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# Sound Effects: Age, Gender, and Sound Symbolism in American English

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## Introduction

Does /i/ sound smaller than /a/? Does a product with the brand name Vahtah seem faster than a product called Kahtah? Are the answers to these questions the same for 20-somethings as they are for their grandparents? What about for males and females? Do brand names carry with them an element of sound symbolism that can be used to the marketer's advantage?

Sound symbolism has long been a controversial topic among linguists (Magnus, 2013). Even as the field has accumulated evidence that sound symbolism is more than coincidence (e.g., Hinton, Nichols, & Ohala, 1994), sound symbolism also has been found to be less than universal, varying by language and even region (Wright, 2012). Because age and gender are common factors in language variation (e.g., Meyerhoff, 2011; Chambers, 2009; and Labov, 1990), it would be logical to consider whether they influence sound symbolism as well.

While a few marketing-related studies (e.g., Klink, 2009, 2000) offer some evidence that genders respond differently to brand names, others (e.g., Kelley, Leben, & Cohen, 2003) report no effect. To a large extent, demographic factors have gone unreported. A study of how demographic factors affect sound symbolism, however, can contribute to an understanding of how closely tied sound symbolism is to social structure, with implications that are both theoretical (empirical evidence for iconicity in language) and applied (e.g., devising brand names that communicate particular attributes to specific demographics).

This study, therefore, asked: Is age or gender a significant factor in how sound symbolism is perceived by speakers of American English?

## Methods

To explore language variation in sound symbolism, a nationwide survey was conducted primarily via social media in July and August of 2014. The survey asked participants who identified as L1 American English speakers to imagine marketers were soliciting feedback on potential brand names for a new product. Subjects used 10 seven-point scales (see figure at right) of polar-opposite adjectives to rank six fictitious brand names:

**Keetee, Neetee, Veetee, Kahtah, Nahtah, Vahtah**

The artificial words highlighted the phonemes /i a k n v/, which were chosen for their variety of distinct manners and places of articulation. Seven scales were drawn from existing sound symbolism research (Magnus, 1999; Sapir, 1929) while three (liberal-conservative, religious-secular, rural-urban) were based on judgments that have commonly polarized society.

