Sound Symbolism of Gender in Cantonese First Names

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Introduction: A growing body of literature suggests that sound symbolism is more pervasive in human language than previously thought (Dingemanse et al. 2015, Svantesson 2016, Alderete and Kochetov 2017, Shih et al. 2019). Certain sound-meaning associations recur cross-linguistically and are hypothesized to be iconic and universal, due to their articulatory or acoustic grounding (Ohala 1995, Thompson et al. 2019). In particular, high or rising frequency sounds (e.g., front vowels and high or rising pitch) tend to signal the concept of smaller size, femininity, and politeness, while low or falling frequency sounds (e.g., back vowels and low or falling pitch) are linked to larger size, masculinity, and dominance ("The Frequency Code", Ohala 1995). The current study probes how lexical tones are associated with gender in personal names in view of the frequency code. Recent corpus studies on Cantonese personal names found that while falling pitch across two syllables is more likely in male than female names in line with the frequency code (Author 2019), high tones are more frequent in male than female names, counter to the frequency code (Starr et al. 2018, Author, 2019). In this paper, we report on the results of a name-gendering experiment that probes how the statistical pattern of existing names and the frequency code bias affect the speakers' judgement of novel Cantonese names.

Methods: 22 Cantonese speakers and 24 English speakers (without any knowledge of tone language) participated in a Cantonese name gendering experiment. They listened to a disyllabic nonce Cantonese name and estimated its gender on a 6-point scale from "certainly female" (=0) to "certainly male" (=5). The stimuli consisted of 20 sets of disyllabic nonce names made up of accidental gaps in the Cantonese syllabary. The tones for each syllable were varied between Tone 1 (H) and Tone 6 (L) to create minimal sets of four-way tonal contrasts (HH, LL, HL=falling, LH=rising) with segmental properties held constant within each set. The 20 sets of nonce names were balanced in terms of segmental and syllabic properties, shown to correlate with the gender of existing Cantonese and English names (Author 2019, Slater & Fineman 1985, among others) such as consonant sonority (male prefers obstruents), vowel rounding (male prefers rounded vowels) and syllable structure (male prefers closed and heavy syllables). The stimuli were created by splicing together nonce syllables produced by a phonetically trained native female speaker of Cantonese. The results were analyzed using a linear mixed-effects logistic regression model.

Results: Tones had systematic effects on gender judgement: HH induced most female leaning responses, and LL induced most male responses while the two contours (LH and HL) did not differ significantly from each other (HH < LH~HL < LL) (Fig. 1). This pattern was consistent across the two language groups. Significant segmental effects were also found in the expected direction: initial obstruent onset favoured male names (son < obst) (Fig. 2), final obstruent coda favoured male names (null ≤ son < obs) (Fig. 3), and rounded vowels favoured male names in syllable 1 for English speakers (unrounded < rounded) (Fig. 4).

Discussion: The strong tonal effects found across both speaker groups (H~ Female; L ~ Male) support the frequency code as a universal sound symbolic bias. These preferences emerged for made-up words where the segmental effects are tightly controlled. The connection is unlikely to be a learned pattern given that, if anything, an opposite tendency is attested in existing Cantonese names (L ~ Female) and the preference is found for English speakers with no knowledge of Cantonese, or any tone language. Lack of significant effect of tone contours (LH ~ Female; HL ~ Male) is unexpected given that existing Cantonese names have a tendency in line with the frequency code (falling pitch prefer male names) and the rising intonation contour is utilized in English, often associated with female speech (Lakoff 2004). This may be because two-syllable name stimuli were created by concatenating two monosyllables with a short pause between the syllables and were not perceived as a disyllabic word with a single tonal contour. Overall, the results suggests the frequency code as a universal bias that may be overridden in actual lexicon but persistent in its influence.

Figure 1

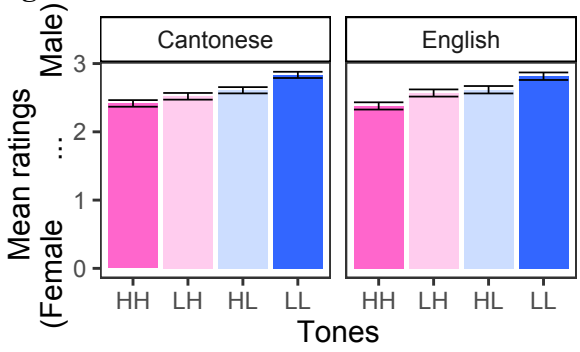


Figure 2

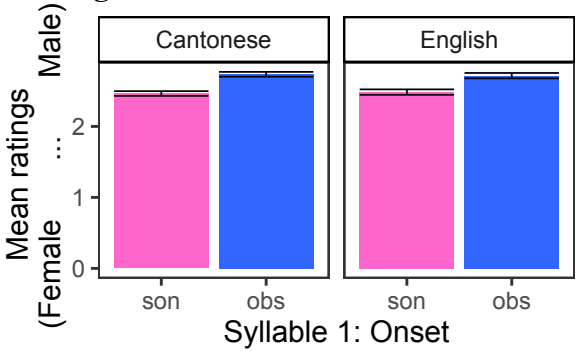


Figure 3

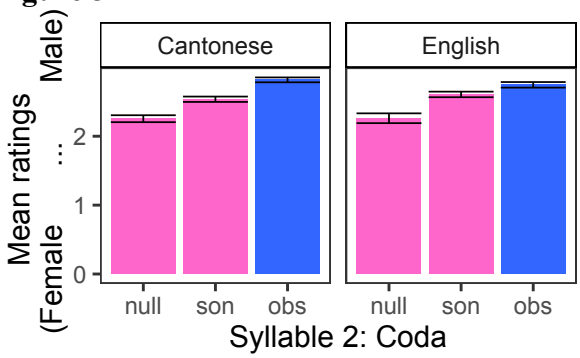
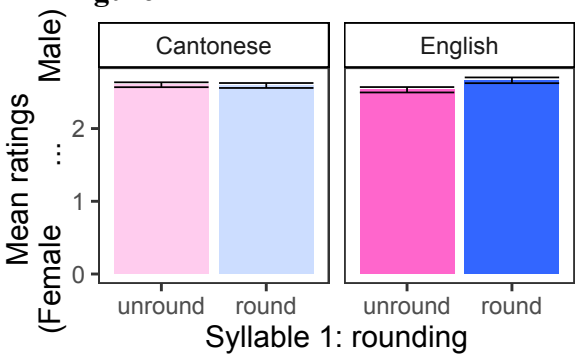


Figure 4



In the bar graphs, pink and blue bars represent female and male favouring conditions, respectively. Darker shade indicates a significant effect and the lighter shade indicates a nonsignificant effect.

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