Productivity and Universality of Georgian Sound Symbolism: A Pokémonastics Study

Recent experimental research has used Pokémon names to study the productivity of sound symbolism patterns and their universality across languages (Kawahara & Kumagai 2019 et seq.). Extending this paradigm to a new language, we conducted two experiments examining Georgian sound symbolism patterns in Georgian and English speakers. Georgian has voiced, voiceless, and ejective stops. In terms of their sound symbolic properties, these stop series form a scale from lowest pitch (voiced) to highest pitch (ejective). Among vowels, /i/ is associated with higher pitch and louder volume and /u/ with lower pitch and softer volume; /a/ conveys louder volume than both /i/ and /u/ (Holisky & Kakhadze 1988).

To test whether Georgian and English speakers would reproduce these sound symbolism patterns, we presented participants with novel Pokémon names and asked them to assign them to pre-evolution (smaller) or post-evolution (bigger) Pokémon. The names varied along two fully-crossed dimensions: Stop Type (voiced, voiceless, ejective) and Vowel (/a/, /i/, /u/). Extrapolating from these sounds' associations with pitch and volume, we predicted that Georgian speakers would associate voiced stops most strongly with post-evolution Pokémon, voiceless stops less so, and ejectives least of all. We predicted that /a/ would elicit more post-evolution responses than /i/ or /u/. Based on volume, /i/ (louder) should elicit more post-evolution responses than /u/; based on pitch, /u/ (lower) should elicit more post-evolution responses than /i/. We also tested whether English speakers would reproduce these sound symbolism patterns despite their origins in another language. In particular, would they associate ejectives with pre-evolution Pokémon despite lacking experience with ejective phonemes?

Figures 1 and 2 show the rates of post-evolution response by Stop Type and Vowel in the Georgian and English experiments. We analyzed the results of each experiment with a mixed-effects logistic regression and post-hoc pairwise comparisons within Stop Type and Vowel. For Georgian speakers, voiced stops were significantly more likely to elicit post-evolution responses than voiceless stops or ejectives, but the latter two stop types did not differ. This suggests that some sound symbolism patterns in the Georgian lexicon are unproductive. Moreover, voiced stops' association with post-evolution Pokémon may simply reflect a universal sound symbolism pattern that has been found in other languages, including English (Kawahara & Breiss 2021). For English speakers, voiced stops and ejectives elicited more post-evolution responses than voiceless stops. This replicates the finding that English speakers associate voiced stops with largeness. They may have associated ejectives with larger Pokémon due to their phonetic salience. For English speakers, both /a/ and /u/ elicited more post-evolution responses than /i/. For Georgian speakers, however, /a/ elicited more post-evolution responses than /u/ while /u/ and /i/ did not differ. The contrasting associations for /u/ may constitute language-specific patterns. Finally, in both experiments, there were significant interactions of Stop Type and Vowel such that certain effects of Stop Type were weaker among names with /a/. This amounts to sub-linear (i.e. less than additive) cumulativity of distinct sound symbolism effects, contrasting with Kawahara & Breiss's (2021) finding of linear cumulativity.

Fig. 1: Rate of Post-evolution Response by Stop Type and Vowel - Georgian
(n = 61)

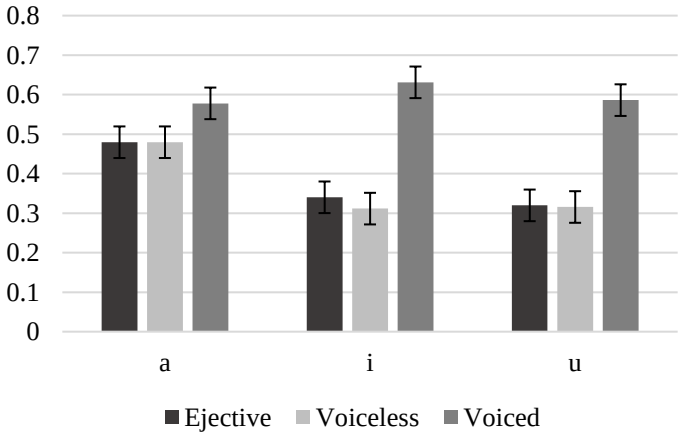
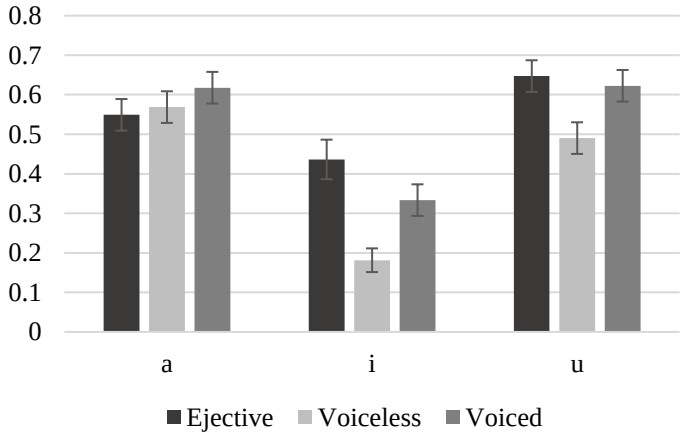


Fig. 2: Rate of Post-evolution Response by Stop Type and Vowel - English
(n = 51)



Short Abstract (100 words)

Using a Pokémonastics paradigm (Kawahara 2023), we tested whether Georgian and English speakers would reproduce sound symbolism patterns found in the Georgian lexicon (Holisky & Kakhadze 1988). Both Georgian and English speakers associated voiced stops and /a/ with largeness, but the two language groups diverged in their treatment of /u/, yielding evidence for both universal and language-specific sound symbolism patterns. The lexical sound symbolic associations of ejectives were not productive for Georgian speakers. Finally, both language groups exhibited sub-linear (less than additive) cumulativity of distinct sound symbolism effects, contrasting with Kawahara & Breiss's (2021) finding of linear cumulativity.