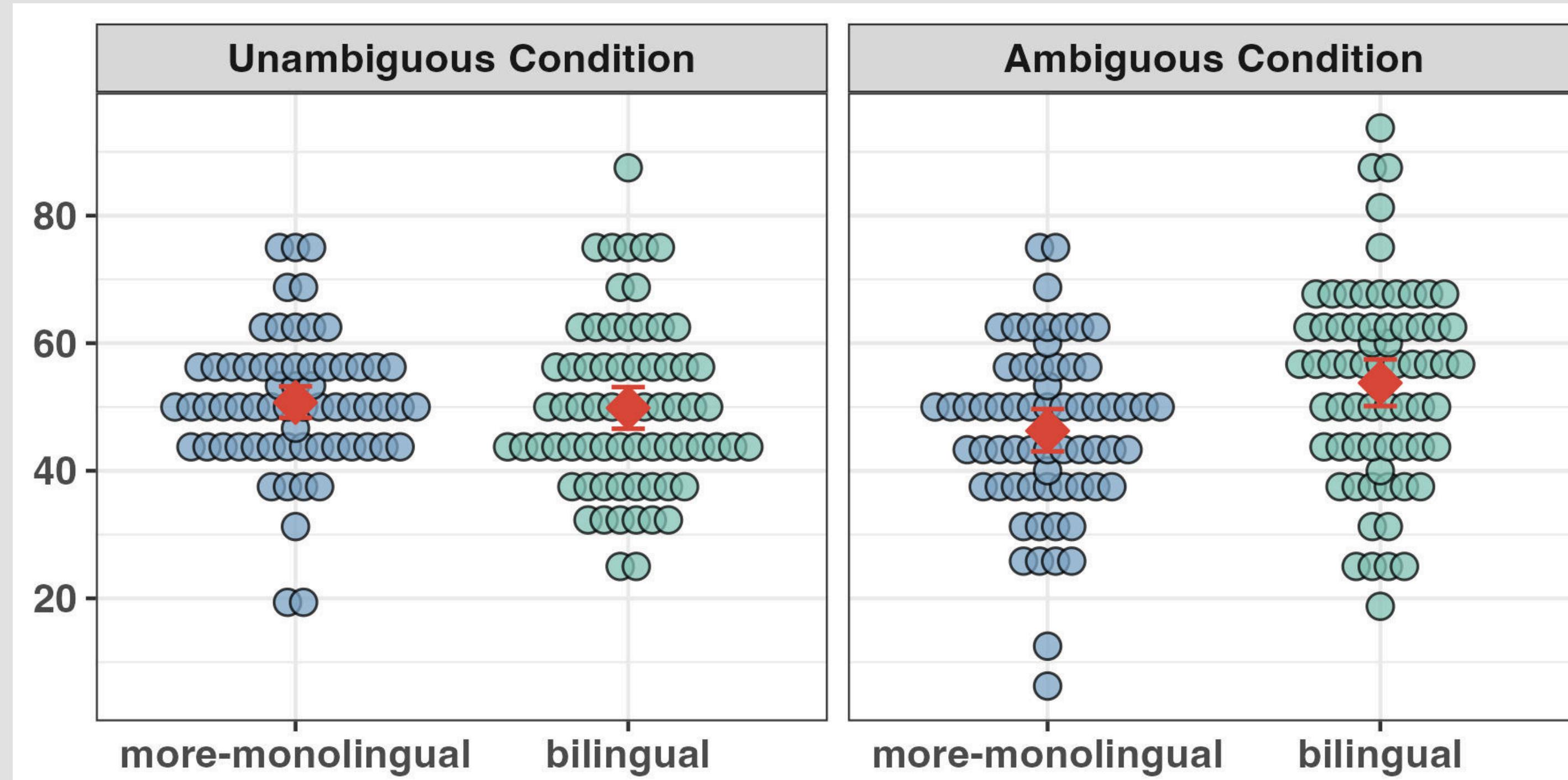
Lexical Ambiguity in Mandarin

Category	Spoken Form	Orthographic Form	Meaning
Homonymy	fen3 sil1	粉丝	fans
	fen3 sil1	粉丝	glass noodles
Tone-and-Segment Overlap	shou3 shi4	首饰	jewelry
	shou3 shi4	手势	hand gestures
Segment-Only Overlap	hua1 ban4	花瓣	petals
	hua2 ban3	滑板	skateboard
First-Character-Only Overlap	bo4 he2	薄荷	mint
	ba2 bing3	薄饼	thin wrap