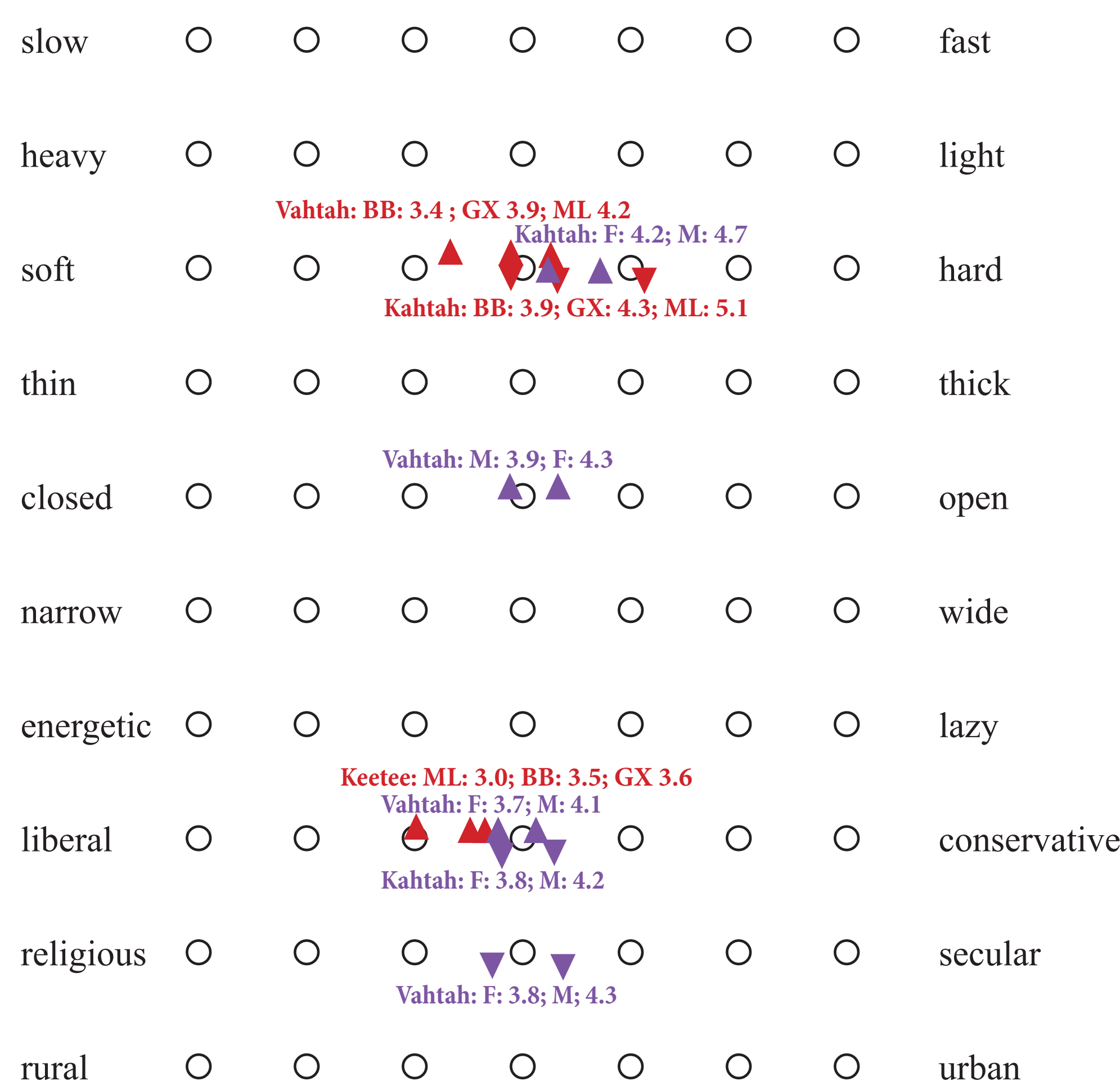
The means of these quantitative data were then compared using the Mann-Whitney U test (for gender) and the Kruskal-Wallis test (for age) to determine statistical significance, if any. For each word, participants were also asked to describe the product they were picturing when answering the questions. The frequency of keywords was tallied, and two raters categorized the responses according to a standard product taxonomy (Google, 2014).

Survey Respondents				
	Millennials 18-23 years	Generation Xers 26-48 years	Baby Boomers 51+ years	Totals
Males	18	36	22	76
Females	36	107	73	216
Totals	54	143	95	292

*Age groups as defined by McCrindle & Wolfinger, 2011.*

## Results

From the quantitative data, the Mann-Whitney U test (for gender) and Kruskal-Wallis test (for age) indicate only eight associations to be statistically significant ( $p < 0.05$ ). Among the 10 semantic differential scales in the figure below, three sets of red triangles illustrate instances of variation among age groups and five pairs of purple triangles illustrate instances of variation between genders. Figures represent the mean for each demographic group.



