

Is *J* the new *K*? A failure to replicate Schloss (1981)

Abstract

According to the marketing literature on sound symbolism, “*K*” is overrepresented as the initial letter in top brand names relative to the frequency with which it appears as the initial letter of words in the English dictionary. However, it is now 35 years since the original study on ‘the *K*-effect’ was first published and there is, of course, a possibility that trends have changed during that time. Using the Top 200 company names from the Fortune 500 list, and comparing the initial letter frequency to two benchmarks (i.e., the relative frequencies of first letters of words in the English dictionary and Card and Eckler’s [1975] derived letter-frequencies), our analyses (using conservative Bonferroni-corrections) reveal, in fact, that *A* and *J* are overrepresented as initial letters in top company names, while *S* is underrepresented. We argue that the paucity of names starting with the letter *K* may, therefore, reflect an opportunity for those starting new companies.

Keywords

K-effect, replication, brand names, initial letter, conservative analyses

Introduction

Thirty-five years ago, Schloss (1981) reported that a disproportionate number of the Top 200 brands in *Marketing and Media Decision* (July, 1980) had *C*, *P*, or *K* as their initial letter (27%; 54 brands), relative to the frequency with which these letters appeared in the English dictionary (19%). Brands such as Kellogg’s *Special K*, Colgate’s *Cavity Protection*, Ford’s *Ka*, and the cider known simply as *K* spring to mind here, as salient examples. Furthermore, 65% (i.e., 129) of the Top 200 brands were found to begin with the letters *A*, *B*, *C*, *K*, *M*, *P*, *S*, or *T*. Combining the *K* and *C* cells, and using chi-square tests, Schloss argued that the

observed frequencies exceeded what could be expected by chance; a finding that he replicated with data gathered from the preceding four years. In addition to the letters *C*, *P*, and *K* appearing in the initial position, Schloss also assessed whether the sounds associated with these letters appeared *within* the names of the Top 200 brands more often than would have been expected by chance. Forty-six percent (93 brands) began with, or contained, the *K* and *P* sounds. Parenthetically, *M* was also overrepresented, while *S* was underrepresented.

Here, we attempt to replicate Schloss' (1981) method and assess contemporary trends in brand naming. It has been 35 years since Schloss' published his findings on 'the *K*-effect' and there is, of course, a possibility that things may have changed in that time. For example, one might predict that, if companies heed the advice of marketing professionals, *K* ought to be even more prevalent as the initial letter in company names than it was 35 years ago. However, it is important to note that the (initial) letters used for product names are also subject to trends, much like anything else. In the early years of the 21st century, for example, it was fashionable to have *X* as the initial letter of a product or brand name (think Xbox, X-factor). Further, and more recently, the explosion of the lower-case 'i' prefix, in the wake of the AppleTM revolution, spurred a range of 'i' inspired brand names: iSnack 2.0 and iView. Danesi (2013) suggested that *i* was used to bring to mind imagination, intelligence, and the internet, among other things. Interestingly, Danesi also suggested that both *X* and *i* are used to appeal to a younger generation of customers through a style of writing that, in part, mimics text-messaging. Similar to historical trends, people's preferences are also subject to change (cf. Carbon, 2010). As such, it may be that, in the 1970s and early 2000s, people preferred the angularity of the letters *X* and *K*, whereas now they might prefer companies who use rounder shapes (e.g., the *S* in *Samsung*, the *C* in *Coca-Cola*, or the *J* in *Jeep*).

Schloss' (1981) work raises an interesting question, though, as to why it should be that *K* would be used more often in brand names than would be expected by chance. Schloss proposed that “there is something about the English language that causes people to react to certain words and sounds differently than they react to others” (p. 47). He continues that such reactions are likely emotional rather than rational. Vanden Bergh (1990) suggested that the sharp-sounding *K* might cut through background noise more effectively than other speech sounds. He also suggested that *K* is the only letter in the English language that: (1) has *Positive Sound Symbolism*¹ – for example, Newman (1933) had participants arrange letters on a scale from bright-to-dark and found *K* to be rated as one of the brightest consonants; (2) is *Versatile* (i.e., *K* occurs infrequently as an initial letter in words, but can be used in combination with commonly appearing initial letters [e.g., *S*, *L*, or *R*] more than other, infrequently-appearing, initial letters [e.g., *J*, *Q*, *X*, *Y*, and *Z*]); (3) is *Unique* in the sense that the letter *C* ensures that *K* occurs infrequently as the initial letter in words; and (4) is *Memorable* because it is a plosive – Vanden Bergh, Collins, Schultz, and Adler (1984) demonstrated that words beginning with plosive sounds (i.e., *B*, hard *C*, *D*, *G*, *K*, *P*, and *T*) are easier to remember – and because *K* is, apparently, instantly recognisable (Vanden Bergh, 1990).

