Phonetic Tendencies in Naming Dolls and Stuffed Animals

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Abstract

People bestow names to give a sense of identity and life to what they name. Names are invented to refer to both inanimate objects and people. People express their attachment through naming. They enjoy the process of enunciating and listening to names. Young children are also fond of naming their possessions. They establish a relationship by naming and calling them. This investigation introduces sound symbolism based on a survey of naming dolls and stuffed animals which was conducted in July and September, 2016 in two universities in Fukuoka, Japan. The participants were 439 female students who were asked if they have owned dolls and stuffed animals. They were also asked to specify their species, gender, names, and any additional information. 142 students provided 219 names for dolls and stuffed animals. The data concerning rhythm and phonemes will be analyzed. The results will be compared with the naming of pets, which was the central concern of Kido (2017). This present study will refer to phonetic tendencies in general in order to discover some similarities and differences between the naming of dolls/stuffed animals and pets, and the importance of sound symbolism will also be another topic of concern.

Keywords: consonants, mora, naming, rhythm, sound symbolism, vowels

1. Introduction

New words have been created all the time. Publishers are often obliged to run new editions of dictionaries. *Fune o Amu* (Shion Miura, 2011) is a novel about publishing a dictionary. It became a best seller and was offered an award by NPO Hon'ya Taisho, which is based on booksellers' votes. Then it was cinematized in 2013 and won the Best Picture and some other awards in the 37th Japan Academy Film Prize. One of the scenes shows a Japanese linguist observing young people chatting at a hamburger restaurant. He attends to their discourse and collects the words they use. He also takes meticulous notes in order to unravel the meaning behind the words and phrases he hears. Though a renowned linguistic professor with years of practice, he needs to forever examine the rich use of language.

Languages are constantly changing partly because adolescents in particular are very creative, inventing new words all the time.

In Japan, there is an award for popular words used among junior and senior high school female students provided by a company dealing with trend research. One of the words in the ranking was “maji manji”. The first half “maji” means extremely. The last half “manji” was represented by the swastika symbol, which describes Buddhist temples on maps. However, the phrase, when understood literally, doesn’t make any sense. This phrase is used in various situations to express feelings and emotional states, but it doesn’t have a specific, overall meaning. It sometimes means very exciting and sometimes terribly bad. Students like the way the phrase sounds. The syllables “ma” and “ji” are repeated while ‘n’ is added after the second ‘ma’. The phrase “maji manji” includes alliteration and rhyme and is very rhythmical. The young often use such a key phrase to draw attention to themselves. They use language very creatively. Their language is full of emotional expressions with sound symbolism. The language used by the young is worth investigating.

Sound symbolism can be found in various kinds of words. Hinton et al. (1994, p.10) categorize six semantic and pragmatic fields where sound-symbolic vocabulary often occurs:

(1) mimicry of environmental and internal sounds;
(2) expression of internal states of being, both physical and emotional;
(3) expressions of social relationships (as in diminutive forms and vocatives and imperatives); also the expression of opprobrium and stigma;
(4) salient characteristics of objects and activities, such as movement, size, shape, color, and texture;
(5) grammatical and discourse indicators, such as intonational markers of discourse and sentence structure, and distinctions between parts of speech;
(6) expression of the evaluative and affective relationship of the speaker to the subject being discussed.

Items (1) and (2) are for onomatopoeias while items (3), (4) and (6) refer to sound symbolism related to feelings and senses. Kido (2017, p.15) also stipulates some of the tendencies that are apparent when naming pets:

> ... some owners give their pets elaborate names, while others are more casual. The former style gives creative and distinctive names and is often inspired by the five senses.... When names are given casually, they seem at first to be unpretentious. However, much value is given to the impression of the word, despite owners not being able to explain why it was chosen. Some names come about accidentally, unconsciously or instinctively and are also often based on the five senses.

Unlike names conferred to children, people don't need to pay close attention to the meaning they give to pets. Not being restricted, they are free to invent names as they like. Therefore, this paper hypothesizes that those who are young are inclined to give names spontaneously and instinctively compared to those who are old. This is particularly common among young children who own dolls or stuffed animals and treat them as their friends or members of their family. Children are fond of naming their dolls and stuffed animals and the names express their affection for them. This paper focuses on the naming of dolls and stuffed animals which are significant examples of sound symbolism.

2. Previous studies

2.1 Method

In Kido (2017), research into the naming of pets was conducted in universities in Fukuoka, Japan in July, 2016 and a survey was administered to female university students. Students who have or had pets were asked to indicate their species, gender and names as well as information concerning how they were named.

