

# Phonetic symbolism and children's brand name preferences

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## Abstract

**Purpose** – Children are bombarded by branded communication every day. The purpose of this paper is to investigate the role that particular linguistic devices play in communication, and whether this process differs between children and adults. One such device is phonetic symbolism, which has been shown to lead adults to prefer brand names whose phonetic attributes match product and/or brand features.

**Design/methodology/approach** – Three experiments were undertaken to examine children's (six to 12 years of age) preference for phonetically manipulated brand names. Experiment 1 replicates findings in previous research showing that preference for a particular brand name within a single product category is dependent on how the brand is described. Experiment 2 extends this research across product categories that are expected to lead to differential brand name preference (based on product features). Finally, experiment 3 investigates the interaction between pure phonetic symbolism and semantic information.

**Findings** – Children show similar patterns of brand name preference (with some age differences that could be attributable to developmental stages), and that they link particular sounds with specific brand/product attributes.

**Practical implications** – This research shows that when selecting an inventive and distinct brand name, consideration could be given to the relationship between vowel sounds and brand characteristics. The authors believe that the findings are of importance to marketers as they consider different approaches to the naming of new brands.

**Originality/value** – This is the first set of experiments to investigate the effects of phonetic symbolism on brand name preference utilising a children's sample.

**Keywords** Phonetic symbolism, Branding, Marketing to children, Brand names, Children (age groups)

**Paper type** Research paper

## 1. Introduction

Hot Wheels! Nintendo! Bratz! Children are bombarded by branded communication every day. With the belief that the earlier a child establishes awareness of a brand, the stronger brand associations are likely to be when they become an independent consumer (Ross and Harradine, 2004), it is understandable that many organizations would seek to begin the branding process early, targeting children from a young age. As a result, scholars in the first decade of the twenty-first century have focused their attention on child-oriented branding issues (Chaplin and Lowrey, 2010).

As new brands enter the market, so too do new brand names. Brand names can act as a shorthand means of brand communication, capturing "the central theme of key associations of a product in a very compact and economical fashion" (Keller, 2003, p. 182). When creating a new brand name, marketers need to consider how desired associations (or meanings) can be communicated within just one or two words. Although some marketers will choose to communicate this information through the selection of a semantically

appropriate and/or expressive brand name (e.g. Magnetix or Crunchie), Mandagili (2008) has identified a recent increase in the number of "inventive" brand names entering the marketplace (e.g. Google). An inventive name is said to stand-out among other competing brands as a consumer's attention is often drawn to a novel, unique, and unusual brand name (Roberston, 1989; Keller, 2008). Therefore, a question is raised as to how a marketer can create a meaningful, but also distinctive, brand name. One approach may be the use of linguistics to link sounds to specific product and/or brand meanings (Mandagili, 2008). This paper focuses on one such concept, phonetic symbolism.

This research seeks to investigate children's preferences for phonetically manipulated brand names. Specifically, children's preferences for brand names that either do, or do not, contain sounds that connote the physical attributes of selected products will be investigated. The results of this research may provide those interested in marketing to children with key insights into alternative approaches to naming new brands.

## 2. Phonetic symbolism

Phonetic symbolism rests on the notion that sounds (phonemes) can convey meaning on their own, irrespective of their configuration within a word (Sapir, 1929). Although there has been little consensus among linguistics scholars over whether phonetic symbolism exists (e.g. Jespersen, 1922), a large body of research within linguistics has found support for

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the phenomenon, suggesting that a phoneme can, in fact, be a meaningful unit of communication (e.g. Nuckolls, 1999).

To date, researchers have focused on the symbolic value of vowels, with consistent sound-stimuli relationships being identified. For example, the vowel sound [ā] (such as in brought) has been associated with large objects and the vowel sound [i] (such as in bring) associated with small objects (Tarte and Barritt, 1971). Theorists have suggested that the meaning generated by vowel sounds follows a consistent pattern, forming a roughly ordered sound-symbolic list (e.g. Sapir, 1929 (see Table I)). This ordered list is founded on the notion of the front versus back vowel distinction. As the highest position of the tongue shifts from the front of the mouth (as in beat) to the back of the mouth (as in boot), perception of size increases (Sapir, 1929).

Children's awareness of, and ability to manipulate, phonemes (phonological processing) is less developed than their adult counterparts (Piasta and Wagner, 2010). Despite this, evidence of sound symbolism has also been found in child-oriented studies. For example, Sapir (1929) found that over 80 percent of children aged 11 to 16 years associated "mal" (back vowel sound) with large and "mil" (front vowel sound) with small.

