L1 AND L2 MANDARIN SPEAKERS PREDICT UPCOMING ARGUMENTS IN DATIVE CONSTRUCTIONS BASED ON CATEGORICAL AND GRADIENT VERB INFORMATION

Yanxin (Alice) Zhu & Theres Grüter (University of Hawai'i)
yanxinz@hawaii.edu

In the first study on predictive processing of dative verbs in Mandarin, Chen et al. (2022) employed a visual-world structural priming paradigm and found that Mandarin speakers' predictions of upcoming arguments were influenced by both prime type and gradient verb bias, i.e., the likelihood of an alternating dative verb to occur in a prepositional object (PO) construction or a double object (DO) construction. Yet it remains unclear whether verb-bias effects can be observed without priming. The present study further investigates the role of prediction in the processing of Mandarin dative constructions by (i) examining processing in the absence of priming, (ii) including categorical constraints (i.e., non-alternating dative verbs that can occur in PO or DO only) in addition to gradient bias for alternating verbs, (iii) including a longer ambiguous region between the verb and the first post-verbal noun (Fig.1), and (iv) testing both native speakers (L1) and classroom learners (CL) of Mandarin.

Method: L1 (*N*=59) and CL (*N*=60) participants completed a visual world eye-tracking experiment in which they listened to a speaker describe visual scenes containing three entities (agent, theme, goal; Fig.1). Ten dative verbs (6 non-alternating PO-only MAKE (*k*=3) and DO-only TELL verbs (*k*=3) and 4 alternating GIVE verbs) were included.

Results: We used LMER models to examine the likelihood of participants looking at the theme vs. the goal (log-ratio) during two critical ambiguous time windows (CR1=verb; CR2=aspect marker+numeral+general classifer; Fig.1). We interpret changes in looking from CR1 to CR2 as evidence of prediction based on verb information. For **non-alternating** verbs (Fig.2), the model returned an interaction between window (CR1, CR2) and verb type (MAKE, TELL), *b=-.37, p<.001*; no effects or relevant interactions with Group, indicating from CR1 to CR2, both L1 and CL participants predicted a theme following MAKE verbs (*b=.24, p<.001*), and a goal following TELL verbs (*b=-.12, p=.001*). For **alternating** verbs (Fig.3), the model returned an interaction between window (CR1, CR2) and verb bias (DO vs. PO bias), *b=.24, p<.001*; no effects or relevant interactions with Group. L1ers and CLs predicted a theme following PO-biased verbs (*b=.22, p<.001*).

This study provides new evidence of active prediction of the Mandarin dative alternation (a) in the absence of priming, and (b) among both native and non-native speakers, indicating these effects generalize across different types of language users.

References

Chen, X, Wang, S & Hartsuiker, RJ. (2022). Error-based structure prediction in language comprehension: Evidence from verb bias effects in a visual-world structural priming paradigm for Mandarin Chinese. *JEP:LMC*, *48*.

Fig.1. *Illustration of experimental item (PRF = perfective marker; CL = general classifier)*

	CR1	CR2						
Nanren	song	le	yi	ge	daxuesheng	yi	ge	shafa.
Man	give	PRF	one	CL	college student	one	CL	sofa

"The man gave a college student a sofa.

Fig.2. *Proportion looks for **non-alternating** verbs*

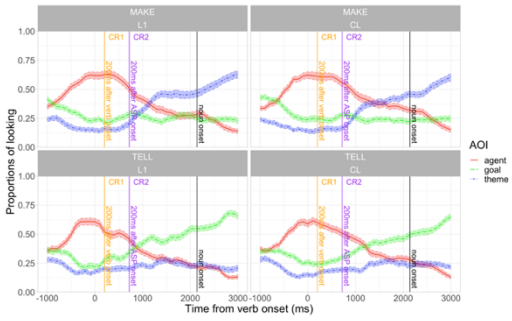

Fig.3. *Proportion looks for **alternating** verbs*