Shrum and Lowrey (2007) suggest that *K* may appear more often in brand names because it “looks funny, either because of its odd, angular shape, or simply because it doesn’t occur that often in the English language” (p. 48). Note that this is similar to Vanden Bergh’s (1990) argument concerning uniqueness. Shrum and Lowrey argue that uniqueness might cause *K*, and words beginning with the letter *K*, to be distinctively encoded (see also Eysenck, 1979). This would likely enhance the memory for these brand names (Meyers-Levy, 1989).

¹ Sound symbolism is the idea that a word’s sound automatically conveys meaning, independent of the word’s actual meaning (see Hinton, Nichols, & Ohala, 1994; Klink, 2000; Sapir, 1929).

Shrum and Lowrey (2007) also argued that because *K* has the same sound as a hard *C*, companies can generate unusual spellings for their products (e.g., Kit-Kat®, Krispy Kreme Doughnuts®, Ford Ka) which, again, and because of uniqueness, has the potential to enhance brand name recall and recognition (Lowrey, Shrum, & Dubitsky, 2003). Parenthetically, the alliteration of the *K* in the first two brand names mentioned above may make them even rarer. After all, how often does one see two words beginning with *K* next to each other in prose? Argo, Popa, and Smith (2010) demonstrated that exposing people to brand names containing repeating phonetic sounds (e.g., Coca-Cola®, Hubba Bubba®, Jelly Belly®, Kit-Kat®) can have a positive effect on their evaluations of the brand, and their choice of product. That said, not all sound repetition is worthwhile; repeating sounds that deviate significantly from linguistic expectations (e.g., ranthfanth), for example, may not be beneficial.

Additional research into sound symbolism shows that consumers use linguistic structure to infer meaning from brand names (Argo et al., 2010; Klink, 2000), and to evaluate products (see Lowrey & Shrum, 2007; Lowrey et al., 2003). Yorkston and Menon (2004), for example, found that sound symbolism influenced perceptions of a product's attributes (e.g., the creaminess of ice-cream), while Klink (2000) found that brand names containing plosives (i.e., *B*, hard *C*, *D*, *G*, *K*, *P*, and *T*) were thought to be larger, slower, heavier, and more masculine than brand names containing fricatives (i.e., *F*, *S*, *V*, and *Z*). Although plosives were commonly used in brand names, Vanden Bergh, Adler, and Oliver (1987) have demonstrated that, between 1971 and 1985, semantic appositeness (i.e., the fit between product and name - Lean Cuisine, for example) was the most commonly used technique in brand naming.

Intriguingly, a number of pharmaceutical companies already incorporate the use of certain sounds into their brand name design (see Abel & Glinert, 2008; Dohle & Siegrist, 2014). Abel and Glinert, for example, have demonstrated that the brand names of anti-cancer medications tend to use voiceless consonants (/p/, /t/, /k/, /f/, /s/) significantly more frequently than one would expect by chance. There was also a trend to use voiced consonants (/b/, /d/, /g/, /v/, /z/) less frequently than expected. Voiceless consonants are thought to be associated with ‘fast’, ‘small’ and ‘light’, while voiced consonants are associated with ‘slow’ and ‘heavy’. The argument here is that people want, and hence are more likely to purchase, medicines that are fast-acting, small (e.g., easier to swallow), and light (e.g., less invasive), at least when looking for an anti-cancer medication.