### 3. Phonetic symbolism applied to brand names

In recent years there has been growing interest in phonetic symbolism in the marketing literature (Coulter and Coulter, 2010; Klink, 2000; Lowrey and Shrum, 2007; Yorkston and Menon, 2004; for a review, see Shrum and Lowrey, 2007). Marketers have directed their attention to the application of phonetic symbolism principles in the development of meaningful brand names (Klink, 2000) as, like all words, brand names are made up of a series of phonemes.

Research suggests that these phonemes can provide consumers with a cue for product or brand attributes. Klink (2000) found that brand names containing front vowel sounds (e.g. [ē], [i], [ā]) were perceived as smaller, lighter, softer, thinner, colder, more feminine, friendlier, and prettier when compared to those with back vowel sounds (e.g. [ā], [u] and [ū]). It has also been found that consumers prefer brand names that contain vowel sounds that are congruent with product attributes (Lowrey and Shrum, 2007). For example, consumers were found to prefer front vowel sounds for faster, lighter, and sharper products (e.g. a two-seater convertible or knife); whereas back vowel sounds were preferred for slower, heavier, and duller products (e.g. an SUV or hammer). Research also shows that these effects hold across a variety of languages (Shrum *et al.*, 2011).

The results obtained by Klink (2000), Yorkston and Menon (2004), and Lowrey and Shrum (2007) suggest that sounds can in fact convey meanings, and these meanings align with consumer preferences for particular words as brand names. For example, if the sound of a word connotes speed, the word

may be preferred as a brand name for an electric scooter as opposed to a wooden train.

With children playing an important role within today's consumer marketplace, this research aims to extend current literature by examining the impact of phonetic symbolism on brand name preference within this cohort, which has not yet been the focus of much research within the marketing discipline. As children have not yet acquired adult-like language skills (Piasta and Wagner, 2010), and therefore may not attach the same meanings to phonemes as adults, this research provides a valuable contribution to this growing area.

### 4. Phonological development

With phonetic symbolism resting on the notion that sounds can convey meaning (Sapir, 1929), we suggest that an individual's ability to distinguish between the sounds in words (phonological awareness, McDevitt and Ormrod, 2003) will impact on the presence of this phenomenon. While we are aware of no studies that have identified distinct "stages" of phonological development, researchers have demonstrated that phonological processing is linked to both cognitive development (Gopnik and Meltzoff, 1986) and alphabet knowledge (Burgess and Lonigan, 1998).

It is unlikely a child will develop phonological awareness before the age of five or six (e.g. a pre-school child is not likely to identify that the word "mat" has three separate sounds nor "say 'mat' without the /m/", Fowler, 1991). Phonological awareness requires an individual to "suspend the normal function of a behaviour (listening to speech to gain access to meaning) to focus on its formal attributes" (Fowler, 1991, p. 99). According to Piaget's theory of cognitive development, the ability to consider and relate several dimensions of stimuli (decentering) is developed during the "concrete operations" stage (six to seven to 11–12 years of age), just as phonological awareness is emerging (Fowler, 1991).

Phonological awareness is closely linked to reading development (McDevitt and Ormrod, 2003), with children beginning to learn letters and their association with the spoken word at approximately six to seven years of age. It is at this time that children begin to process words phonetically rather than visually (Ehri and Wilce, 1985). During the concrete operations stage of cognitive development, children's phonological awareness (and thus reading skills) continues to evolve. Drawing from research undertaken in psychology, linguistics, and neurology, Chall (1989) developed six qualitatively distinct stages of reading development (McDevitt and Ormrod, 2003, p. 334). Three of these six stages occur within the bounds of Piaget's concrete operations stage (refer to Table II).

Consistent with Piaget's theory of cognitive development, Chall's stages of reading development illustrates that children under the age of six tend to focus on a single dimension (name of a letter). It is not until six to seven years of age

**Table I** Sound-symbolic list

Phoneme:	Ē	i	Ā	E	a	Ō	o	ä	u	ü
Pronounced:	Bee	Bit	Hate	Test	Bat	Boat	Posh	Brought	Out	Boot

Note: Adapted from Yorkston and Menon (2004, p. 44) and Klink (2000, p. 9)