2.2 Analysis

2.2.1 Mora

First of all, the names collected by the survey will be analyzed according to rhythm. The length of the names can be categorized according to the number of morae. The most popular names had 2-morae, followed by 3. 112 names had 2 morae and 98 names had 3 morae, amounting to 73 percent. One name had 1 mora and 76 had 4 morae or more. Short names are unpopular because they are difficult for animals to recognize while long names are difficult to enunciate all the time. Owners consider length and ease of utterance when giving names.

2.2.2 Other features

Reduplication was not uncommon. There were 16 cases including ‘Koko’, ‘Nene’, ‘Ranran’, and ‘Hamuhamu’. Some with more than one pet tended to name them by rhyming. Alliteration was found in 14 examples, such as ‘Moko’ and ‘Moka’, ‘Rin’, ‘Riku’ and ‘Rio’, ‘Kiki’ and ‘Koko’, and ‘Ruru’ and ‘Riri’. Rhyming was found in 13 examples; ‘Peko’ and ‘Riko’, ‘Reon’ and ‘Rion’, ‘Tora’ and ‘Sakura’, and ‘Rokkii’ (Rocky) and ‘Kukkii’ (Cookie). These names are rhythmical and have a pleasant acoustic effect, not to mention the fact that they are easy to say.

Some names contained features peculiar to Japanese such as long vowels. 68 of this kind were found, and in 20 cases such as in ‘Kaaru’ (Karl), ‘Ruuku’ (Luke), and ‘Piisuke’, they occured in the middle of the names. In 48 examples such as in ‘Kuu’, ‘Jonii’ (Johnny), and ‘Kametaroo’, they appeared at the end. Owners often name their animals to describe their effervescent nature. Another feature peculiar to Japanese is the syllabic nasal sound. /N/ appeared in 52 examples, 14 of which occurred in the middle as in ‘Bunta’, ‘Anko’ and ‘Kyandii’ (Candy). There were 38 instances where it appeared at the end, as in ‘Ran’, ‘Koron’ and ‘Shitorin’ (Citrine). /N/ is often used as a phoneme that conveys the strength and vigor of animal behavior. The other is /Q/, which is a glottal stop regarded as a phoneme or a double consonant. /Q/ was found in 19 examples, such as ‘Chippu’ (Chip), ‘Pippi’, and ‘Arekkusu’ (Alex). This phoneme can enhance the other phonemes as well as portray the animals’ unexpected motion.

As was previously mentioned, there are six components of rhythm: the number of morae, reduplication, rhyme, long vowels, the syllabic nasal sound, and the double consonant. Some of these factors are used simultaneously, for example when the syllabic nasal sound and long vowels appear together as in ‘Kyandii’, ‘Maatin’ (Martin), and ‘Uutan’, or when rhyme, the double consonant and long vowels are used as in ‘Happii’ (Happy) and ‘Rakkii’ (Lucky) and ‘Rokkii’ and ‘Kukkii’. Combining two or more elements can produce a synergetic effect and enhance euphony. Generally speaking, these six elements have a phonological effect that is pleasant.

2.2.3 Consonants

To obtain more data about pets’ names, the same survey was given to new students in September. A total of 559 examples were collated, 287 from July and 272 from September.

Table 1. The frequency of consonants

Manner of Articulation	Place of Articulation						
	bilabial	labio-dental	dental	alveolar	alveo-palatal	velar	glottal
plosive	p (42) b (56)			t (61) d (20)		k (230) g (29)	
fricative		f (6)		s (40) z (11)	ʃ (16)		h (39)
affricate					tʃ (95) dʒ (25)		
tap/flap				ɾ (272)			
nasal	m (151)			n (52)			
semivowel	w (3)				j (13)		

The results concerning phonemes were as follows: First, the frequency of consonants is shown in Table 1. The liquid /ɾ/ was the most frequent, and occurred 272 times in names such as, 'Riri', 'Reo' (Leo), 'Rapi', 'Roko,' and 'Rui'. Toyosawa (1990, p.122) states that the 'r-series' expresses luxuriousness, forcefulness and affection. It seems that owners consider their pets as family members and take great care of them. The second most frequent was /k/ which appeared 230 times in names such as 'Kinako', 'Kemeko', 'Kai-kun', 'Koro' and 'Kyuu-chan'. Aside these two most frequently occurring consonants, others were also used. The consonant /m/ appeared 151 times, for example in 'Mii', 'Mero', 'Mako-chan', 'Momo' and 'Muku'. /tʃ/ was found 95 times as in 'Chiro', 'Cherii' (Cherry), 'Chappii' (Chappy), 'Choko' (Choco) and 'Chuttan', but 34 of them included the ending 'chan'. /t/ appeared in 61 examples, such as 'Tina', 'Ten', 'Taroo', 'Toto' and 'Tsukushi'. /b/ was seen 56 times such as in 'Bibi', 'Beni', 'Baru', 'Bobii' (Bobby) and 'Bun'. /n/ occurred 52 times, for example in 'Niina' (Nina), 'Nene', 'Nana', 'Naito' (Night or Knight), 'Noa' (Noah) and 'Nyan'. /p/ was used 42 times as in 'Piisuke', 'Pero', 'Paaru-chan' (Pearl), 'Pochi' and 'Purin' (Pudding). The reason these consonants were popular is that names tend to express the pets' size, coat texture, cuteness and the way they sound. /p, b, t, k/ are plosives articulated with tenseness and strength. A bilabial /m/, an alveolar /n/ and an alveo-palatal /tʃ/ are articulated in the front part of the mouth. Because these phonemes are easy for children to pronounce, names of pets often include these sounds. These consonants also imply unexpected movement which is typical of animal behavior. Interestingly, /b/ was more frequently found than other voiced