Results: Verbal Responses from Exp 1 & 2

more-monolingual = 64, L1 Mandarin L2 English bilingual = 69

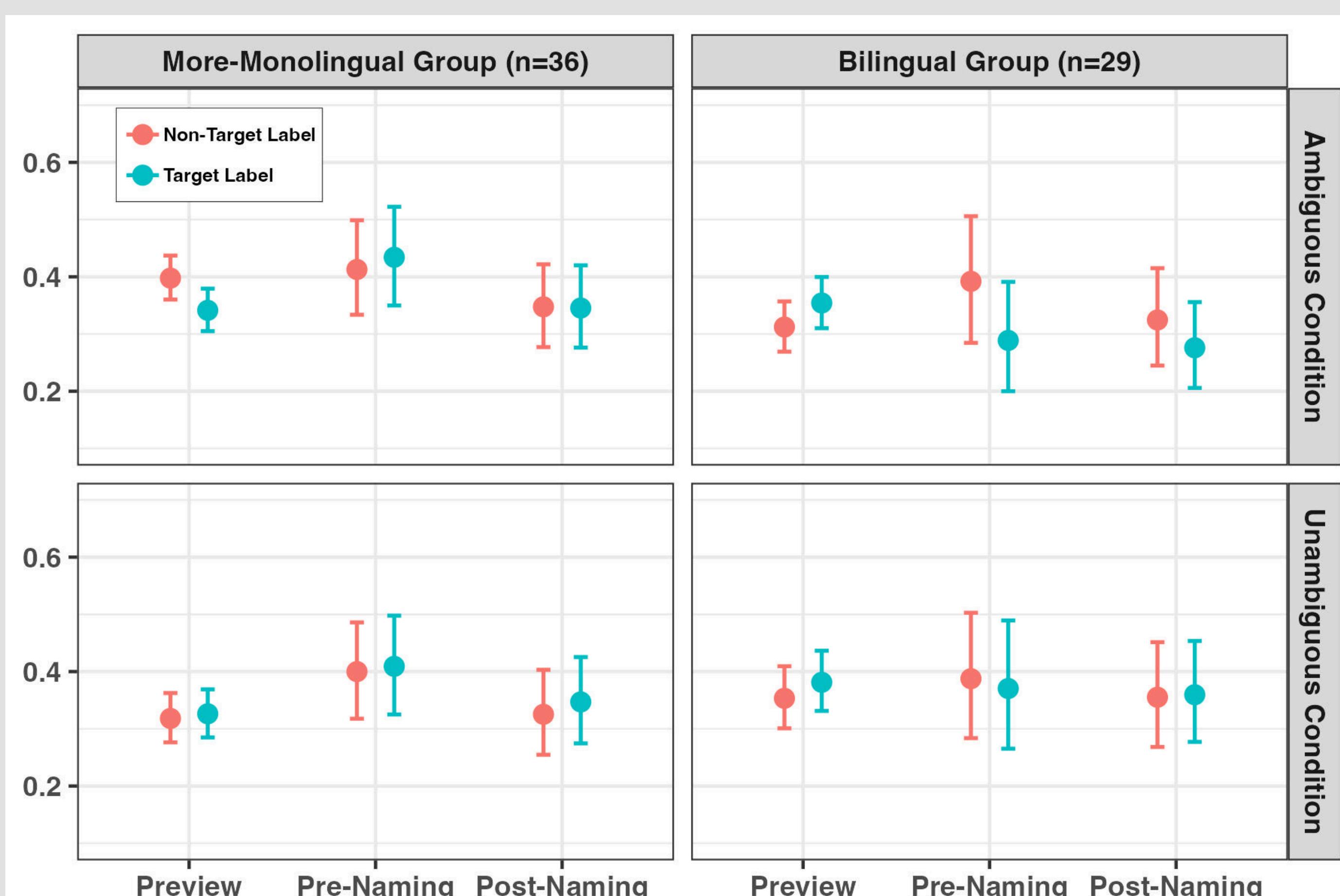
Percentage (%) of Target (Ambiguous) Label Production



- Bilinguals used more ambiguous labels for ambiguous trials, broadly consistent across all ambiguity categories.
- These findings do not support Hypothesis 1.