Source: Sapir, 1929

**Table II** Chall's stages of reading development (six to 12 years of age)

Stage	Age	Characteristic
0 Pre-reading	Up to age 6	Developing awareness of most letters of the alphabet. Pre-reading activities not dependent on print in book
1 Initial reading	6-7	Focus on letter-sound relationships. Dependent on printed page as they read – “Glued to the print”
2 Confirmation, fluency, ungluing from print	7-8	Solidify the letter-sound relationships learned in Stage 1. Less dependent on each letter on the page, becoming increasingly fluent – “Unglued from print”
3 Reading for learning the new	9-14	Children can acquire new information from the things they read. Meaning can be drawn from more complex, abstract and unfamiliar reading materials

Source: McDevitt and Ormrod, 2003, p. 335

(initial reading stage) that children begin to learn the *association* between letters and the spoken word (decentering) with children's becoming increasingly fluent as they move towards the concrete operations stage. Chall's work clearly illustrates that between the ages of six and 14 a children's reading ability (and thus phonological processes) develops rapidly.

Phonological processing is an important consideration as, unlike previous studies, this research includes children on the cusp of Piaget's concrete operations stage. We therefore expect that evidence of phonetic symbolism may become stronger as children get older and their knowledge of phonemes increases.

- H1.* Within the same product category (e.g. ice cream), children will prefer brand names exhibiting phonetic symbolism that match with product attributes (e.g. front vowel sounds preferred for “icy” ice cream; back vowel sounds preferred for “creamy” ice cream).
- H2.* Across product categories (e.g. toys), children will prefer brand names exhibiting phonetic symbolism that match product category attributes (e.g. front vowel sounds preferred for small, soft, light toys; back vowel sounds preferred for big, hard, heavy toys).
- H3.* Phonetic symbolism effects will increase linearly with age: the youngest age group will demonstrate the expected pattern less than the middle group, which will demonstrate the pattern less than the oldest age group.

## 5. Experiment 1

### 5.1 Method

Experiment 1 aimed to replicate the results obtained by Yorkston and Menon (2004) and Lowrey and Shrum (2007) by testing for phonetic symbolism effects across two product attributes within a single product category: ice-cream.

#### *Participants and procedure*

A total of 51 children aged six to 12 years of age who attended an Out Of School Hours (OOSH) centre located in a major city on the Australian eastern seaboard participated in the experiment. Consent was sought from both parents and children prior to participation. Participants received four word pairs that differed only on the front/back vowel distinction (e.g. Fipple/Fupple; Frish/Frosh). A between-subjects experimental design was employed. Specifically, 25 participants were asked to specify their preference between

each word pair as a brand name for a “creamy and rich” ice-cream while 26 participants indicated their preference between each word pair for an “icy and sweet” ice-cream. Experimental materials were administered individually and all materials were read out loud to participants to ensure phonemes were presented as intended. Simple demographic information including age, year at school, and gender was obtained, and participants were asked what they “thought the research was about”.

#### *Stimuli*

The four word pairs presented to participants included fipple/fupple, frish/frosh lipush/lupush, and brimley/bromley (Yorkston and Menon, 2004). Participants simply indicated their brand name preference for each word pair by circling the name on the page.

## 5.2 Results and discussion

#### *Manipulation checks*

Order of presentation of word pairs did not affect word preference, therefore, results were pooled across order conditions. No participant correctly guessed the purpose of the experiment.

#### *Front versus back vowel sound effects*

We expected that front vowel sounds would be preferred as a brand name for an ice-cream described as “icy and sweet” and back vowel sounds would be preferred for an ice-cream described as “creamy and rich”. To test this hypothesis, continuous dependent variables were created that represented the proportion of front and back vowel sounds selected. Paired *t*-tests were then conducted to determine whether there were significant differences between preferences for front versus back vowel sounds for each experimental condition (see Table III). Table III presents the percentage of participants who selected words containing front and back vowel sounds in the two experimental conditions. As shown, results were as expected, with children preferring back vowel sounds over front (61 vs 39 percent) for the “creamy and

**Table III** Experiment 1 preference for front versus back vowel sounds across product descriptions

Product	Front vowel words preferred (%)	Back vowel words preferred (%)	Sig.
Creamy ice-cream	39	61	0.118
Icy ice-cream	66	34	0.021

rich” ice-cream (although not quite marginally significant,  $p = 0.12$ ) and front vowel sounds over back (66 vs 34 percent) for the “icy and sweet” ice-cream, providing partial support for *H1*.

