

Constraints on null argument interpretation in Mandarin: General prominence vs. structural asymmetry

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Background. Recovering omitted arguments is a key question in sentence processing, especially in Mandarin, where arguments can be freely omitted. Prominence-based accounts predict that violations of thematic hierarchy produce a general mismatch penalty regardless of omission site [1]. By contrast, a structural account [2, 3] proposes that thematic hierarchy specifically constrains object omission because only object omission involves argument ellipsis subject to additional structural constraints. Accordingly, a prominence-based account predicts a general mismatch penalty across omission sites, whereas a structural account predicts an interaction, with a larger mismatch penalty for object omission. **Methods.** We conducted an acceptability judgment experiment (N = 33) using a 2 × 2 design crossing Omission Site (Null subject vs. Null object) and Thematic Hierarchy (Match vs. Mismatch, where thematic roles either followed or violated the canonical role ordering). Participants rated 48 experimental items on a 5-point acceptability scale. Experimental sentences consisted of two-clause Mandarin sentences with subject or object omission in the second clause (Table 1). Acceptability ratings were analyzed using linear mixed-effect models, with Omission Site, Thematic Hierarchy, and their interaction as fixed effects. **Results and Discussion.** A significant interaction between Omission Site and Thematic Hierarchy was observed ($\beta = -0.33$, SE = 0.13, $t = -2.47$, $p < .05$; Fig. 1; Tab. 2). Hierarchy mismatch reduced acceptability, but the penalty was larger for object omission. In Mismatch conditions, Null objects were rated lower than Null subjects, whereas no reliable difference was observed in Match conditions. This pattern indicates a general mismatch penalty, but one that disproportionately affects object omission. These findings suggest that thematic hierarchy constrains the interpretation of omitted arguments, with stronger constraints on object omission than on subject omission.

Table 1: Experiment Stimuli

Conditions		Regions								
		Clause 1				Clause 2				
Omission Site	Thematic Hierarchy	Subject	Verb	Object	Adverb1	Connective	Subject	Verb	Object	Adverb2
Subject	Match	Zaoshang morning	he drink	kafei coffee	henhao, very good	danshi but	[e]	he drink	pjiu beer	buhao. not good
'Drinking coffee in the morning is good, but drinking beer then is not good.'										
Object	Match	Zaoshang morning	he drink	kafei coffee	henhao, very good	danshi but	wangshang evening	he drink	[e]	buhao. not good
'Drinking coffee in the morning is good, but drinking it in the evening is not good.'										
Subject	Mismatch	Kafei coffee	he drink	zaoshang morning	henhao, very good	danshi but	[e]	he drink	wangshang evening	buhao. not good
'Drinking coffee in the morning is good, but drinking it in the evening is not good.'										
Object	Mismatch	Kafei coffee	he drink	zaoshang morning	henhao, very good	danshi but	pjiu beer	he drink	[e]	buhao. not good
'Drinking coffee in the morning is good, but drinking beer then is not good.'										

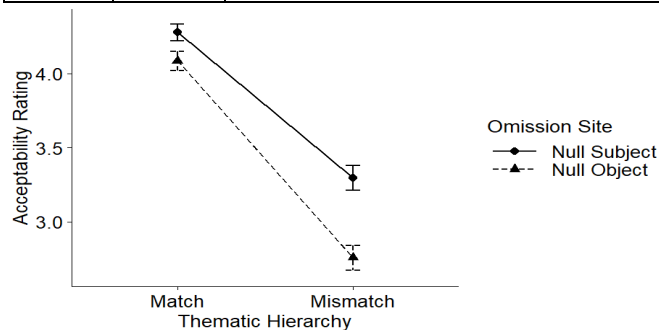


Figure 1: Mean acceptability ratings by condition. Error bars indicate SEs.

Table 2: LME results for acceptability ratings.

Parameters	Fixed effects			Random effects	
	Estimate	SE	t	By subject	By item
Intercept	3.60	0.10	36.30***	0.45	0.36
Omission Site	0.37	0.07	4.96***	0.19	
Thematic Hierarchy	1.15	0.12	9.61***	0.57	
Omission Site × Thematic Hierarchy	-0.33	0.13	-2.47*		

Note. Contrast coding: Omission Site (-.5 = Null object, .5 = Null subject), Thematic Hierarchy (-.5 = Mismatch, .5 = Match). Model: score ~ Omission Site × Thematic Hierarchy + (Omission Site + Thematic Hierarchy | participant) + (1|item). *|t| ≥ 2.0 indicates significance.

References

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