Model Estimation of Eye-tracking Saccades

Estimated Prob of Making Critical Saccades



- Bilinguals tended to direct early attention to image pairs with more accessible labels; more-monolinguals showed proactive monitoring of ambiguity depending on response types.
- These findings support Hypothesis 2.

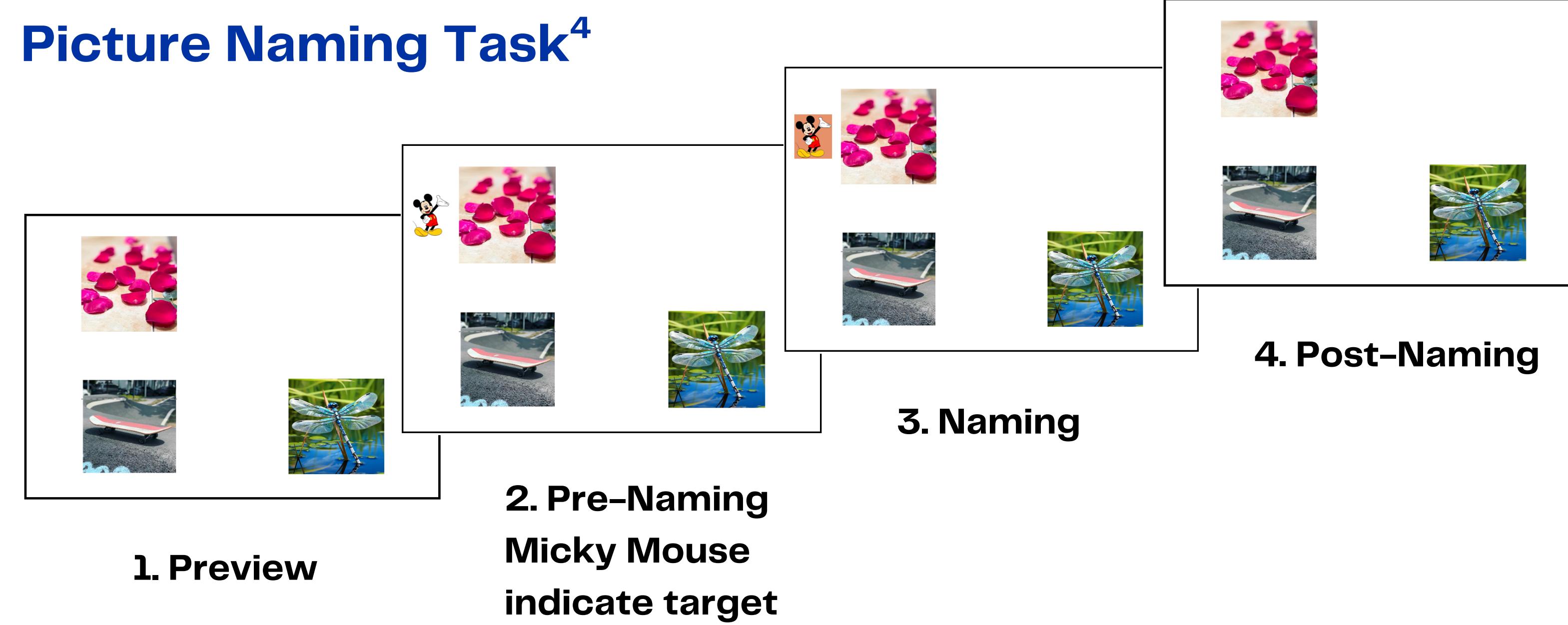
Introduction

Late bilinguals whose L1 allows subject omission tend to be more explicit in reference: they use more overt pronouns and full NPs than null pronouns¹. Why is that?

Hypothesis 1: bilinguals would rather be redundant than ambiguous in general².

Hypothesis 2: bilinguals avoid ambiguity when doing so helps reduce cognitive load³.

Picture Naming Task⁴



An example of the Segment-Only Overlap Category in the Ambiguous Condition: target is hua1 ban4 (花瓣, petals); competitor is hua2 ban3 (滑板, skateboard); filler is qing1 ting2 (蜻蜓, dragonfly). In the Unambiguous Condition, the competitor is replaced by a new filler image.

Results: Eye-tracking from Exp 2 (WebGazer)

Proportion (%) of Saccades between Images in Two Conditions