The sounds, and the first letter, of brand names, carry a large portion of the responsibility for the meaning and associations the brand name evokes. Respondents in Brendl, Chattopadhyay, Pelham, and Carvallo’s (2005) study “were more likely to choose a brand when the brand name started with letters from their names than when it did not” (p. 405). This phenomenon is referred to as the ‘name letter branding’ effect and is closely associated with ‘implicit egotism’. Implicit egotism suggests that most people think positively about themselves and, consequently, will “gravitate toward things that resemble the self” (Brendl et al., 2005, p. 405). As such, implicit egotism endows the letters of brand names with positive valence. However, Brendl et al. (2005) suggest that this valence has to be associated with a relevant, specific product attribute (e.g., ability to quench thirst). Parenthetically, the name-letter effect also seems to influence a person’s choice of spouse (Jones, Pelham, Carvallo, & Mirenberg, 2004).

A little over 25 years ago, Vanden Bergh (1990) attempted to replicate Schloss' (1981) findings. Vanden Bergh highlighted a couple of salient concerns with the original findings, and thus attempted to improve upon the research by making some changes. First, Vanden Bergh suggested that the list used by Schloss wasn't actually representative of the Top 200 brands because it was derived from a list "based on media expenditures for the previous year" (Vanden Bergh, 1990, p. RC-09), and thus may not have been representative of all brand names. Vanden Bergh was also bothered by the sample used by Schloss in that it might fluctuate from one year to the next because of increases (or decreases) in a particular company's advertising expenditure. In an attempt to negate this issue, Vanden Bergh therefore compared the "alphabetic distribution of brand names from the *Standard Directory of Advertisers Tradename Index* (1989) to that of all words in *Webster's Ninth New Collegiate Dictionary* (1987)" (p. RC-09). Using the latter method, the letter *K* once again appeared more frequently as the initial letter in brand names than for words in the dictionary. Vanden Bergh therefore went on to suggest that this supported Schloss' original finding.

Vanden Bergh (1990) extended Schloss' (1981) research by taking the latter's original data (derived from *Marketing and Media Decisions*) and compiling "a composite list of unduplicated names from all lists published since 1972 (the first year a list was published)" (p. RC-10); the list used by Schloss comprised data from 1975-1979. While Schloss found that *A, B, C, K, M, P, S,* and *T* were the eight most frequent initial letters, Vanden Bergh found that *A, B, C, D, M, P, S,* and *T* were the most common letters when names from every publication year were included. The difference here is that *K* is replaced by *D* in Vanden Bergh's list of most frequently appearing initial letters. Further, Vanden Bergh found that *A, B,* and *M* were overrepresented in brand names relative to the frequency with which words in the dictionary begin with these letters, while *S* and *P* were underrepresented. In spite of these findings,

Vanden Bergh modified his analysis of the most frequently appearing initial letters to include company names beginning with the letter *K*. When included, *K* contributed significantly to the model and, as such, Vanden Bergh argued that *K* occurred “more frequently as the beginning letter of brand names than it does as a first letter in the English language” (RC-10). Problematically, this conclusion does not seem to be justified, as *K* should really occur, at least, as frequently as other letters (i.e., *A*, *B*, *C*, *D*, *M*, *P*, *S*, and *T*) to warrant being included in the model in the first place.

Interest in the letter *K* extends beyond brand names though. Nelson and Simmons (2007) made the intriguing suggestion that baseball players whose first or last names begin with the letter *K* strike out more often than do players whose names start with other letters of the alphabet. The idea was that players whose names begin with *K* are less averse to strikeouts because *K* signifies a strikeout on a scoresheet (i.e., a forward-facing *K* is used to represent a ‘strikeout while swinging’, whereas a backwards-facing *K* [i.e., **⅂**] represents a ‘strikeout while looking’). Unfortunately, however, McCullough and McWilliams (2010) revealed a number of flaws in the methodology and analyses used by Nelson and Simmons to support their claims. McCullough and McWilliams went on to show that Nelson and Simmons’ main finding was spurious. As is clear from the McCullough and McWilliams paper, then, the analysis in this form of research is particularly important, not to mention tricky. In relation to the aforementioned research, neither Schloss (1981) nor Vanden Bergh (1990) appear to have controlled the family or group significance level (i.e., their research is thus at an inflated risk of Type I errors; see Rubin, 2012, p. 180). As such, their results may reflect the incorrect rejection of null hypotheses (e.g., *K* is claimed to be overrepresented in top brands when, actually, it is not).

