Sound Symbolism in Electric, Rock, and Ground-type Pokémon Names

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Introduction: Sound symbolism, the systematic association between sound and meaning, has been subject to a significant amount of attention from linguists and related disciplines over the past decade. Pokémon names, first explored by Kawahara et al. (2018), have received particular consideration, due to the robust set of non-linguistic features such as height, gender, and "type" that can be easily explored for sound symbolism. Pokémon are animal-like creatures with one of eighteen "types" which determine their appearance, alongside many other features. Some authors have reported sound symbolic correlations in Pokémon types, including bilabial consonants in Fairy types (Hosokawa et al. 2018), and sibilants in Flying types (Kawahara et al. 2020). This research furthers the study of Pokémon sound symbolism through Electric, Rock, and Ground-type names, and investigates whether native speakers of Japanese display productive knowledge of potential sound–type associations through a perception and production task.

Methods: This research consists of three experiments: 1) a corpus analysis of the 133 Electric, Rock, and Ground-type names from the Japanese Pokedex, 2) an online production study where participants, recruited through Gorilla.sc, volunteered names for "new" Pokémon of these types (20 participants * 3 'new' Pokémon), 3), and an online perception task in which for each of these "new" Pokémon, participants chose between pairs of nonce Pokémon names varying one phonological feature at a time (20 participants * 3 vowels [i, a, u] * 3 consonants [b, t, z]). Generalized mixed-effects modelling was used for statistical analyses of the proportion of natural classes (voicing, place, manner, height, and frontness) across all three studies.

Results: Although within each investigation a series of significances across natural classes surfaced, only the presence of [i] in Electric-types remained significant across all three studies ($p > 0.05$, $p > 0.005$, $p > 0.005$). Features such as bilabials in Electric-type, voiced consonants and the low/central vowel [a] in Ground-types were also significant in the official Pokédex corpus, but these significances were not reflected in native speakers choices. In fact, in the production task, [a] was significantly lower in Ground-types and higher in Rock-types, and in the perception task, bilabial consonants were chosen significantly less for Electric-types.

Discussion: The consistent significance of [i] in Electric-type Pokémon, as well as the variable significance of [a] are likely better explained through vowel symbolism as a result of the Pokemon's physicality, rather than evidence of 'electricness' etc. It is likely that [i] may be significantly correlated with Electric-types for the 'sharpness' of the bolts typically featured on their characters as observed in the bouba-kiki effect (Köhler, 1929). The variable significance of [a] between both Ground and Rock-type Pokémon is likely an association with 'bumpiness' or 'roughness' as postulated by Sakamoto and Watanabe (2018). These results present interesting methodological considerations for future studies on sound symbolism in character names. Although investigations of a single corpus or perception study highlight specific sound symbolic correlations, it may be of value to incorporate more production experiments in which participants create their own names, prompted only by a character's image and categorization. More studies

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which test both participant's judgment on already created names, as well as the features participant select when creating their own names could produce interesting results about whether speakers perceive sound symbolism differently than how they produce it.

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