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What's in a Name? Sound Symbolism and Coffee Shops

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Abstract

This study explores the relationship between sound symbolism and coffee shop names. Specifically, phonetic qualities in coffee shop names have crossmodal associations with other sensory experiences such as taste, sight, sound, and touch. Previous studies show a strong association between product or brand name and consumer preference; therefore, a study of coffee shop names is worthwhile in expanding the corpus of sound symbolism knowledge. A phonetic analysis of top-rated coffee shops in the United States, paired with a survey, shows that a balance of stops and smoother phonemes (fricatives, nasals, laterals, etc.), as well as a mixture of front and back vowels create the ideal name, which often represents a coffee shop that is warm and cozy without being overpowering or stifling. Names can be carefully crafted to create a phonetic effect corollary to any atmosphere the owner would like to initially convey through the name of his/her establishment. This information is useful both for entrepreneurs endeavoring to name a coffee shop and customers looking for a particular type of coffee shop experience.

Keywords: sound symbolism, naturalism, crossmodal association, coffee shops, consumer preference, branding, marketing, phonetics, linguistics

What's in a Name? Sound Symbolism and Coffee Shops

Linguists and other scholars have performed numerous studies to investigate the relationship between words and sensory experiences. These crossmodal associations are foundational to the phenomenon of sound symbolism, which influences multiple academic disciplines and professional fields. Specifically, sound symbolism is useful in marketing food products and companies. This paper examines previous studies to create a framework for its exploration of the sound symbolic effect of phonemes in coffee shop names on consumer preference and coffee shop culture.

Literature Review

For millennia, human beings have communicated through language. Created in the image of God, humans have an innate capacity to interact with other humans in meaningful ways. We do not flail around, pantomiming all our thoughts in a desperate and flustering game of charades. Rather, we have vocal chords and many other physiological attributes that enable us to create sounds. These sounds are not irrational or unsystematic; they are orderly and structured. The Tower of Babel (Genesis 11:1-9, New International Version) transitioned the linguistic world from one cohesive language to a myriad of mutually exclusive languages. This exposes a curiosity: how have all the languages of the world ended up with the words that now seem commonplace, and where did the sounds come from? Is there a logical explanation for how sounds are tacked together to create words? Do these words carry innate meaning, or have humans arbitrarily assigned them to the realities of their lives?

Rather than address philosophical or existential matters, it is interesting to consider the linguistic foundations of this discussion. Over the centuries, there has been an ebb-and-flow of

opinions on the relationship between sound and meaning. Shakespeare (2005) writes in *Romeo and Juliet*,

> *What's in a name? that which we call a rose*
>
> *By any other name would smell as sweet* (p. 113) …

Juliet's statement above flows from *conventionalism* (Jurafsky, 2014). In this theory, everything exists the way it does according to convention -- what people have agreed upon. Therefore, words are arbitrarily assigned to objects, and no further explanation is necessary (or even in existence). Conventionalism can be found both in Shakespeare's era and also among today's scholars. In his enlightening and humorous book, *The Language of Food*, Dan Jurafsky (2014) illustrates conventionalism with the example of *egg*. "English uses the word *egg*, while Cantonese calls it *daan*, and Italian *uovo*, but if accidentally it had evolved the other way around, it would be fine as long as everyone agreed" (p. 159). On the flip side, *naturalism* (Jurafsky, 2014) posits that sound and meaning are inherently connected, that "there is something about a name that fits the object naturally, that some names might naturally 'sound more sweet' than others" (p. 159).

There are convincing arguments for both conventional and natural theories of sound and meaning. Plato supported both sides in his writing of *Cratylus* 2500 years ago (Plato, as cited in Jurafsky, 2014). Socrates played on Plato's arguments in favor of naturalism (Socrates, as cited in Jurafsky, 2014), agreeing that there is an "inherently correct" word for everything, and that the shape and sound of letters themselves should be used in determining the proper spelling of an object's name. For example, the Greek letter o (*omicron*) is round; this shape is found frequently in the word for round, *goggulon*. Additionally, the Greek letter *rho*, p, was pronounced like a trilled /r/ in modern Spanish, and thus *sounded like* the movement words it was used in (*rhein*

[flow], *rhoe* [current], *tromos* [trembling]. However, Socrates also pulls from Hermogenes' position to support conventionalism (Socrates, as cited in Jurafsky, 2014). Words are pronounced differently among Greek dialects, therefore necessitating some sort of convention since words pronounced differently across dialects all represent the same objects (Jurafsky, 2014). This apparent contradiction highlights the complexity of this phenomenon, and provides the conclusion that conventionalism and naturalism are probably both at play.

In the recent past, conventionalism dominated the field. Jurafsky (2014) claims linguists have found that "the sounds that make up a word don't generally tell you what the word means" (p. 160). Political philosopher John Locke (as cited in Jurafsky, 2014) coined the term "arbitrary" in *An Essay Concerning Human Understanding*, pointing out that a tight correspondence between sound and meaning should result in all languages of the world having identical lexicons. If the sounds of *egg* embodied the meaning of the object itself, then the terms *uovo* and *daan* would not exist. Rather, the Spanish and Italian words for *egg* would also be *egg* (Jurafsky, 2014).

The aforementioned postulations seem imprecise in light of more recent research. Swiss professor Ferdinand de Saussure, one of the fathers of modern linguistics, invented the sign/signifier/signified concept in semiotics (Saussure, 2016). In this model, Saussure stressed the arbitrariness of the words associated to objects. It was upon this linguistic foundation that researchers continued, further bolstering the conventional approach to the semantic subfield of linguistics. Historically, the only proven exception to arbitrariness was onomatopoeia (Hinton et al., 1994). However, linguists such as Otto Jespersen and Roman Jakobson conducted research that shows the plausibility of naturalism (as cited in Jurafsky, 2014).

Following their lead, various linguists, psychologists, anthropologists, poets, and businesspeople have developed the concept known as sound symbolism. While this concept impacts many fields, linguists have done a majority of the research. Hinton, Nichols, and Ohala (1994) define sound symbolism as "the direct linkage between sound and meaning" (p. 1). Hinton et al. (1994) go on to categorize four types of sound symbolism. First, corporeal sound symbolism "is the use of certain sounds or intonation patterns to express the internal state of the speaker, emotional or physical" (p. 2). Examples include involuntary sounds such as coughing or hiccupping, expressive intonation, expressive voice quality, and interjections. Second, imitative sound symbolism "relates to onomatopoeic words and phrases representing environmental sounds (e.g. *bang, bow-wow, swish, knock,* and *rap*)" (p. 3). Third, synesthetic sound symbolism is "the acoustic symbolization of non-acoustic phenomena… a process whereby certain vowels, consonants, and suprasegmentals are chosen to consistently represent visual, tactile, or proprioceptive properties of objects, such as size or shape" (p. 4). Fourth, conventional sound symbolism "is the analogical association of certain phonemes and clusters with certain meanings: e.g. the 'gl' of glitter, glisten, glow, glimmer, etc." (p. 5). Such "phonesthemes," or "submorphemic meaning-carrying entities" (p. 5) lean toward the arbitrary end of the language spectrum. Hinton et al. posit that "we see the human mind at work *creating* links between sound and meaning even where such links might not be intrinsic or universal" (p. 6).