Finally, it is worth noting that Pogacar, Plant, Rosulek, and Kouril (2015) recently reported that sounds associated with *A, B, D, E, G, H, K, L, M, P, V, S, T*, and *Z* were overrepresented in Interbrand's Top 100 brands list, relative to a set of general brand names². By contrast, the sound associated with *U* (e.g., Budweiser®) was underrepresented among the top brand names. Pogacar et al., like many others (e.g., Klink, 2000), suggested that sound symbolism "is one mechanism by which positive linguistic attributes enhance brand names" (p. 550). Given that Pogacar et al.'s recent findings differ (to a certain degree) from those of other authors, and given the issues associated with the statistical analyses used in previous research, it would seem that there is, as yet, insufficient evidence in support of the *K*-effect.

Outwardly, companies and marketing professionals (see Vincent Roa, 2011) appear to believe that *K* is overrepresented in top brand names, and that it is of benefit to use *K* (or the *K*-sound) in brand names. For example, there is a cider brand in the UK that is simply called "*K*" (see *K (cider)*). The company manufacturing this product goes so far as to suggest that *K* was used because "premium liquids of a superior quality have always been marked with a '*K*'" (see *C&C Group PLC*)³. Given the information above, we would argue that there is, currently, insufficient evidence to support the confidence that many marketing professionals have in 'the *K*-effect'.

Here, and in contrast to the research reported by Schloss (1981) and Vanden Bergh (1990), we use the Top 200 Fortune 500 companies. Much like Pogacar et al. (2015), who sourced their list from Interbrand's Top 100 list (which devises its list from a composite of brand performance factors), we believe that media expenditure for the previous year constitutes a

² It should be noted that Pogacar et al. (2015) assessed whether letters were overrepresented in a brand's entire name, whereas we are primarily interested in overrepresentation amongst the initial letters of company names.

³ Though it is worth noting that we couldn't find any evidence to support this particular claim.

less direct measure of being a top brand than, in our case, whether a company made the Fortune 500 list. The Fortune 500 list ranks 500 of the largest corporations in the United States by total revenue for each fiscal year (USPages, 2015). The list includes both public and privately-held companies for which revenue is publicly available.

Based on the likelihood that trends in the use of letters in company names have changed over the last 35 years, an overall prediction was that:

H₁: There will be a difference in the prevalence of the initial letters of top company names today relative to Schloss' (1981) findings.

Based on the previous research published in this area (e.g., Pogacar et al., 2015; Schloss, 1981; Vanden Bergh, 1990), it was hypothesised that:

H_{2a}: *K* would be overrepresented as the initial letter among top company names relative to the proportion of words starting with *K* in the English dictionary.

H_{2b}: If companies have heeded the advice of marketing professionals, *K* ought to be even more prevalent as the initial letter in company names today than it was 35 years ago.

As alluded to above, Pogacar et al. (2015) and Schloss (1981) stressed the importance of the letter *M*. Thus:

H₃: We expect *M* to be overrepresented as the initial letter in top company names relative to the proportion of words starting with *M* in the English dictionary.

Furthermore, both Vanden Bergh (1990) and Schloss (1981) found that *A*, *B*, *C* and *T* were overrepresented. As such, we expected:

H₄: *A* to be overrepresented as the initial letter among top company names relative to the proportion of words starting with *A* in the English dictionary.

H₅: *B* to be overrepresented as the initial letter among top company names relative to the proportion of words starting with *B* in the English dictionary.

H₆: *C* to be overrepresented as the initial letter among top company names relative to the proportion of words starting with *C* in the English dictionary.

H₇: *T* to be overrepresented as the initial letter among top company names relative to the proportion of words starting with *T* in the English dictionary.

Interestingly, while Schloss (1981) found that *P* was overrepresented, Vanden Bergh (1990) found that it was underrepresented. Both authors found that fewer brand names have *S* as their initial letter than would be expected based on the frequency of *S* in the dictionary. However, Pogacar et al. (2015) reported that *S* was overrepresented. These ambiguous results need further clarification and, given the uncertain direction of the effects, we thought it most appropriate to use two-tailed significance tests. As such, we also hypothesised that:

H₈: Company names starting with *P* would occur no more often than would be expected given the proportion of words starting with *P* in the English dictionary.

H₉: Company names starting with *S* would occur no more often than would be expected given the proportion of words starting with *S* in the English dictionary.

