GERMAN-DOMINANT VIETNAMESE HERITAGE SPEAKERS USE SEMANTIC CONSTRAINTS OF GERMAN FOR ANTICIPATION DURING COMPREHENSION IN VIETNAMESE

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Native language (L1) speakers often anticipate upcoming words (e.g., anticipating edible objects upon hearing "eat" [1]), but non-native language (L2) speakers do so less, particularly when they process linguistic features that are specific to the L2 [2]. A possible account for this difference is that the dominant language influences non-dominant language processing. To test this, we investigated whether Vietnamese heritage speakers' anticipation is influenced by their dominant language German. They started acquiring Vietnamese as early as L1 Vietnamese speakers but later became dominant in German. We tested anticipation based on **classifier constraints** (which do not exist in German) and **verb constraints** (which often differ from those in German, e.g., The Vietnamese verb *mặc* 'wear' can take a shirt but not an earring as a grammatical object, whereas the translation-equivalent German verb *tragen* can take both a short and earrings as a grammatical object).

30 L1 Vietnamese-L2 German speakers and 30 Vietnamese heritage speakers listened to Vietnamese sentences (e.g., *Nam mặc*-verb *một chiếc*-classifier *áo*; 'Nam wears-verb one [classifier] shirt') while viewing 4 objects: **target**, **competitor** and 2 **distractors** (i.e., visual world eye-tracking). Each sentence contained a verb that had either a **different mapping** (e.g., *mặc – tragen*) or **similar mapping** (e.g., *phơi – trocknen* 'dry') between Vietnamese and German. The competitor was plausible to follow after the similar mapping verb and implausible after the different mapping verb but plausible after the German translation-equivalent of the different mapping verb. The classifier was either **shared** or **not shared** between the target (shirt) and the competitor (earrings; when it was not shared, only the target met the classifier constraints). If people use the verb and classifier constraints efficiently, we expected more fixations on objects meeting (vs. not meeting) the verb/classifier constraints. Additionally, if the dominant language influences anticipation, heritage speakers may anticipate German-verb compatible objects and fixate both the target and the competitor upon hearing the different mapping verb (although the competitor was not compatible with the verb in Vietnamese).

Linear mixed-effects models in the verb and classifier windows showed that both groups were more likely to fixate the verb- and classifier-compatible objects upon hearing the verb/classifier, suggesting that both groups used verb- and classifier constraints for anticipation. L1 Vietnamese speakers showed more looks to the target over the competitor than heritage speakers, suggesting more efficient disambiguation in L1 Vietnamese speakers. An exploratory divergence point analysis showed similarly early disambiguation in both groups when the verb did not help disambiguation between the target and the competitor. However, when the verb mapping was different in Vietnamese and German, heritage speakers fixated the verb-compatible target about 1500 ms later than L1 Vietnamese speakers. Heritage speakers were distracted by the competitor that was compatible with the translation-equivalent German verb, suggesting an influence of the dominant language on anticipation in the heritage language.
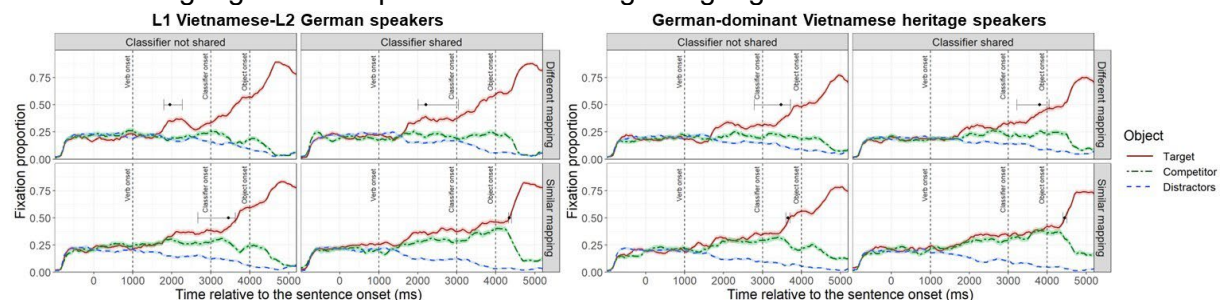

Figure 1. Fixation proportion for each object, condition and group. The dot in each plot shows the mean divergence point between the target and competitor fixations with 95% CIs.

References: [1] Altmann & Kamide (1999). *Cognition*. [2] Lew-Williams & Fernald (2010). *J. Mem. Lang.*