This type of sound symbolism is often leveraged in marketing techniques to create brand names that appeal to the audience according to phonemic precedent that has primed their preferences. For example, Pogacar, Plant, Rosulek, and Kouril (2014), in "Sounds Good: Phonetic Sound Patterns in Top Brand Names" examine the similarities among top selling brand names and general brand names, looking for patterns to explain the correlation between name

and consumer behavior. They found that top brand names have similarities that general brand names do not share. Specifically, certain sounds occur more frequently in top brand names: vowels /ɑ, a, i, ɛ/, all fricatives (/f, v, θ, ð, s, z, ʃ, ʒ, h/) except /θ, f/, all plosives (/p, b, t, d, k, g/), nasals /m, n, ŋ/, and the approximant /l/ (pp. 556-558). Pogacar et al. (2014) conclude by noting that both word position and product type may affect the relationship between brand name and consumer behavior (p. 561).

The aforementioned research can be tempered with Klink and Wu's 2013 article "The Role of Position, Type, and Combination of Sound Symbolism Imbeds in Brand Names." This article looks at how to most effectively embed sound symbolism in brand names to increase purchase appeal. Klink and Wu (2013) studied where to embed, the type of embedding, and the effect of combining embedding. They found that 1) placing the sound symbolic embed after the first syllable of a brand name communicates brand meaning, 2) vowels are more effective than consonants in conveying meaning in a brand name, and 3) combining consistent embedding in a brand name increases purchase likelihood (p. 22).

Scholars have also considered the intersection of culinary linguistics and sound symbolism. Jurafsky (2014) summarizes his comparative study of brand names for chips and ice cream flavors. He bases his study on preexisting hypotheses that front vowels are used to "refer to small, thin, light things" and that back vowels refer to "big, fat, heavy things" (p. 162). This is grounded in John Ohala's *frequency code* which states that "high tones, vowels with high second formants (notably [i]), and high-frequency consonants are associated with high-frequency sounds, small size, sharpness, and rapid movement; low tones, vowels with low second formants (notably [u]), and low-frequency consonants are associated with low-frequency sounds, large size, softness, and heavy, slow movements" (Hinton et al., 1994, p. 10). Jurafsky (2014)

expected the results of his study to show that chip brand names had a higher frequency of front vowels because chips are supposed to be light and crispy, as seen in Cheez It, Wheat Thins, Ritz, and Triscuits (p. 164). On the other hand, since people want their ice cream to be "rich, creamy, and heavy" (p. 164), they should prefer ice cream flavors with back vowels. Examples include Rocky Road, Cookie Dough, Jamoca Almond Fudge, Chocolate, and Coconut (p. 164). See Appendix A for a mouth diagram illustrating these notable vowel phonemes' places of articulation. His research confirmed his hypotheses (with a few exceptions), showing that "sound symbolism is thus an important device in the toolbox of modern advertisers and designers of brand names" (p. 164).

In "Do You Say It Like You Eat It? The Sound Symbolism of Food Names and its Role in the Multisensory Product Experience," Favalli, Skov, Spence, and Byrne (2013) expand existing sound symbolism research to consider associations with appearance, odor, basic taste, flavor, texture, mouth feeling and aftertaste sensory attributes. Research participants allocate names to three pairs of sandwiches, with one sandwich in each pair being artisanal-based, and the other industrial-based. Favalli et al. (2013) find that product name is indeed involved in the consumer's multisensory product experience - information that should encourage careful product naming.

Similarly, in "Phonetic Detail and Dimensionality in Sound-shape Correspondences: Refining the Bouba-Kiki Paradigm," D'Onofrio (2014) looks specifically at the bouba-kiki paradigm, which states that certain sounds correlate to certain shapes (non-words with rounded vowels associated with rounded shapes, and non-words without rounded vowels associated with spiky shapes). This study responds to previous research which attributed sound symbolism to "cognitive association between sounds and visual or proprioceptive cues made in their

production (e.g. sounds of rounded vowels cue the image of rounded lips, which is mapped to rounded shapes)" (p. 367). Instead, D'Onofrio suggests "that vowel backness, consonant voicing, and consonant place of articulation each elicit a sound symbolic effect, which is amplified when these dimensions are combined" (p. 367).

Another foundational component of sound symbolism in the food world is found in Crisinel, Jones, and Spence's (2012) article entitled "'The sweet taste of maluma': Crossmodal associations between tastes and words." This study was based on preexisting research on the crossmodal associations (or correspondences) between tastes and non-words such as "takete" and "maluma." "Takete," with its "sharp discontinuities [and three] little burst[s] of air explod[ing] out" (Jurafsky, 2014, pp. 167-168) is associated with sharp experiences in other senses, while "maluma" has a "relatively smooth flow of air" (p. 167) that corresponds with smoothness in other senses. Crisinel et al. (2012) test these associations with tastes and flavor solutions, and their results align with previous studies' findings on sound-mapping correspondences (p. 267). They also tie their research into the field of marketing, saying that product names create preliminary expectations which can be leveraged for creating consumer affinity with the product (p. 266).

Thus far, the research has included linguistic, psychological, anthropological, marketing, advertising, and culinary realms. The particular combination of linguistics, marketing, and food has been examined from a variety of angles, but there is still work to be done to confirm, refine, and develop extant theories. This study will extend the aforementioned principles of sound symbolism into the previously unstudied realm of coffee shop names. This combined with marketing should corroborate existing linguistic data for the purpose of counseling coffee shop owners in naming their establishments.

Methodology

In order to consider the relationship between sound symbolism and coffee shop names, I have employed two research methods: a phonetic analysis of coffee shop names and a survey of individuals' preferences regarding coffee shop name.

In order to expedite the two methods, I first procured a list of "America's 50 Best Coffee Shops" (Novak, 2015) from *The Daily Meal: All Things Food & Drink* (See Appendix A). The website "delivers a fresh take on dining news and trends and helps you succeed in the kitchen while highlighting the unifying aspects of food and drink and celebrating the people who create them" (About Us, 2016). Jess Novak (2015), author of this particular article, drew on the expertise of championship-level baristas and other coffee professionals to compile a list of top coffee shops across the United States. Criteria included coffee quality, shop culture, baristas, and food (although this factor was not weighted as heavily as the coffee). Although these criteria were used consistently, each panelist evaluated the shops according to their own subjective opinions. The 50 coffee shops were rated 1-50 with an explanation of what makes each shop unique and worthy of recognition. Chain establishments were not considered for this study.