Methods

Our dataset of Top 200 company names was a composite list of unduplicated Top 200 company names drawn from Fortune 500 lists published since 2010 (see Interactive Data Managed Solutions, 2016). A total of 1200 names appeared, of which 261 were unique. Using only unique names eliminates overrepresentation of certain letters. This list contains companies from the US only (i.e., the Global Fortune 500 list was not analysed to control for language differences). Further, and similar to Pogacar et al. (2015):

“We use English as a comparison metric because it is the international language of business with the third largest number of speakers worldwide...Furthermore, English is spoken in more countries than any other language” (p. 555).

In the absence of a suitable, published list of “weak” (i.e., poorest-performing companies) company names (see Pogacar et al., 2015, for a similar argument), we followed Vanden Bergh (1990) and Schloss’ (1981) lead and used the relative frequency of first letters of words in the English Dictionary (COED) (Lavengro, 2012). Our calculations were also based on the idea that there are an estimated 470,000 entries in two English dictionaries (i.e.,

Webster's Third New International Dictionary and *The Oxford English Dictionary, Second Edition*; see Merriam-Webster, 2015).

A second analysis was conducted on the same 261 names, but here Card and Eckler's (1975) calculations for the relative frequency of first letters of words appearing in the English dictionary were used. Card and Eckler derived letter-frequencies from "the Air Force Normal and Reverse English Word List (most of Webster's Second, plus a number of smaller technical dictionaries)" (p. 83). Again, our calculations were based on the idea that there are an estimated 470,000 entries in *Webster's Third New International Dictionary* and *The Oxford English Dictionary, Second Edition*.

Results

Analysis 1

Two-sample z -tests of proportions, taking care to perform one-sided tests for certain comparisons, were conducted. In two cases (Y and Z), analyses were not conducted because the total number of times these letters appeared as the initial letters among top company names was zero. As 24 tests were performed, we controlled the family or group significance level (i.e., the inflated risk of a Type I error) at 0.05, using the conservative Bonferroni-adjusted alpha procedure (i.e., each individual test was performed relative to a significance level of $0.05/24 = 0.002083$).

Table 1 shows that the frequency of names appearing in the Fortune 500 list of companies that had *K* as the first letter was similar to that of the words one finds in the English dictionary, $z = 1.93$, $p = .027$, one-tailed. The null hypothesis was that the proportion of company names in the Fortune 500 list beginning with *K* and the proportion of words in the

English dictionary beginning with *K* are similar. Here, the null hypothesis is accepted. It is also worth noting that there are *very* few borderline significant results in Table 1. That is, except for the significance of *A* and *S*, *R* is the only initial letter that comes close to achieving statistical significance. As such, it is unlikely that *K*, or most of the other letters, would have popped out as significant had slightly less stringent tests been used (i.e., as was the case in the earlier studies). Here, *K* certainly doesn't stand out, even numerically speaking.

Table 1. Alphabetic Distributions of Brand Names (2010-2015) and Words in the English Dictionary.

Initial letter	% Brand names ¹	% English words	Z	Significance
A	10.73	5.64	3.56	<0.001⁺
B	3.45	6.25	-1.87	0.031 ⁺
C	10.73	9.44	0.71	0.239 ⁺
D	4.60	5.39	-0.57	0.569
E	5.36	3.42	1.73	0.084
F	3.07	4.26	-0.96	0.337
G	4.60	3.58	0.89	0.379
H	3.83	4.10	-0.22	0.826
I	3.45	3.22	0.21	0.834
J	2.30	0.95	2.25	0.025
K	2.68	1.32	1.93	0.027 ⁺
L	2.68	3.71	-0.88	0.379
M	7.28	5.71	1.09	0.138 ⁺
N	4.22	2.29	2.08	0.038
O	1.92	2.70	-0.78	0.435
P	6.51	8.13	-0.96	0.338
Q	0.77	0.53	0.53	0.596
R	0.77	4.49	-2.91	0.004
S	4.98	11.65	-3.36	<0.001
T	6.13	5.52	0.43	0.334 ⁺
U	4.60	2.54	2.11	0.034
V	1.15	1.58	-0.56	0.576
W	3.45	2.82	0.61	0.542
X	0.38	0.09	1.58	0.114

¹ The percentages here add up to 99.62% because one of the Top 200 Fortune 500 companies starts with a number (i.e., 3M).