These results suggest that, similar to results found for adults in Lowrey and Shrum (2007), within the same product category, brand name preference is a function of the attributes associated with the product. That is, back vowels are preferred for ice cream described as creamy and front vowels are preferred for ice cream described as icy, and at a similar two-to-one margin as that found in Lowrey and Shrum (2007). Thus, children appear to respond to phonetic symbolism in a manner resembling that of adults, at least when provided with specific attributes to consider. The purpose of Experiment 2 was to determine whether similar results would be obtained for products presented devoid of specific attributes.

#### *Front versus back vowel sound effects: comparison of age groups*

We were also interested in testing age differences in phonetic symbolism effects. Participants were categorised into three groups coinciding with Chall’s stages of reading development (Chall, 1989). Once again, paired *t*-tests were conducted to determine whether there were significant differences between preferences for front versus back vowel sounds within each condition. The results of this analysis can be seen in Table IV. As expected, evidence of phonetic symbolism is found across all three age-categories. Once again, children preferred back vowel sounds for the “creamy and rich” ice-cream and front vowel sounds for the “icy and sweet” ice-cream. However, there were differences in effects across the age groups. As the table shows, the effects increased with age. It is interesting to note that the percentage difference between front and back vowel sound selections increased with age. While significant differences were only found in the ten to 12 year age group, results do provide initial evidence that phonetic symbolism increases with age (and/or phonological development).

## 6. Experiment 2

Experiment 2 extends experiment 1 by testing for phonetic symbolism effects across four child-oriented toys. We expected that brand names with front vowel sounds would be preferred for small, soft, and light toys, whereas brand names with back vowel sounds would be preferred for big, hard, and heavy toys.

## 6.1 Method

### *Participants and procedure*

A total of 92 children aged six to 12 years of age, who attended an Australian OOSH centre participated in the experiment. Consent was sought from both the parent and the child prior to participation. Children who had participated in experiment 1 did not participate in experiment 2.

To identify toys that differed on the dimensions under investigation – namely size, weight, and hardness, six children from the target population were asked to identify five toys on the following dimensions: small/big; hard/soft; and heavy/light. The lists produced were compared with four juxtaposed products being selected: teddy bear and squishy ball (small, soft, and light) and doll’s house and outdoor play equipment (big, hard, and heavy). As all products achieved top of mind recall they were deemed appropriate for the study.

Following the procedure used in experiment 1, participants received four word pairs that differed only on the front/back vowel distinction (e.g. Illy/Ully; Nellen/Nullen). Participants were asked to specify their preference between each word pair as a name for each toy; therefore, a within-subjects experimental design was employed. The order of presentation for both the word pairs and product stimuli was randomized across participants. Experimental materials were administered individually and all materials were read out loud to participants to ensure phonemes were presented as intended. After preferences for words were obtained, participants indicated the perceived size, weight, and hardness of each toy separately using three, four-point semantic differential scales anchored: very small/very big, very light/very heavy, very soft/very hard. Finally, simple demographic information including age, year at school, and gender was obtained, and participants were asked what they “thought the research was about”. After this task, they were debriefed, thanked, and were free to leave.

### *Stimuli*

The four word pairs presented to participants included illy/ully, nellen/nullen, keffi/kuffi, and bilad/bolad. Participants indicated their brand name preference for each word pair by circling the name on the page.

## 6.2 Results and discussion

### *Manipulation checks*

Once again, order of presentation of both the word pairs and toys did not affect word preference, thus, results were pooled across order conditions. No participant correctly guessed the purpose of the experiment. The perceived size, weight, and hardness for the teddy bear, squishy ball and play equipment occurred as intended. Over 80 percent of children perceived

**Table IV** Experiment 1 preference for front versus back vowel sounds across products by age group

Product <i>n</i>	6-7 years Initial reading stage		8-9 years Automaticity stage		10-12 years Reading for learning stage	
	7 (icy), 10(creamy)		10 (icy), 7 (creamy)		9 (icy), 8 (creamy)	
	Front vowels preferred (%)	Back vowels preferred (%)	Front vowels preferred (%)	Back vowels preferred (%)	Front vowels preferred (%)	Back vowels preferred (%)
Creamy ice-cream	43	57	34	66	18*	82*
Icy ice-cream	57	43	64	34	80**	20**

Notes: \*  $p < 0.05$ , \*\*  $p < 0.01$

the teddy bear and squishy ball as small, soft and light and over 93 percent of children reported that the outdoor play equipment was big, hard and heavy. Mean ratings for each dimension are presented in Table V.