Only speculation or intense research can provide insight into the naming of these coffee shops. Some are coffee-related wordplay, while others are, at first glance at least, merely "trendy" titles intended to attract a particular clientele. Upon naming and opening their coffee shops, owners may have given substantive thought to the name of their new establishment. They may have been aware of the phenomenon of sound symbolism. Even if they were unaware of the theory, they may have unknowingly operated according to its principles.

In any case, the names of these coffee shops can be examined for patterns of sound symbolism. The findings may be enlightening for business owners, particularly those who own

coffee shops, as well as the coffee lover who delights in all coffee-related trivia. This study may provide insight into an additional component of the popularity game played by the contributors to "America's 50 Best Coffee Shops." What phonetic trends exist among names of coffee shops voted as America's best? What does this reveal about the expectations of coffee shop customers? How can sound symbolism be leveraged for successfully naming a coffee shop?

I have analyzed the list of 50 coffee shops from a phonetic perspective, noting the types of consonants and vowels in order to categorize the names according to their phonetic qualities. The "maluma-takete" (Jurafsky, 2014, pp. 167-168) and "bouba-kiki" (D'Onofrio, 2014, p. 367) paradigms informed my foci, namely the types of vowels (front or back) and consonants present. Vowel categorizations include front (monophthongs) /i, ɪ, ɛ, e, æ/, front diphthongs /eɪ/, and back (monophthongs) /u, ʊ, o, ɔ, a/. Consonant categories include stops /p, b, t, d, k, g/, fricatives /f, v, θ, ð, s, z, ʃ, ʒ, h/, affricates /tʃ, dʒ/, nasals /m, n, ŋ/, approximants /r, j, w/, and laterals /l/.

While I originally intended to model my study of vowels very closely after Jurafsky's study, his front vs. back classification of vowels proved overly simplistic for the needs of my study. I therefore expanded his categories to include categories for diphthongs, in order to allow these vowel combinations to produce different results than their monophthong counterparts. I also separated out the terms such as "Coffee," "Coffee Co.," "Espresso," and "Roasters" as they conclude the names of many of the coffee shops and often are dropped from the title commonly used to reference a coffee shop. These terms were excluded for a majority of the research; it is noted when they are incorporated. Finally, I counted each phoneme present in each of the 50 coffee shop names and totaled each category, further breaking down the stops category into voiced and voiceless stops.

In order to triangulate this data, I conducted a research survey. This survey was comprised of questions strategically chosen to reveal the preferences of a wide number of individuals regarding coffee shop names. I developed a list of four main questions using both the data from my first research method and other information relevant to the audience I anticipated would complete my survey. The first question had six parts and broke down coffee shops from "America's 50 Best Coffee Shops" by city. Participants were asked to select which coffee shop they would go to in each city if they "found [themselves] in the mood for a good cup of coffee complemented by quality baristas, atmosphere, and food" (Coffee Shop Survey, see Appendix C). This question was designed to reveal which sounds create a name that represents a sensory experience that coffee shop customers expect. The geographical grouping both allowed participants to put themselves into a defined context, as well as distracted them from my actual agenda. An open-ended follow-up question elicited any insight the research participant chose to provide into why they chose the coffee shop names that they did. While this could elicit any variety of information, I asked it hoping that participants would provide information about how the names made them feel or perhaps provide even explicit linguistic information (also knowing that a lack thereof would be equally telling).

The second question of the survey more explicitly used the vocabulary of my study by asking which one of the provided names the participant thought was the best name for a coffee shop. I juxtaposed pairs of two names in order to reduce the complexity of the analysis of their decision. I intended for the clear distinction between only two names to highlight sounds with influential crossmodal associations.

The third question used the names of coffee shops with which most of the research participants have had personal experience. I asked if they thought Rinnova, Beans-n-Cream, or

Stoney Creek Coffee Roasters has the best name. Rinnova is the on-campus coffee shop at Cedarville University in Cedarville, Ohio. Beans-n-Cream and Stoney Creek Coffee Roasters are both coffee shops downtown in the village of Cedarville.

The fourth question springboards from this context to address the recent change in name of Stoney Creek Coffee Roasters to Telemetry Coffee Roasters. I ask participants if they thought this was a good change. My questionnaire concluded by obtaining the demographic data of sex and age (divided into the following categories: 17-25, 26-50, and 51+), as well as the frequency with which participants drink coffee (once a day, once a week, once a month, or never).

While these questions do not completely avoid clueing participants into the general topic of coffee shop name, they do not directly reference the attention my study gives to crossmodal associations between sounds and other sensory experiences, either. This questionnaire, corroborated with the data from my own analysis of the 50 coffee shop names, was intended to provide insight into the impact of sound symbolism in the naming of coffee shops. In turn, this information was intended to provide insight into my research questions concerning phonetic trends existing among coffee shop names, the expectations of coffee shop customers, and the successful naming of a coffee shop. I hypothesized that the data would show a significant importance of sound symbolism in the naming of coffee shops, as well as a majority of back vowels and soft consonants, indicating an approachable, comfortable coffee shop atmosphere.

Findings and Discussion

Name Analysis

The analysis of "America's 50 Best Coffee Shops" produced complex results. Figures 1 and 2 show the quantity of each type of vowel and consonant in the 50 names, not including the words "Espresso," "Coffee," "Coffee Roasters," "Coffee Co.," "Coffee Co. House and

Roasters." These title portions were excluded at this point in the analysis due to the frequency with which customers call coffee shops by the first word or two of their names alone. This also reduced the complexity of analyzing the phonetic composition of the names without eliminating the possibility of incorporating the phonetic data of these words at a later point.

Regarding vowels, the list contained 74 front (monophthong) vowels /i, ɪ, ɛ, e, æ/, four front diphthongs /eɪ, eə/, 40 back (monophthong) vowels /u, ʊ, o, ɔ, a/, two back diphthongs /aʊ/, and 27 central vowels /ə, ɜ/. Simplifying these categories into front vowels (including both monophthongs and diphthongs) and back vowels (including both monophthongs and diphthongs) is not detrimental to the analysis and may be assumed unless otherwise stated for the remainder of the study. These numbers are a reflection of American English pronunciation of the foreign words in coffee shop names and cannot be evaluated in light of a native Italian speaker's pronunciation, for example. Furthermore, consistency among American English speakers' pronunciation of foreign words is not guaranteed.

Figure 1 represents the number of phonemes from each category found in the entire data set. There are 74 front monophthong vowels, 4 front diphthong vowels, 40 back monophthong vowels, 2 back diphthong vowels, and 27 central vowels.

Figure 2 shows the number of names that contain at least one phoneme of each category across the data set. There are 36 front monophthong vowels, 3 front diphthong vowels, 31 back monophthong vowels, 2 back diphthong vowels, and 22 central vowels.

Thirty-eight of the 50 names contain front vowels, 32 contain back vowels, and 22 contain central vowels. There is a preponderance of front vowels in this data sample; front vowels occur nearly twice as often as back vowels. The light, airy, and crisp concepts associated with front vowels may subconsciously advertise a low-stress and refreshing coffee shop

experience. Understandably so, coffee shop owners want to create an atmosphere welcoming enough to draw customers in.