⁺ One-tailed test of significance.

Bold font indicates a significant finding.

Analysis 2

A second analysis was conducted on the same 261 names, but here Card and Eckler's (1975) calculations for the relative frequency of first letters of words appearing in the English dictionary were used. Two-sample z -tests of proportions, taking care to perform one-sided tests for certain comparisons, were conducted. Again, as 24 tests were performed, we controlled the familywise significance level at 0.05 (i.e., each individual test was performed at significance level $0.05/24 = 0.002083$).

Table 2 shows that Fortune 500 companies had K as the first letter of their names at a frequency similar to that of words in the English language, $z = 2.73$, $p = .003$, one-tailed. Once again, company names starting with the letter K occurred no more often than would be expected given the proportion of words starting with K in the English dictionary. Again, it is worth noting that *very* few of the analyses approached statistical significance (see Table 2). That said, in this case, K and S may have achieved significance had a less stringent statistical test been used. However, and in relation to K specifically, a one-tailed test was used. Using this test increased the likelihood that K would achieve significance (as well as increasing the risk of a false positive), but even so K *still* failed to reach significance. As such, and in our opinion, the evidence for the K -effect appears weak.

Table 2. Alphabetic Distributions of Brand Names (2010-2015) and Words in the Air Force Normal and Reverse English Word List.

Initial letter	% Brand names ¹	% English words	Z	Significance
A	10.73	7.6	1.91	0.028 ⁺
B	3.45	4.5	-0.82	0.206 ⁺
C	10.73	8.6	1.23	0.109 ⁺
D	4.60	4.6	-0.00	1.00
E	5.36	3.9	1.22	0.223
F	3.07	2.8	0.26	0.795

G	4.60	3.0	1.51	0.131
H	3.83	4.2	-0.30	0.764
I	3.45	3.7	-0.22	0.826
J	2.30	0.6	3.55	<0.001
K	2.68	1.0	2.73	0.003 ⁺
L	2.68	2.8	-0.12	0.905
M	7.28	5.6	1.18	0.119 ⁺
N	4.22	2.8	1.39	0.084
O	1.92	3.3	-1.25	0.211
P	6.51	10.7	-2.19	0.028
Q	0.77	0.5	0.61	0.542
R	0.77	3.9	-2.62	0.009
S	4.98	10.4	-2.87	0.004
T	6.13	5.5	0.45	0.326 ⁺
U	4.60	6.3	-1.13	0.258
V	1.15	1.5	-0.47	0.638
W	3.45	1.5	2.59	0.009
X	0.38	0.2	0.66	0.509

¹ The percentages here add up to 99.62% because one of the Top 200 Fortune 500 companies starts with a number (i.e., 3M).

⁺ One-tailed test of significance.

Bold font indicates a significant finding.

Discussion

In the present study, we explore what is known as ‘the *K*-effect’ (Schloss, 1981; Vanden Bergh, 1990). Based on the possibility that preferences and trends have changed over the last 35 years, we expected that there might be a difference in the prevalence of *K* as the initial letter among top company names today relative to the situation 35 years ago. Furthermore, and based on research by Schloss (1981) and Vanden Bergh (1990), we expected that the letter *K* would be overrepresented as the initial letter in company names relative to the words in the English dictionary. However, in neither of our analyses was the letter *K* overrepresented amongst top company names. Given that our results supported the null hypothesis, we wondered why Schloss (1981) and Vanden Bergh (1990) obtained the *K*-effect in the first place. Here it is important to note that neither author controlled the familywise significance level. Thus, their results may reflect the incorrect rejection of null

hypotheses (e.g., *K* is claimed to be overrepresented in top brands when, actually, it is not). This implies that no initial letters were overrepresented, but that *K* came closest to achieving significance. This is similar to McCullough and McWilliams' (2010) suggestion in relation to Nelson and Simmon's (2007) analyses and, much like McCullough and McWilliams, we would argue that the *K*-effect is therefore likely spurious.