No consensus was obtained for the doll's house, therefore, internal analysis was conducted for this condition (that is, some participants rated a doll's house as large/heavy/hard [as intended], but others rated it as small/light/soft) – thus, in our analysis of vowel sound effects, we placed brand name preferences for the doll's house into the category most appropriate, given an individual's perceptions of the toy.

#### *Front versus back vowel sound effects*

We expected that front vowel sounds would be preferred for the teddy bear and squishy ball (smaller, softer, and lighter) and back sounds would be preferred for the outdoor play equipment (larger, heavier and harder). To test this hypothesis, continuous dependent variables were created as per experiment 1. Paired *t*-tests were then conducted to determine whether there were significant differences between preferences for front versus back vowel sounds for each toy (see Table VI). In all instances, results were as expected with front vowel sounds being preferred for products perceived as small and light (moderately significant result for the teddy bear,  $p < 0.10$ ), and back vowel sounds being preferred for products perceived as big and heavy.

For the doll's house, as described previously, analyses were conducted separately as a function of individuals' perceptions. For those participants who perceived the toy as large, back vowel words were preferred, as expected. For those participants who perceived the toy as small (unexpectedly), front vowel words were preferred (as expected given their perceptions). Thus, our results support *H2*.

#### *Front versus back vowel sound effects: comparison of age groups*

Further analysis for three of the four products was undertaken to examine each participant's preference for front versus back

**Table V** Experiment 2 children's rating of perceived size, weight and hardness (mean)

	Size	Weight	Hardness
Teddy bear	1.6	1.6	1.8
Squishy ball	1.7	1.9	1.8
Dolls house	2.7	3	3.3
Outdoor play equipment	3.6	3.5	3.6

**Table VI** Experiment 2 preference for front versus back vowel sounds across products

Product	Front vowel words preferred (%)	Back vowel words preferred (%)	Sig
Teddy bear	56	44	0.072
Squishy ball	58	42	0.018
Outdoor play equipment	30	70	0.000
Dolls' house (perceived as small)	73	27	0.000
Dolls' house (perceived as big)	44	56	0.026

vowel sounds according to age (the dolls' house condition was not included, due to differential perceptions, resulting in reduced cell sizes for the three age groups). Participants were again categorised into three groups coinciding with Chall's stages of reading development (Chall, 1989). Once again, paired *t*-tests were conducted to determine whether there were significant differences between preferences for front versus back vowel sounds for each product. Results are presented in Table VII. As expected, evidence of phonetic symbolism is found across all three age-categories. Front vowel sounds were consistently preferred for products perceived to be small and light (teddy bear and squishy ball) and back vowel sounds were preferred for the big and heavy product (outdoor play equipment), however, differences were not significant in all instances ( $p > 0.05$ ). It is interesting to note that the percentage difference between front and back vowel sound selections increased with age. While significant differences were only found for one of the three products in the six to seven year age group, and for two of the three products in the eight to nine year age group, significant differences were found across all three products in the ten to 12 year age group. This result suggests that evidence of phonetic symbolism increases with age (and/or phonological development).

Again, these results suggest that, similar to results found for adults in Lowrey and Shrum (2007), across product categories, brand name preference is a function of the attributes associated with the product, even if those attributes are self-generated. That is, back vowels are preferred for toys perceived as big, hard, and heavy, but front vowels are preferred for toys perceived as small, soft, and light. Thus, children appear to respond to phonetic symbolism in a manner resembling that of adults, even when they are not provided with specific attributes to consider. However, there are age differences in the pattern. The youngest aged children display the expected pattern for only one of the three toys (33 percent), the middle age group display the expected pattern for two of the three (66 percent), and the oldest aged children display the pattern for all three toys (100 percent). This suggests improvement in phonological processes as put forth by Fowler (1991), and supports *H3*, which states that phonetic symbolism effects will increase linearly with age.

Although these results show that phonetic symbolism can produce large effects when phonetic properties are isolated experimentally, such isolation does not occur in natural settings. Thus, a question that remains is whether semantic properties of brand names might overwhelm the effects of phonetic symbolism. That is, if a brand name includes semantically meaningful information about a product, will phonetic symbolism still play a role in brand name performance? Experiment 3 tested this proposition.