The relative abundance of front vowels should not discount the quantity of back vowels, however. These fuller, rounder sounds often imbue a sense of deep, rich fullness. In the context of a coffee shop, these phonemes balance the lightness of front vowels with a warm and cozy feeling. Central vowels do not sway the results of this study significantly in either direction due to their moderate phonetic quality and thus will be disregarded for the continuation of this study. Moreover, many of the central vowels in this data sample are schwas -- a sound that American English uses to pronounce unemphasized vowels. Concerning only front and back vowels, the data is not strong enough to make claims about the relationship between vowels and coffee shop names. With 38 names containing front vowels and 32 containing back vowels, other methods are needed to clarify and corroborate this data.

An analysis of the remaining sounds, as shown in Figure 3, shows that there are 93 stops /p, b, t, d, k, g/, 44 fricatives /f, v, θ, ð, s, z, ʃ, ʒ, h/, five affricates /tʃ, dʒ/, 38 nasals /m, n, ŋ/, 20 approximants /r, j, w/, and 20 laterals /l/. Similar to the vowel graphs, Figure 3 shows the number of times phonemes from each category occur throughout the data set. There are 93 stops, 44 fricatives, 5 affricates, 38 nasals, 20 approximants, and 20 laterals. Figure 4 shows the number of names from the data set that contain at least one sound from each of the phonetic categories. There are 93 stops, 44 fricatives, 5 affricates, 38 nasals, 20 approximants, and 20 laterals.

The “maluma-takete” study, while furthering the notion of vowel cross-mapping, focuses on consonants. Contrasting stops /t, k/ with nasal /m/ and lateral /l/ shows a person’s inclination to assign the sharp sounds of stops with objects that geometrically have sharp edges, whereas individuals give curvy figures the smooth nasal/lateral label of “maluma.” While the “maluma-

takete" study does not discuss fricatives, affricates, and approximants, they are relevant in this discussion of sound symbolism.

This can be further narrowed to stops and fricatives when looking at the Figure 4, which identifies the number of names that contain phonemes from each category, rather than the frequency of phonemes across the entire data set as shown in the Figure 3. Nearly all (45) of the names contain at least one stop. Even when considering the high-frequency nature of these phonemes, this finding is notable and may point to a conclusion regarding the relationship between sharp, abrupt sounds and a holistic coffee shop experience. However, a further caveat is the diversity among stops /p, b, t, d, k, g/. Voiced stops /b, d, g/ may have a less striking effect than their voiceless counterparts /p, t, k/. Further analyzing the phonemes according to this distinction shows that 23 names contain voiced stops, whereas 35 names contain voiceless stops. Of the 93 stops found in the complete data set, 32 are voiced and 61 are voiceless. With twice as many voiceless stops as their voiced counterparts, it seems that a light, staccato sound appeals to individuals more than a heavy, thick sound. Arguably, all sounds aside from stops are smooth in nature, thereby relegating fricatives, affricates, and approximants into the same category as nasals and laterals.

Survey Results

The survey provided clarifying data due to its direct inquiry of the preferences of individuals. Whereas the list from "America's 50 Best Coffee Shops" did provide a sample pre-filtered by sound symbolism, it is difficult to identify how cross-mapping has influenced the naming of these establishments, the coffee shop culture they have co-created, and the success that enabled them to make the list in the first place. First, the survey further analyzed this data set

by asking participants to select which coffee shop they would choose to go in six different U.S. cities.

The two most notable results within question one were the coffee shops selected for Portland, Oregon and New York City (see Appendix C). For Portland, eighteen participants selected Coava Coffee, with three selecting Heart, three selecting Stumptown and one selecting Barista. The Chipped Cup was the most popular for New York City with eleven votes, followed by five for Abraço Espresso, four for Kaffe 1668, two for Joe Bean, one for Joe Coffee, one for Everyman Espresso, and one for Little Collins. The other top-ranking coffee shop names in the remaining four cities are: Render Coffee (Boston, 14 votes), Ritual Coffee Roasters (San Francisco, 12 votes), Ipsento (Chicago, 9 votes), and G&B (Los Angeles, 11 votes).

The results of this question indicate that the sounds in Coava Coffee (one front vowel, three back vowels, one central vowel, two voiceless stops, and two fricatives) and The Chipped Cup (one front vowel, one back vowel, one central vowel, four voiceless stops, and one fricative) may be more aligned with a person's expectations of a fulfilling coffee shop experience. With a balance of vowels and presence of voiceless stops and fricatives, these names capture both lighthearted and weighty aspects of a coffee shop's atmosphere. The frequency of sounds /p, t, k/ in these names further reinforces the previous finding regarding voiceless stops. The four other top-ranking names have a balance of front and back vowels.

The open-ended question at the end of section one of the survey asked participants if there was any reason they chose the coffee shops they did. Some answers were geographically-grounded: "They seemed to fit the vibe of each city," and "The names seemed to align with the location. For Boston, I think of a lot of streets, hence Pavement. For Chicago, I think of a lot of colleges/universities, so Intelligentsia seemed close to 'intelligent.' For NYC, the title seemed

multi-cultural, which is one aspect that reminds me of NYC" (see Appendix C). Others made selections according to their preference for normalcy: "I tried to pick names that sounded relatively normal and aesthetically pleasing," "The names of the coffee shops I chose simply sound more refined," "The best sounding names (or the least weird choice out of the set)," and "The names of each shop do not seem 'out there' or over complex. I don't want to be impressed by the word choices people use for their brand" (see Appendix C). Yet others attributed their choices to the overall atmosphere the name seemed to represent: "I think the most you can tell from a name is the type of atmosphere a coffee shop might have, and I like coffee shops that are eclectic but a little classy, so I chose names that I thought reflected that," "Some of the names sound more like a nightclub than a coffee shop… you gotta have just the right blend of weird and still sound classy, foreign, or intellectual," and "The names just sounded like cozy places to get a cup of coffee and sit" (see Appendix C). The unique preferences of participants are reflected in the results of the survey; nevertheless, trends are identifiable. To an extent, mainstream American culture informs the preferences of Americans regarding coffee shops, and owners generally aim for marketability. Therefore, while individual differences do create nuanced findings, the commonalities shared by the general public, paired with the phenomenon of sound symbolism, are revealed by verifiable themes.

The following question on the survey explicitly addressed what survey participants thought was the best name for a coffee shop, matching five pairs of two names from the "America's 50 Best Coffee Shops" (see Appendix C) list. Joule (14) was chosen more often than Volta (11), PT's (15) more times than Heart (10), Colectivo (21) more often than Peregrine (4), Jubala (18) more frequently than G&B (7), and Ultimo (16) more times than Intelligentsia (9). The most notable of these juxtaposed names are Colectivo, Jubala, and Ultimo. All three contain

front, back, and central vowels, at least one stop, and one lateral. The combination of phonetic sounds in /kəlɛktɪvo/ in contrast to its pair, Peregrine /peərəgrin/ was significantly more appealing to participants. Voiceless stops are common in PT's, Colectivo, and Ultimo, continuing to confirm that pattern.

