

English-dominant Korean speakers show reduced flexibility in constituent order

Savithry Namboodiripad, Dayoung Kim and Gyeongnam Kim

Previously-described cases of contact-induced change in the relative order of constituents (SUBJECT, OBJECT, and VERB) have shown that flexible languages become more rigid when in contact with a rigid language (Heine 2008). However, a causal link between language contact and reduced flexibility has not yet been established experimentally, and there is still much to be explored as to how contact affects processing and use at the level of syntax. Using a formal acceptability judgment task, we compare two populations of Korean-speakers: native Korean-speakers in Korea and English-dominant Korean-speakers who grew up in the United States (*heritage speakers*, c.f. Polinsky 1997, Toribio 2001, et alia). We propose an operational definition of flexibility and present results which show that English-dominant participants exhibit less flexibility in constituent order than do their Korean-dominant counterparts.

Though SOV is the canonical order in Korean, it exhibits scrambling. In colloquial speech, post-verbal arguments are possible in some contexts, and there is no restriction on the number of elements which can be scrambled to post-verbal positions (Ahn 1988, Yun 2014). According to Yun (2014), right-dislocated elements can carry either given or new information, and focus prosody interacts with the information structure of the post-verbal scrambling. Given that grammatical non-canonical orders lead to lowered acceptability (e.g., Weskott & Fanselow 2011), we expect SOV to be rated highest in Korean, followed by OSV. Verb-medial orders are expected to be marginally acceptable, and the verb-initial orders should be rated lowest of all.

In English, canonical order is SVO. OSV is possible through topicalization, and all other orders are ungrammatical. Based on this, we consider two hypotheses about how experience with English should affect acceptability of constituent order in Korean. If participants are being influenced by the surface order of English when encountering Korean sentences, English-dominant participants should rate the SVO order higher than Korean-dominant speakers do. However, heritage speakers have been shown to exhibit increased processing difficulty (and lowered acceptability) for difficult-to-process constructions in their heritage languages (Polinsky et al. 2009, Benmamoun et al. 2014, et alia). This predicts that non-canonical orders (including SVO), should be rated lower by English-dominant participants than by Korean-dominant participants. Within the context of acceptability judgments, our operational definition of flexibility is as follows: lowered flexibility means lowered acceptability for non-canonical orders relative to the canonical order.

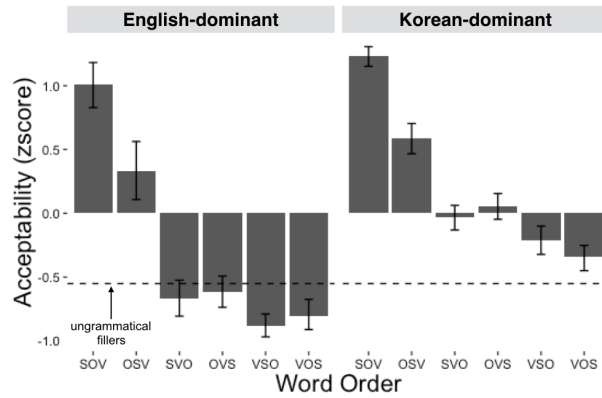
We present results from 41 participants (30 Korean-dominant in Korea, 11 English-dominant in the United States; data collection is ongoing for English-dominant speakers). Each experimental stimulus had three constituents: an animate subject, an inanimate object, and a transitive verb. Stimuli were distributed among lists pseudorandomly using a Latin Square (sample stimuli in 1-6). Sentences were presented auditorily in Praat (Boersma 2001) with deaccented post-verbal elements, and each participant rated 5 tokens of each condition and 40 filler items (10 of very low acceptability) on a 7-point scale.

- | | |
|---|---|
| (1) sonyeo-ka nokcha-lul masi-ess-ta
girl-NOM green tea-ACC drink-PST-DECL | (4) nokcha-lul masi-ess-ta sonyeo-ka
green tea-ACC drink-PST-DECL girl-NOM |
| (2) nokcha-lul sonyeo-ka masi-ess-ta
green tea-ACC girl-NOM drink-PST-DECL | (5) masi-ess-ta sonyeo-ka nokcha-lul
drink-PST-DECL girl-NOM green tea-ACC |
| (3) sonyeo-ka masi-ess-ta nokcha-lul
girl-NOM drink-PST-DECL green tea-ACC | (6) masi-ess-ta nokcha-lul sonyeo-ka
drink-PST-DECL green tea-ACC girl-NOM |

Results (as z-scores) are presented in Figure 1 (error bars = SE; dashed line = mean rating of ungrammatical filler items). There is a 4-way distinction in acceptability for both groups:

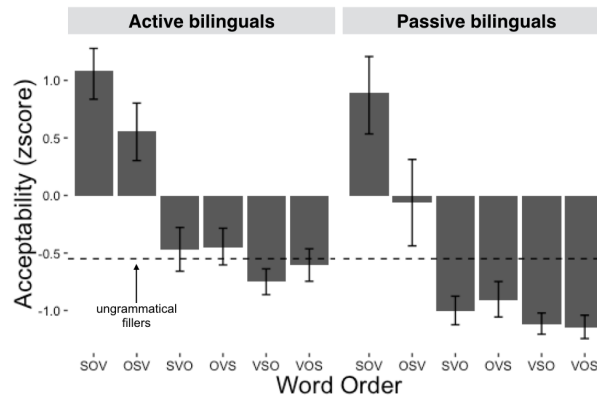
SOV>OSV>{SVO, OVS}>{VSO, VOS}. Additionally, as confirmed by pairwise comparison tests, English-dominant participants rated each non-canonical order significantly lower than the Korean-dominant participants did, including SVO. There was no significant difference between groups for the canonical SOV order.

Fig 1. English-dominant vs. Korean-dominant



We know that the English-dominant group varies considerably in their Korean proficiency (see their relative high rating of the ungrammatical fillers), so we split these participants into active bilinguals, who speak Korean fluently, and passive bilinguals, who can understand but not fluently speak Korean. Figure 2 shows that passive bilinguals consistently rate non-canonical orders lower than do active bilinguals, indicating that increased contact with English corresponds to decreased flexibility in Korean.

Fig 2. Active versus Passive bilinguals (all English-dominant)



The word order systems of the English-dominant and Korean-dominant speakers are qualitatively similar, as they show the same 4-way distinction in acceptability. However, there is a quantitative difference between the groups, as English-dominant participants have reduced flexibility in Korean constituent order. Crucially, we found no evidence that English-dominant speakers are treating SVO order differently, which suggests that speakers are not influenced by surface English order when hearing SVO sentences in Korean. From a methodological perspective, this study shows that doing formal acceptability tasks with audio stimuli expands the types of phenomena and populations which can be studied. Furthermore, these results make predictions for contact-induced change in constituent order in other contexts: in cases of societal bilingualism, where speakers are

shifting away from a flexible language, we expect increased reliance on canonical order as opposed to borrowing of constituent order from the contact language.