## 7. Experiment 3

### 7.1 Method

#### *Participants and procedure*

A total of 118 children aged five to 12 years of age who attended an Australian OOSH centre participated in the experiment. Consent was sought from both the parent and the child. Only those who obtained written consent participated in the experiment. Experimental materials were administered individually and all materials were read to children to ensure phonemes were presented as intended. Children who had

Table VII Experiment 2 preference for front versus back vowel sounds across products by age group

Product <i>n</i>	6-7 years		8-9 years		10-12 years	
	Initial reading stage		Automaticity stage		Reading for learning stage	
	24		30		38	
	Front vowel words preferred	Back vowel words preferred	Front vowel words preferred	Back vowel words preferred	Front vowel words preferred	Back vowel words preferred
Teddy Bear	52	48	56	44	62 *	38 *
Squishy Ball	51	49	65 *	35 *	63 *	37 *
Outdoor Play Equipment	40 *	60 *	30 **	70 **	23 **	77 **

participated in experiments 1 and 2 did not participate in experiment 3.

The procedure was identical to that used in experiment 2. For each toy, participants received four word pairs that differed only on the front/back vowel distinction. Participants were asked to specify their preference between each word pair as a name for each toy; therefore, a within-subject experimental design was employed. Once again, the order of presentation for both the word pairs and product stimuli was varied across participants. After preference for words was obtained, participants indicated the perceived size, weight, and hardness of the selected toys. Finally, simple demographic information including age, year at school, and gender was obtained, and participants were asked what they “thought the research was about.” After this task, they were debriefed, thanked, and were free to leave.

#### Stimuli

Eight semantically appropriate, two-syllable words were selected for each of the four toys used in experiment 2. As a result, a total of 32 test words were selected for experiment 3. In each condition, test words began with a descriptor of the toy and ended with either a front vowel or back vowel sound. Descriptor words included were: “hous”, “bear”, “ball”, and “slid” for the doll’s house, teddy bear, squishy ball, and outdoor play equipment, respectively. Front and back vowel sounds remained consistent across all four experimental conditions. For example, the words for the teddy bear condition were as follows: *Beariz/Bearoz*, *Bearil/Bearol*, *Bearen/Bearun* and *Bearip/Bearop*, whereas the words for the squishy ball condition were: *Housiz/Housoz*, *Housil/Housol*, *Housen/Housun* and *Housip/Housop*.

## 7.2 Results and discussion

### Order effects and manipulation checks

Once again, order of presentation of both the word pairs and toys did not affect word preference; thus, results were pooled across order conditions. No participant correctly guessed the purpose of the experiment. Data obtained regarding the perceived size, weight, and hardness of the selected test products were also analysed. Results obtained for the teddy bear and squishy ball occurred as intended with over 85% of children perceiving these items as small, soft, and light. Desired results were also achieved with regards to the doll’s house and outdoor play equipment with over 80% and 97 percent of children (respectively) reporting that the products were big, hard, and heavy. Mean ratings for each dimension are presented in Table VIII.

### Front versus back vowel sound effects

We again expected that front vowel sounds would be preferred for the teddy bear and squishy ball, and back sounds would be preferred for the doll’s house and outdoor play equipment. To test this, continuous dependent variables were created that represented the proportion of front and back vowel sounds selected for each product (as in experiments 1 and 2). Paired *t*-tests were then conducted to determine whether there were significant differences between preferences for front versus back vowel sounds for each product. Results are presented in Table IX.

Significant differences were found across all four toys ( $p < 0.01$ ). Results from Experiment 3 also indicated that front vowel sounds were preferred for products perceived as small and light; whereas back vowel sounds were preferred for products perceived as big and heavy.

### Front versus back vowel sound effects: comparison of age groups

Further analyses were undertaken to examine participant preferences for front versus back vowel sounds as a function of age. Participants were once again categorised into three groups corresponding to Chall’s stages of reading development (Chall, 1989). Paired *t*-tests were conducted to determine whether there were significant differences between preferences for front versus back vowel sounds for each toy. Results are presented in Table X and, as shown, evidence of

Table VIII Experiment 3 children’s rating of perceived size, weight and hardness (mean)

	Size	Weight	Hardness
Teddy bear	1.9	1.8	1.9
Squishy ball	2.0	1.9	1.9
Dolls house	2.9	3.2	2.9
Outdoor play equipment	3.7	3.5	3.7

Table IX Experiment 3 preference for front versus back vowel sounds across products

Product	Front vowel words preferred (%)	Back vowel words preferred (%)	Sig.
Teddy bear	62	38	0.002
Squishy ball	73	27	0.000
Dolls house	36	64	0.000
Outdoor play equipment	38	62	0.002

Table X Experiment 3 preference for front versus back vowel sounds across products by age group