It is interesting to note that in question 1.d., G&B received the most votes (11 of 25), while in 2.d. received 11 fewer votes (7) than its counterpart Jubala (18). The other options in 1.d. were Cognoscenti (7), Sqirl (5), and Go Get Em Tiger (2). That G&B is more preferable than these three other options during a hypothetical visit to Los Angeles,but does not have a better name than Jubala is fascinating. The back vowels, lateral, and affricate in Jubala create a rich, full, smooth feeling, whereas G&B's front vowels and stops create a less personable impression. G&B's superiority over Cognoscenti, Sqirl, and Go Get Em Tiger may be explained by the animal references of the latter two which seem strange and out of place for a coffee shop.

Regarding the inclusion of "Espresso," "Coffee," "Coffee Roasters," "Coffee Co.," "Coffee Co. House and Roasters," two points of clarification need to be made. These terms were included in question 1 in order to determine their influence on the popularity of the title. Asking participants this question puts them in a hypothetical situation, as they have probably not frequented any of the coffee shops from "America's 50 Best Coffee Shops." Whereas locals in these cities may refer to the establishments without the full title (for example, "I'm going to Joule" as opposed to "I'm going to Joule Coffee."), this first survey question presented the opportunity to discover any effect these words have. Three of the six top-ranking names contained one of these words or phrases.

The data is not exclusive enough to draw any irrefutable conclusions. The second question, however omits these terms in order to focus solely on the phonemes present in each

distinct name. This way, the absence of "Coffee Roasters," etc. in any title would not predispose it to be less "fitting" for selection as a good coffee shop name. However, it is interesting to note the frequency of the phoneme [o] in these words. This back vowel contributes to the warm and cozy coffee shop atmosphere desired by many customers.

The third survey question calls on participants' actual experiences and opinions of coffee shops located near the university they attend. Fifteen participants said they think that Stoney Creek Coffee Roasters has the best name, while eight chose Rinnova, and two chose Beans-n-Cream. The existence of "Coffee Roasters" may influence the results, automatically biasing some participants toward this choice since they are choosing a name specifically for a coffee shop. However, the phonology of Stoney Creek and Rinnova further reinforces previous findings - participants prefer names containing voiceless stops, and [o] is appealing.

Even more telling is question 4, addressing the recent name change of Stoney Creek Coffee Roasters to Telemetry Coffee Roasters. Almost unanimously, participants favored the old name, selecting the option "I think the old name is better" (see Appendix C). Compared to the 22 individuals who chose this response, only one chose, "I think the new name is better" (see Appendix C). Two participants did not have a preference. The contrast between a familiar and topographic name and one that seems cold and scientific is clear. Whether due to a phonetic reason or to resistance to change, it is evident that people find the sound of Stoney Creek to be more pleasant than that of Telemetry. While Telemetry does contain one lateral (/l/), it does not have the balance of front and back vowels found in Stoney Creek.

A Facebook post by the owner of Telemetry Coffee Roasters entitled "Stoney Creek Roasters Rebuilt and Rebranded" provides insight into the switch. After a decade of fine-tuning the coffee bean roasting process, he has decided to expand their production beyond their own

walls and distribute beans to other regional coffee shops. “We've moved the laboratory to the front of the business — both metaphorically and physically. It's as if we're opening up the hood and letting our community and the coffee world at large see, smell and touch the motor” (Telemetry Coffee Roasters). The new name actually does align with this vision; although it may not sound as appealing as “Stoney Creek,” “Telemetry” embodies the culture Minor aims to create.

A comprehensive look at all of the data reveals the appeal of a combination of sharp and smooth sounds. Top-ranking names such as Colectivo Coffee, Coava Coffee, Jubala, and Stoney Creek Coffee Roasters contain a wide range of phonetic qualities, indicating that a purely rich or purely cold sounding name is less attractive to the consumer. Furthermore, the phoneme [o] occurs frequently; it is present in the majority of top-ranking names, as well as “Coffee” and “Espresso.”

Limitations

Data set limitations. All analysis must consider the many variables associated with a coffee shop. A person’s expectation of a coffee shop incorporates the coffee, food, atmosphere, baristas, geographic location, and other factors. Furthermore, this data sample is a reflection of the preferences of the individuals who compiled the list -- their subjective (although regulated by criteria and point-value systems) evaluation of which coffee shops in the United States give the best overall experience. Even more foundationally, the data in this list is a result of coffee shop owners own preferences and decisions. These business people may have consulted a linguist or marketing expert educated in sound symbolism, or they may have merely used the advice and intuition of their friends and family when naming their establishment. Regardless, it is a reflection of the linguistic phenomenon of sound symbolism.

Phonetic analysis limitations. The present study cannot provide generalizable conclusions regarding each phoneme and sound; however, it is clear that (voiced and voiceless) stops are the most common consonant sound in this data sample, followed by fricatives and nasals.

Survey limitations. Several variables influence survey results, such as the phrasing of the question 1 leading participants to believe that their choice should be unduly related to the city it is in. The question was originally crafted in this way in order to initially distract the participant from the phonetic nature of the study. Additionally, revealing the ideal phonetic combination is compromised because each selection a participant makes is only what they think is the best of each set, not necessarily what they think is best of the entire list of 50 names. Nevertheless, it does contribute to the creation of a legitimate ranking. The second question, addressed after the following note on the open-ended question, will corroborate the data from questions 1.a.-1.f.

The format of the survey is an additional limitation. Exclusively visual data limits the participant's ability to realistically interact with and respond to the coffee shop names. The missing component of aural data is particularly notable due to the multisensory nature of crossmodal associations. An audio recording would improve survey results.

Conclusions

The corroboration of data from both the phonetic analysis and survey leads to the conclusion that coffee shop names range in sound and effect. Individuals' previous experiences and personal preferences predispose them to choosing (and avoiding) certain phonemes and sounds. For example, someone is not likely to name their child after their ex-boyfriend or ex-girlfriend. Furthermore, a person's expectations of a coffee shop will also alter the name they prefer, as names are often a reflection of the atmosphere or character of what they represent. If a

person wants a time of calm and comfortable respite and does not know anything more than the name of nearby coffee shops, they will likely choose one like Jubala or The Chipped Cup. However, if they are seeking a more edgy and eclectic experience, they may choose one like Pavement or Sqirl.