Previous work (i.e., Pogacar et al., 2015; Schloss, 1981; Vanden Bergh, 1990) suggested that *A*, *B*, *C*, *M* and *T* would also be overrepresented as the initial letter among top brand names. Relevant to this work, one of our analyses found that *A* was overrepresented but, using the benchmarks that we did (i.e., the relative frequency of first letters of words in the English dictionary), we were unable to support the claim that *B*, *C*, *M* and *T* are overrepresented. There are contradictory findings in the literature in relation to whether *P* and *S* would be overrepresented. Consistent with Schloss and Vanden Bergh, and thus inconsistent with Pogacar et al., our first analysis showed that *S* was underrepresented as an initial letter in top company names. Our analyses suggested that *P* was neither over- nor under-represented. Oddly, and in contrast to all other research, *J* appeared more often than expected as an initial letter in top company names (e.g., J. P. Morgan Chase, Johnson & Johnson) in one of our analyses. Parenthetically, the alliteration of the *J* in 'Johnson & Johnson' would likely make this company name quite rare, and this repetition might positively influence consumer's perception of the brand (Argo et al., 2010).

Vanden Bergh (1990) suggests that *J* appears relatively infrequently as the initial letter of words (data in Tables 1 and 2 support this assertion). Shrum and Lowrey (2007) argue that this uniqueness might cause *J*, and words beginning with *J*, to be distinctively encoded which, in turn, would enhance the memory for companies beginning with the letter *J* (see Eysenck,

1979; Lowrey, Shrum, & Dubitsky, 2003; Meyers-Levy, 1989). Conceptually, this helps explain why companies choose names starting with *J*, and empirically why these company names occur more often than would be expected given the proportion of words in the English language starting with the letter *J*. It may also be that companies' and/or consumers' preferences have changed over the last 35 years such that rounded letters (e.g., the *S* in *Samsung*, the *C* in *Coca-Cola*, and the *J* in *Jeep*) are in vogue (cf. Carbon, 2010).

If there has been a shift in companies' and/or consumers' preferences for rounded letters, why might this have occurred? Consistent with the ideas of Berger, Bradlow, Braunstein, and Zhang (2012), perhaps the popularity of *J* in company names is a result of the popularity of baby names beginning with *J*. These authors suggest that "names are more likely to be popular when similar-sounding names have been popular recently" (Berger et al., 2012, p. 1071), and that this should hold for names across a variety of domains (e.g., songs, companies). As our list of company names began in 2010, we used a list of the Top 200 baby names from 2009 (see BabyCenter, 2016), to meet the 'popular recently' criteria of Berger et al. (2012). To our surprise, baby names that had *J* as the first letter occurred at a frequency greater than that of words in the English language, $z = 13.11$, $p < .001$, two-tailed⁴. As such, the preference parents had for names beginning with *J* some five or six years ago may be contributing to the popularity of companies that have a *J* as the initial letter of their names today. The idea here is that company names that are comparable, but not identical, "to currently popular cultural items may be particularly successful" (Berger et al., 2012, p. 1071) because they are the perfect combination of originality and familiarity (see also Landwehr, Labroo, & Herrmann, 2011). For example, 'Johnson & Johnson' may be popular at the moment because the name Johnathon was popular in the recent past. This seems similar to

⁴ This result was repeated for 2010 data from the same source.

Brendl et al.'s (2005) finding regarding name-letter branding (i.e., people prefer brands that start with letters from their own names).

To expand on Berger et al.'s (2012) idea regarding originality and familiarity, *J*'s shape is quite similar to that of a lower-case *i* - albeit reversed. As discussed earlier, the lower-case *i* prefix has been very popular as the initial letter in brand/product names recently. As such, *J* may be popular as the initial letter of company names now because it is similar (in shape) to a recently popular cultural item.

Unfortunately, the literature provides no real insights as to why *A* might be overrepresented in top brand names, while *S* should be underrepresented. That said, and in relation to the letter *A*, it would obviously be sensible for a company to choose a brand name beginning with the letter *A*. Doing so guarantees you an opening position in any alphabetised lists, particularly in a business directory like the 'Yellow pages'.