Product <i>n</i>	6-7 years Initial reading stage 32		8-9 years Automaticity stage 44		10-12 years Reading for learning stage 36	
	Front vowels preferred (%)	Back vowels preferred (%)	Front vowels preferred (%)	Back vowels preferred (%)	Front vowels preferred (%)	Back vowels preferred (%)
	Teddy bear	58	42	63*	37*	69*
Squishy ball	73**	27**	76**	24**	70**	30**
Doll's house	36**	64**	39**	61**	32**	68**
Outdoor play equipment	42	58	36**	64**	36**	64**

Notes: \* $p < 0.05$ , \*\* $p < 0.01$

phonetic symbolism is once again found across all three age-categories. Front vowel sounds were consistently preferred for toys perceived to be small and light (teddy bear and squishy ball) and back vowel sounds were preferred for toys perceived to be big and heavy (doll's house and outdoor play equipment). However, differences were not significant in all instances. It is interesting to note that, once again, the percentage difference between front and back vowel sound selections increased with age (with the exception of one instance, for outdoor play equipment the percentage difference remained the same between the eight and nine year and ten to 12 year age categories). Significant differences were only found for two of the four toys in the six to seven year age group (50 percent), for all four toys in the eight to nine year age group (100 percent), and for all four toys in the ten to 12 year age group (100 percent). These results provide further evidence that phonetic symbolism increases with age (and/or phonological development).

Results replicate those obtained in experiments 1 and 2, increasing our confidence that children are, indeed, sensitive to the same phonetic symbolism effects observed in adults. However, our results also indicate that this sensitivity appears to increase (unless we directly test it) with age, as our youngest aged children display the expected pattern only half of the time. Children in the middle age group display the pattern 75 percent of the time, and the oldest aged children display the pattern for all of the toys.

In addition to the replication of results from experiments 1 and 2, the results from experiment 3 also indicate that even when semantically meaningful information is provided in the brand name (e.g. the first syllable of our stimuli, indicating what sort of toy is being presented), phonetic symbolism effects still play a role in brand name preference. More importantly, perhaps, is the observation that when comparing the main effects of vowel sound and product type, evidence of phonetic symbolism appeared to be stronger when considering semantically appropriate words, as opposed to nonsense words. A similar conclusion can be drawn when examining the results from the age category analysis. Evidence of phonetic symbolism seems to be stronger across all three age groups when examining semantically appropriate words as opposed to nonsense words.

## 8. Implications and conclusion

The results of this research show that, even by age five, children have well-formed associations between specific sounds and attributes and, thus, sounds can convey meaning to children. Consistent with previous, adult-oriented research, our findings show that children prefer words as brand names, when the attributes connoted by the vowel sound are congruent with product attributes (Lowrey and Shrum, 2007). Moreover, such preferences were shown to increase with age (which may reflect improvements in phonological processing), with the strongest evidence of phonetic symbolism effects found for ten to 12 year olds, when compared to eight to nine year old, or six to seven year olds (which demonstrated the weakest pattern).

This research provides a valuable contribution to marketing theory and practice. First, it is the first known marketing study designed to investigate phonetic symbolism in children. Results support the effects of phonetic symbolism in children, who demonstrated sound-stimuli relationships. Because children's knowledge of phonemes is less developed than that of adults (Piasta and Wagner, 2010), this research provides a unique contribution to this growing body of research. Findings also have implications for brand naming. When selecting a brand name, marketers may choose to select a known or semantically appropriate name (e.g. Hot Wheels); others, however, will look for an inventive and distinct brand name (e.g. Mandagili, 2008). Our results suggest that the relationship between vowel sounds and meaning demonstrated in this research will be of interest to those looking to choose an inventive name. For example, those selecting an inventive brand name for a new brand of miniature cars may look to incorporate front vowel sounds (e.g. Zigez), whereas, those launching a brand of jumbo cars should consider incorporating back vowel sounds in the name (e.g. Zugez).

Although this research only examined a limited number of fictitious brand names, the results across all three experiments are consistent and suggest that phonetic symbolism can be an important tool in the arsenal of twenty-first century marketers wishing to develop meaningful and distinctive brand names – even when their target markets are children. We hope that the results reported here will spur further research on this important topic.