It is evident that a wide variety of sounds are present in the names of the top coffee shops in the United States, with a high number of voiceless stops and a majority of vowels being articulated in the front of the oral cavity. These light, gently articulated sounds may reflect coffee shop owners' efforts to brand their business as one that is not stuffy, overbearing, or dull. Moreover, coffee shop names that are exclusively sharp or smooth sounding are less attractive to customers. Names that have a combination of consonants, such as stops paired with a lateral and nasal, are more appealing. Furthermore, the prevalence of the phoneme [o] and its corresponding back sounds of /ɔ/ or /o/ indicate that it has a strong positive crossmodal association, and thus can be leveraged for successfully naming a coffee shop.

While further study is necessary to refine and confirm the findings of this study, it does add to the larger study of sound symbolism, particularly concerning food, business, and marketing.

Coffee shop owners need to carefully consider the names of their establishments, leveraging the cross-mapping effects of phonemes to their advantage. They must develop a vision for all aspects of the experience they provide to customers, and choose a name accordingly. The first impression that many individuals have of a business is its name; names carry meaning and ought to be crafted deliberately. Stops and front vowels will create a sense of a more crisp and upbeat environment, whereas back vowels and smoother consonants such as nasals, approximants, and laterals foreshadow a warmer, cozier experience. Ultimately, a balance

of warm and cold sounds will create the ideal name. This balance is seen in names like Colectivo, Ultimo, and Stoney Creek. In a cyclical pattern, the type of customers attracted by a certain name will affect the atmosphere and experience provided at a particular coffee shop. While a name is not comprehensively deterministic, it does present an opportunity to immediately and significantly sway the culture of the establishment.

Further Research

One opportunity to improve this study involves the written format of the survey. It is unknown whether participants audibly read the coffee shops names as they took the survey, thus enhancing their sensory experience and enabling their choice to be made on how the names truly sound when pronounced. Although individual's learning styles may predispose some participants to process the survey content aurally, it is fair to assume that the majority did not do this; therefore, consideration must be made of the capacity for the processing of visual stimuli (specifically the relationship between the perception of letters with their phonetic associations) to activate cross-mapping in the brain. Either clarifying this technical point or altering the survey to include audio clips would resolve this issue.

Furthermore, consideration must be given to participants' idiosyncratic ways of speaking, particularly regarding foreign language. Participants responses were dependent on their perception of names such as Budin ([bədın] vs. [budın] vs. [budıŋ]) and Abraço (/ç/ being [s] or [k]). On one hand, this creates a true reflection of their language processing and cross-mapping associations. On the other hand, it skews what their opinions would be if they encountered the coffee shop in real life and were exposed to its proper pronunciation.

An additional recommendation for an improved survey is including a question that explicitly asks what participants are looking for in their coffee shop experience. Knowing their

expectations would allow for a clearer interpretation of their answers to the rest of the survey. Completing similar research with a different original data set would also corroborate this data. For instance, creating coffee shop names with deliberate phonetic combinations would allow for the control of various factors, thus reducing the complexity of data analysis.

This study could also be extended by utilizing a data set other than "America's 50 Best Coffee Shops," perhaps a more linguistically regulated set of names or names that have been fabricated for the purpose of the study. Finally, gathering data from a more numerous and diverse (age, geographic location, etc.) group of research participants would likely regulate the findings and refine the analysis and conclusions provided thus far. While much opportunity for further study remains, this study contributes to the growing field of sound symbolism research, particularly applied to marketing in the food world, showing that sounds influence consumer choice and can be leveraged for marketing success.