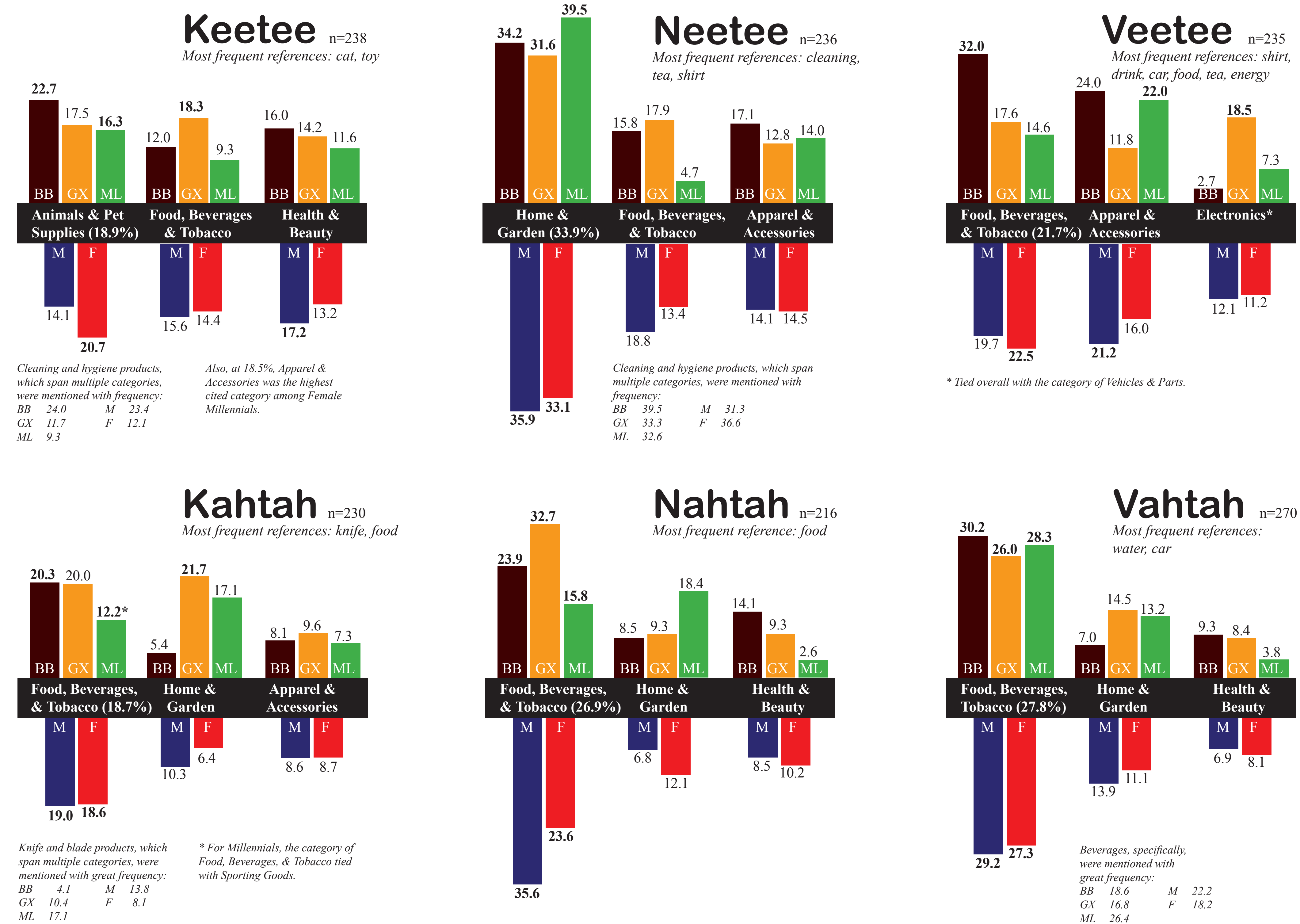
## Conclusions

Quantitative analysis alone provides insufficient evidence to support the hypothesis that age or gender affect sound symbolism in American English. While 23 out of 60 scales show shift in the same direction among the means of the three age groups, only three are statistically significant. The evidence of differences between genders is similarly weak. Only five scales out of 60 show a statistically significant difference when comparing genders. Analysis of the qualitative data, however, continues to suggest generational changes in the semantics associated with these sounds. However, further refinement of the survey instrument and its implementation is necessary in order to more clearly classify their potential correlations, particularly with reference to:

- pop culture, fashions, and fads
- society's shifting focus from broadcast to narrowcast media.

These refinements might include a more balanced and consistent representation of age, gender, and dialect among participants; forced-choice scales; comparative stimuli; and additional context for the artificial words.

The bar charts below illustrate the distribution of qualitative responses among a standard taxonomy of product categories. Figures represent the percent of responses (e.g., 22.7% of Baby Boomers and 20.7% of females said the artificial brand name *Keetee* represents a product in the category of Animals & Pet Supplies). Figures in **bold** represent the most frequently mentioned category for that demographic group.



## Key

- BB Baby Boomers (51+ years old)
- F Females
- GX Generation Xers (26-48 years old)
- M Males
- ML Millennials (18-23 years old)

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