The analyses presented here were conducted primarily in order to contrast and compare our findings with those of earlier researchers. In Analysis 1, we asked whether the *K*-effect remains when the benchmark was the relative frequency of the initial letters of words in the English dictionary. Then, in Analysis 2, we acknowledged that relative frequencies are somewhat fickle (i.e., the sources from which letter-frequencies are derived can, and do, influence the proportion of first letters in the benchmark group), and used benchmarks from Card and Eckler (1975). Analysis 1 revealed that *A* was overrepresented while *S* was underrepresented as initial letters in top company names. These findings thus endure after 35 years (see Schloss, 1981), even when the benchmarks and statistical analysis are modified. Analysis 2 revealed that the benchmarks are important, as the *A* and *S* effects were both

abolished, but *J* was now found to be overrepresented in top company names. As noted earlier, we used conservative Bonferroni-corrections and *S* came close to achieving significance in Analysis 2, as did the letter *K*. As we had a directional hypothesis regarding the *K*-effect, a one-tailed test was used. Using this test increased the likelihood that *K* would achieve significance. However, *K* failed to reach significance and, consequently, the evidence for the *K*-effect appears limited.

If we apply our conservative Bonferroni-corrections to Vanden Bergh's (1990) 'z-test for differences', we find that his only significant result (i.e., *K*: $p = .0188$) failed to reach statistical significance at the .002083 level. Given that Vanden Bergh then extended his sample to all names published in *Marketing and Media Decisions* and found that *K* was not amongst the eight most frequently appearing initial letters, this lends further support to the suggestion that 'the *K*-effect' is spurious. In Schloss' (1981) work, the *K* and *C* cells were combined, making it difficult to determine the influence of the letter *K* alone. Furthermore, given the limited methodological information in Schloss' article, it is difficult to determine how many analyses were run on observed and expected frequencies, but we feel safe in assuming our Bonferroni-corrected level is lenient⁵. That said, Schloss' most significant finding reached .005, which is simply not adequate for our purposes. We argue that this implies that the change in findings relating to *K* over time is a product of our own more rigorous analyses than, say, changes in the marketplace over the past 35 years.

So what does the future hold for company names? If there is a link between baby names and company names, companies beginning with *A*, *E*, *J*, *K*, and *L* may be successful in the near future. These were the most popular baby names in 2015 and their first letters occurred with a

⁵ We could've been even more fastidious with our own analyses as we used the same data twice.

frequency greater than that of words in the English language (BabyCenter, 2016)⁶. Given that *J* is the only letter with a rounded shape here, it may be that company names with initial letters that are angular in shape (e.g., *K*) will soon experience a surge in popularity. Further, as technology (e.g., smart phones) gets progressively faster and smaller, we may see fricatives (i.e., *F*, *S*, *V*, and *Z*) and voiceless consonants (/p/, /t/, /k/, /f/, /s/) used more often in company names. Names containing fricatives and voiceless consonants are thought to be associated with products that are small, fast, light, and more feminine than are plosives or voiced consonants (Abel & Glinert, 2008; Dohle & Siegrist, 2014).

In short, the results of the analyses reported here fail to provide any evidence in support of the so-called *K*-effect. This despite the prevalence of this claim in the marketing literature over the last 30 or 40 years. That said, it could still be argued that, for all the reasons mentioned in the Introduction (e.g., *K* cuts through background noise more effectively than other speech sounds), the *K*-effect seems like a lost marketing opportunity for those starting new companies. It is not surprising that different constellations of overrepresentation arise in different manuscripts as both the targets (i.e., lists of top brand names) and benchmarks (i.e., proportions of words beginning with each letter) change. A full understanding of the *K*-effect would thus require a systematic exploration of the relationship between *K* and (1) the definition of what constitutes a “top brand”, and (2) benchmarks – a project for future research. It is also important to determine the appropriate analyses and, given the large number of tests that often accompany manuscripts in this field, the appropriate level of statistical significance. Brand managers should consider these findings before choosing a name for a new brand or company. It may be worthwhile to consider: (1) using *A*, or a letter that appears infrequently in the English language (e.g., *J*); (2) differentiating the product

⁶ *P* was also significant but appeared less often as the initial letter of baby names than it did in the dictionary. As such, companies with *P* as their first letter may perform poorly.

name from those of the competition; (3) the current trends in baby names (Berger et al., 2012) or in the marketplace (cf. Carbon, 2010), and (4) taking advantage of findings in the phonetic symbolism literature (cf. Argo et al., 2010; Klink, 2000; Lowrey & Shrum, 2007; Yorkston & Menon, 2004).

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