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Figure 1

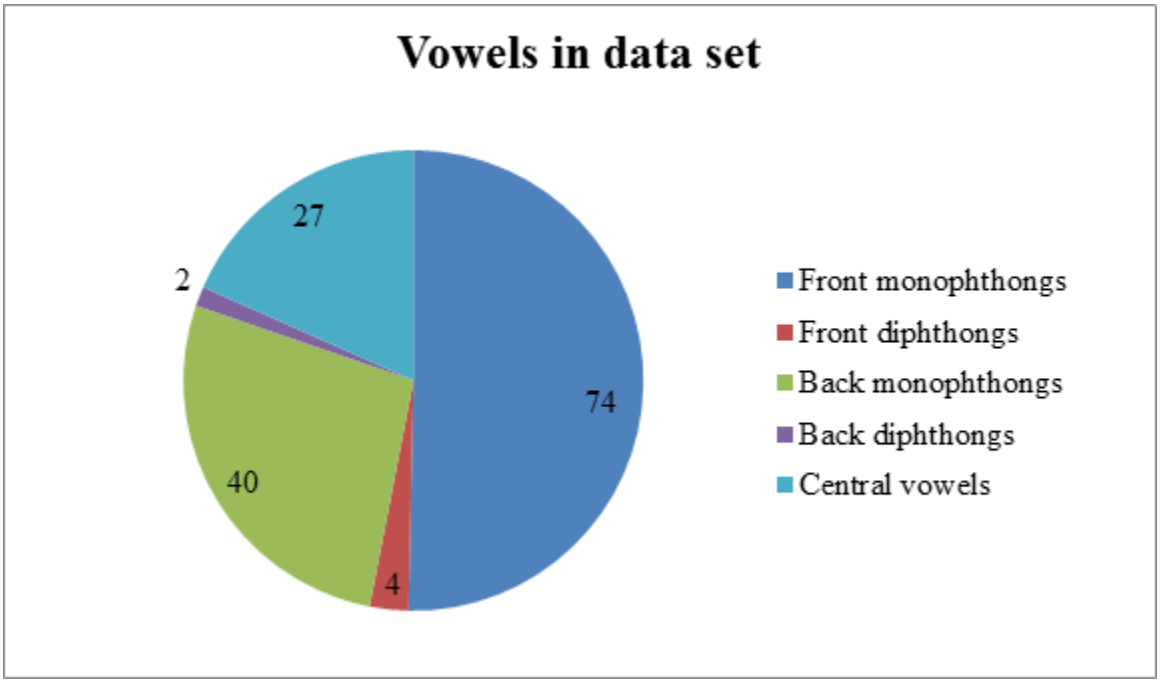


Figure 2

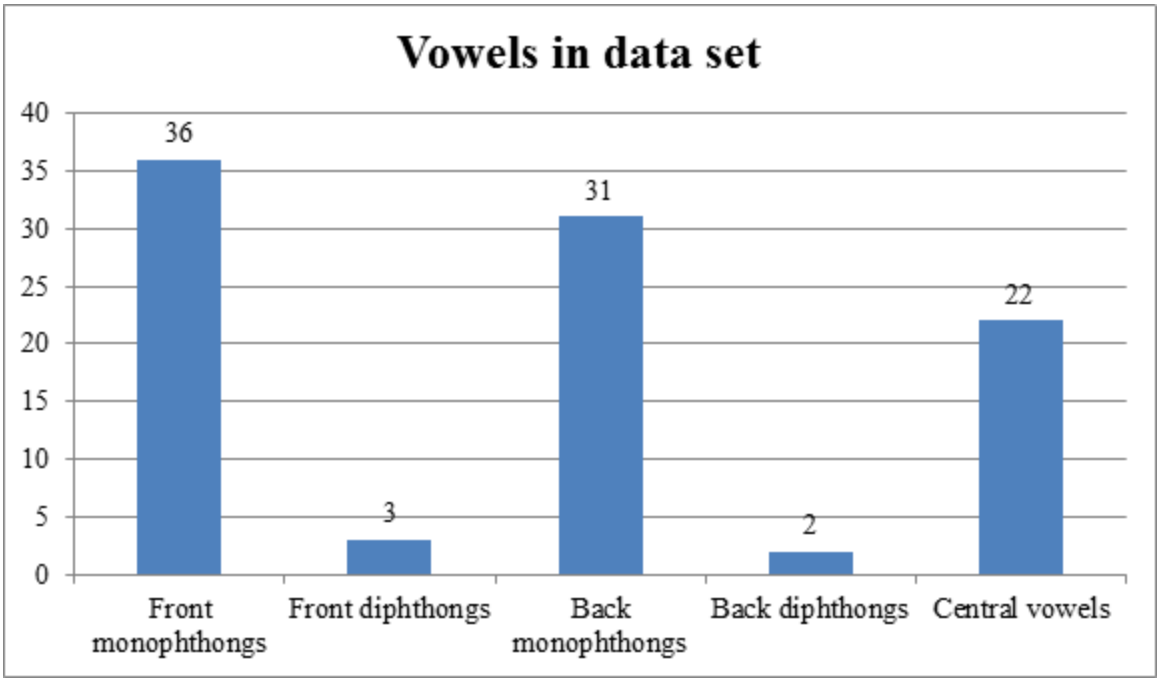


Figure 3

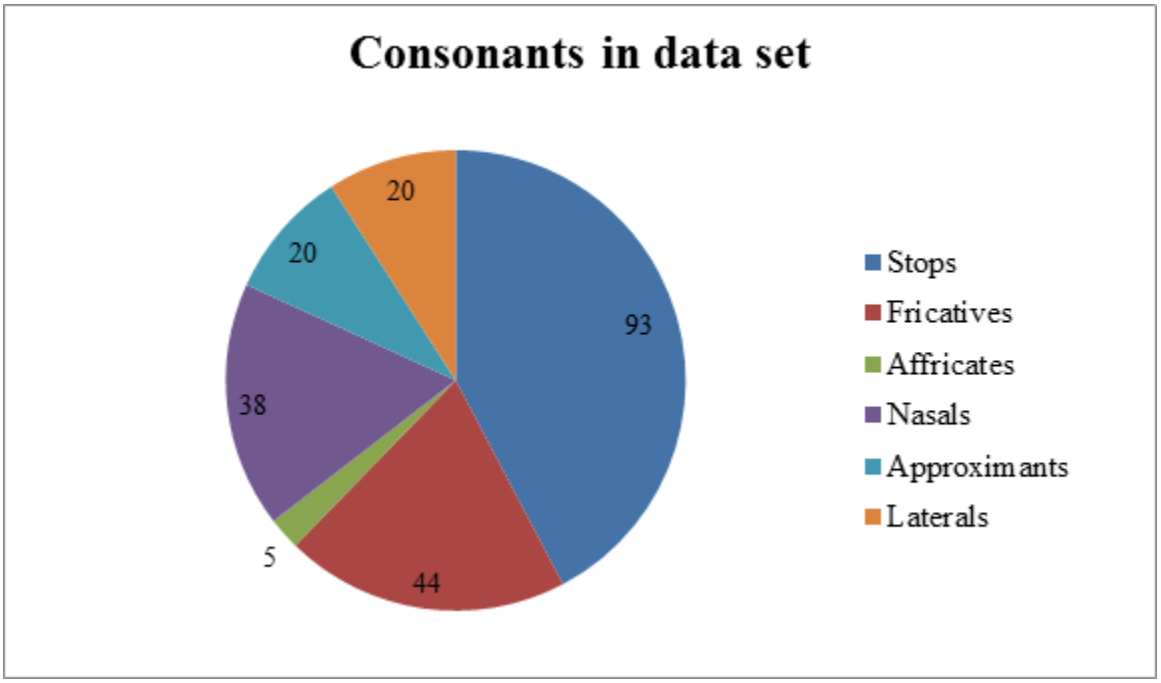
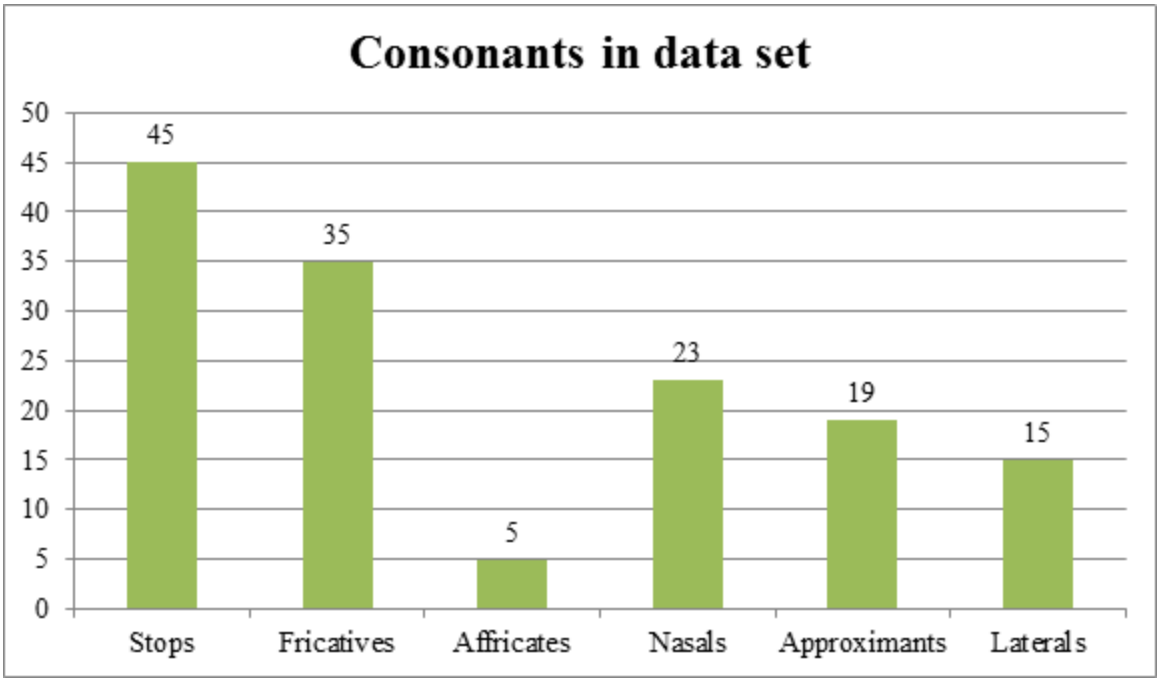
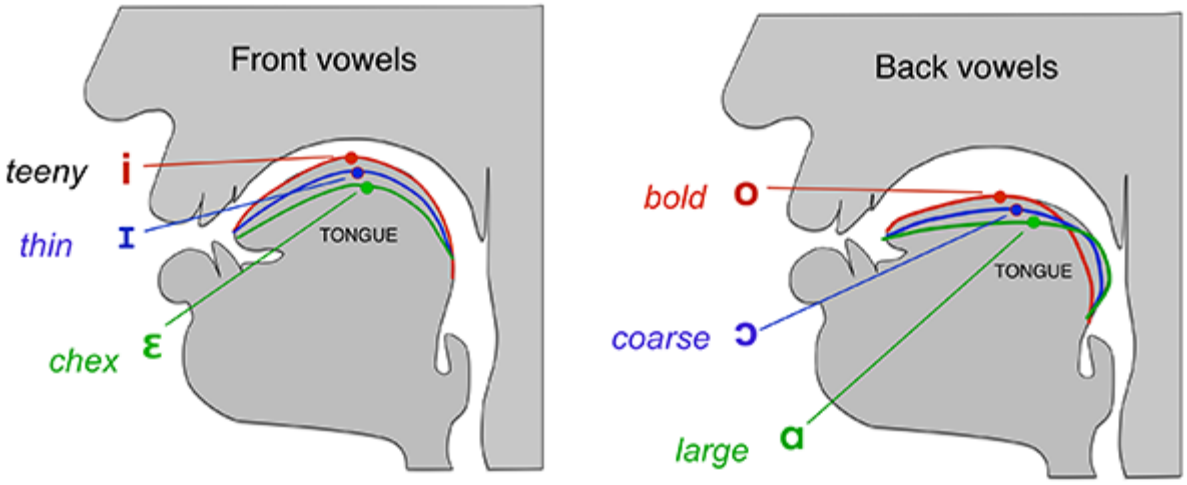