## References

- Burgess, S.R. and Lonigan, C.J. (1998), “Bi-directional relations of phonological sensitivity and pre-reading abilities: evidence from a preschool sample”, *Journal of Experimental Child Psychology*, Vol. 70 No. 2, pp. 117-41.
- Chall, J.S. (1989), “‘Learning to read: the great debate’ 20 years later: a response to ‘debunking the great phonics myth’”, *The Phi Delta Kappan*, Vol. 70 No. 7, pp. 521-38.
- Chaplin, L.N. and Lowrey, T.M. (2010), “The development of consumer-based consumption constellations in children”, *The Journal of Consumer Research*, Vol. 36 No. 5, pp. 757-77.
- Coulter, K.S. and Coulter, R. (2010), “A small sounds, big deals: phonetic symbolism effects in pricing”, *The Journal of Consumer Research*, Vol. 37 No. 2, pp. 315-28.
- Ehri, L.C. and Wilce, L.S. (1985), “Movement into reading: is the first stage of print word learning visual or phonetic?”, *Research Reading Quarterly*, Vol. 20 No. 2, pp. 167-79.
- Fowler, A.E. (1991), “How early phonological development might set the stage for phoneme awareness”, in Brady, S.A. and Shankweiler, D.P. (Eds), *Phonological Processes in Literacy: A Tribute to Isabelle Y. Liberman*, Lawrence Erlbaum Associates, London, pp. 97-118.
- Gopnik, A. and Meltzoff, A.N. (1986), “The Development of Word Meaning”, in Kuczaj, S. and Barrett, M. (Eds), *Words, Plans, Things and Locations: Interactions between Semantic and Cognitive Development in the One-word Stage*, Springer-Verlag, New York, NY, pp. 115-51.
- Jespersen, O. (1922), *Language: Its Nature, Development, and Origin*, G. Allen & Unwin, London.
- Keller, K.L. (2008), *Strategic Brand Management: Building, Measuring, and Managing Brand Equity*, Pearson/Prentice Hall, Upper Saddle River, NJ.
- Klink, R.R. (2000), “Creating brand names with meaning: the use of sound symbolism”, *Marketing Letters*, Vol. 11 No. 1, pp. 5-20.
- Lowrey, T.M. and Shrum, L.J. (2007), “Phonetic symbolism and brand name preference”, *Journal of Consumer Research*, Vol. 34, October, pp. 406-14.
- McDevitt, T.M. and Ormrod, J.E. (2003), *Child Development: Educating and Working with Children and Adolescents*, Merrill/Prentice Hall, Upper Saddle River, NJ.
- Mandagili, S. (2008), *Naming it Right*, available at: [www.businessworld.in/index.php/Cases/Naming-It-Right.html](http://www.businessworld.in/index.php/Cases/Naming-It-Right.html) (accessed 15 February 2011).
- Nuckolls, J.B. (1999), “The case for sound symbolism”, *Annual Review of Anthropology*, Vol. 28, pp. 225-52.
- Piasta, S.B. and Wagner, R.K. (2010), “Learning letter names and sounds: effects of instruction, letter type, and phonological processing skill”, *Journal of Experimental Child Psychology*, Vol. 105, pp. 324-44.
- Roberston, K. (1989), “Strategically desirable brand name characteristics”, *The Journal of Consumer Marketing*, Vol. 6 No. 4, p. 61.
- Ross, J. and Harradine, R. (2004), “Branding: a generation gap?”, *Journal of Fashion Marketing and Management*, Vol. 11 No. 2, pp. 189-200.
- Sapir, E. (1929), “A study of phonetic symbolism”, *Journal of Experimental Psychology*, Vol. 12 No. 3, pp. 225-39.
- Shrum, L.J. and Lowrey, T.M. (2007), “Sounds convey meaning: the implications of phonetic symbolism for brand name construction”, in Lowrey, T.M. (Ed.), *Psycholinguistic Phenomena in Marketing Communications*, Lawrence Erlbaum Associates, Mahwah, NJ, pp. 39-58.
- Shrum, L.J., Lowrey, T.M., Luna, D., Lerman, D. and Liu, M. (2011), “Testing phonetic symbolism effects on brand name preference for bilinguals across multiple languages”, in Dahl, D.W., Johar, G.V. and Van Osselaer, S.M. (Eds), *Advances in Consumer Research*, Vol. 38, Association for Consumer Research, Duluth, MN, (forthcoming).
- Tarte, R.D. and Barritt, L.S. (1971), “Phonetic symbolism in adult native speakers of English: three studies”, *Language and Speech*, Vol. 14, pp. 158-68.
- Yorkston, E. and Menon, G. (2004), “A sound idea: phonetic effects of brand names on consumer judgement”, *Journal of Consumer Research*, Vol. 31, June, pp. 43-51.

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