Figure 4



Appendix A

Jurafsky (2014)'s Vowel Phoneme Place of Articulation Mouth Diagram



Appendix B

"America's 50 Best Coffee Shops" (Novak, 2015)

Adapted from http://www.thedailymeal.com/america-s-50-best-coffee-shops/41514

Abraço Espresso
Anodyne Coffee Roasters
Artifact Coffee
Bad Wolf Coffee
Barista
Barista Parlour
Boxcar Coffee
Budin
Café D'Bolla
Café Grumpy
Caffé Medici
Coava Coffee
Cognoscenti
Colectivo Coffee
Commonplace Coffee Co. House and Roasters
Condesa Coffee
Daylight Mind
Everyman Espresso
Fourbarrel
G&B
Gimme! Coffee
Go Get Em Tiger
Happy Coffee Co.
Heart
Houndstooth Coffee
Intelligentsia Coffee
Ipsento
Joe Bean
Joe Coffee
Joule Coffee
Jubala
Kaffe 1668
Little Collins
Milstead & Co.
Octane Coffee
Panther Coffee
Pavement
Peregrine Espresso
PT's Coffee
Render Coffee
Ritual Coffee Roasters
Saint Frank's
Spyhouse Coffee
Sqirl
Stumptown
Sunergos
The Chipped Cup
Ultimo Coffee
Verve Coffee Roasters
Volta Coffee

Appendix C

Coffee Shop Survey

Please answer the following questions in order:

1. If you found yourself in the mood for a good cup of coffee complemented by quality baristas, atmosphere, and food, which of the following coffee shops would you choose to go to? (Select one coffee shop for each city.)

a. You're in Boston
   - ❑ Pavement 11
   - ❑ **Render *Coffee* 14**

b. You're in San Francisco
   - ❑ Saint Frank's 5
   - ❑ **Ritual *Coffee Roasters* 12**
   - ❑ Fourbarrel 8

c. You're in Chicago
   - ❑ Intelligentsia *Coffee* 8
   - ❑ Bad Wolf *Coffee* 8
   - ❑ **Ipsento 9**

a. You're in Portland
   - ❑ Heart 3
   - ❑ Barista 1
   - ❑ Stumptown 3
   - ❑ **Coava Coffee 18**

d. You're in Los Angeles
   - ❑ Go Get Em Tiger 2
   - ❑ **G&B 11**
   - ❑ Sqirl 5
   - ❑ Cognoscenti 7

e. You're in New York City
   - ❑ Everyman *Espresso* 1
   - ❑ Little Collins 1
   - ❑ Café Grumpy 0
   - ❑ Budin 0
   - ❑ Joe *Coffee* 1
   - ❑ **The Chipped Cup 11**
   - ❑ Abraço *Espresso* 5
   - ❑ Kaffe 1668 4
   - ❑ Gimme! *Coffee* 0
   - ❑ Joe Bean 2

Any reason why you chose any of the coffee shops you did?

Geographic:

They seemed to fit the vibe of each city.

The names seemed to align with the location. For Boston, I think of a lot of streets, hence Pavement. For Chicago, I think of a lot of colleges/universities, so Intelligentsia seemed close to "intelligent." For NYC, the titled seemed multi-cultural, which is one aspect that reminds me of NYC.

Normalcy:

I tried to pick names that sounded relatively normal and aesthetically pleasing.

The names of the coffee shops I chose simply sound more refined.

The best sounding names (or the least weird choice out of the set).

The names of each shop do not seem "out there" or over complex. I don't want to be impressed by the word choices people use for their brand.

Overall atmosphere:

I think the most you can tell from a name is the type of atmosphere a coffee shop might have, and I like coffee shops that are eclectic but a little classy, so I chose names that I thought reflected that.

Some of the names sound more like a nightclub than a coffee shop… you gotta have just the right blend of weird and still sound classy, foreign, or intellectual.

The names just sounded like cozy places to get a cup of coffee and sit.

(Additional answers excluded from this appendix; contact author if interested in rest of data)

2. Which name do you think is the best name for a coffee shop? (Circle one from each pair.)

a. Volta 11 or **Joule 14**
b. **PT's 15** or Heart 10
c. **Colectivo 21** or Peregrine 4
d. G&B 7 or **Jubala 18**
e. Intelligentsia 9 or **Ultimo 16**

3. Which of the following do you think has the best name?

- ❑ Rinnova 8
- ❑ Beans-n-Cream 2
- ❑ **Stoney Creek Coffee Roasters 15**

4. Stoney Creek Coffee Roasters is changing its name to Telemetry Coffee Roasters. What do you think about this change?

- ❏ **I think the old name is better. 22**
- ❏ I think the new name is better. 1
- ❏ I don't have a preference. 2

Please complete the following demographic information:

Sex:

- ❏ Male 6
- ❏ **Female 19**

Age:

- ❏ **17-25 25**
- ❏ 26-50
- ❏ 51+

How often do you drink coffee?

- ❏ **Every day 14**
- ❏ Once a week 5
- ❏ Once a month 3
- ❏ Never 3

Thank you very much!