consonants in general. Because voiced consonants are used to describe something aggressive, voiceless consonants are more appropriate when naming pets. As for /b/, however, the feature of a bilabial is much more prominent than a voiced consonant. /w, f, j/ were the least frequently used. These consonants are followed by only a few vowels in Japanese. Although /wa, fu, ja, ju, jo/ are commonly used, /wi, we, wo, fa, fi, fe, fo, je/ only occur in loanwords. /wu/ is replaced with /u/ while /ji/ is replaced with /i/. It is not surprising that these phonemes hardly ever appeared in the data since they constitute an uncommon feature of the Japanese language. However, when naming pets, people don't only give Japanese names. Foreign or originally coined names could incorporate these phonemes, but owners were reluctant to use them. People preferred phonemes from their mother tongue. It is probably because pet names are used throughout the day, so ease of utterance is important.

2.2.4 Positions of consonants

Table 2. Positions of consonants

	Initial	Medial	Final
/p/	23	12	7
/b/	26	14	16
/t/	23	19	19
/k/	90	68	72
/tʃ/	43	34	18
/ɾ/	90	96	86
/m/	80	40	31
/n/	12	17	23

Concerning the top eight phonemes, the focus here will be on where they appeared. They can appear in three positions: initial, medium, and final. Among the three positions, there were a few contradictions; 2-mora words don't have medials while consonants never appear individually in the final position because of being followed by a vowel in Japanese. Consequently, these three positions are difficult to compare. In discussing positions according to mora, the majority of /p, b, m/ appeared in the initial position. /p, b/ express a sense of power as bilabial plosives. /m/ can also achieve the same effect as a bilabial. Consonants articulated at the front of the mouth like bilabials tend to appear in the initial position.

Interestingly, the place of articulation corresponds to the position of bilabials in the words. The popularity of /tʃ/ appearing in the medial position is difficult to compare with other positions due to the common ending of 'chan'. However, people prefer using it in the initial position rather than the final. /t, k, ɾ/ appeared with almost equal frequency in all three positions. These consonants can be used anywhere. The toughness of /t/, the crispness of /k/, and the fluidity of /ɾ/ are likely to maintain their characteristics regardless of their position. Unlike any other consonant, /n/ occurred in the final position most frequently, and it sometimes acts as a nasal. It also combines other phonemes harmonizing the word as a whole.

2.2.5 Succeeding vowels

Table 3. Vowels succeeding each consonant

	/i/	/e/	/a/	/o/	/u/	/ja/	/jo/	/ju/
/p/	17	6	4	6	7	0	2	0
/b/	17	11	9	9	10	0	0	0
/t/	3	8	27	18	5			0
/k/	44	9	37	81	51	6	1	1
/tʃ/	39	2	36	14	4			
/ɾ/	61	14	68	75	50	0	0	4
/m/	24	33	40	20	28	2	0	4
/n/	11	4	32	2	0	2	0	1

Consonant clusters never occur in Japanese. These consonants are always followed by vowels, so it is valuable to research the frequency of vowels in each consonant. Concerning the high front vowel /i/, it often appeared with /p, b, tʃ/. The voiceless consonants /p, tʃ/ are affected by the succeeding vowels in order to make them sonorous. Focusing on the places of articulation, bilabials /p, b/ and an alveo-palatal /tʃ/ are more likely to combine with the high front vowel /i/ because they are close to each other.

A central vowel /a/ tended to occur with /t, tʃ, ɾ, m, n/. Apart from /m/ these consonants are articulated in the center of the mouth such as the alveolar /t, n, ɾ/ and the alveo-palatal /tʃ/. They are likely to resonate with a central vowel /a/. The bilabial /m/ is easy for children to pronounce as mentioned before. Often a baby's first utterance is "Mama". Thus, listeners tend to regard /ma/ as both familiar and

soothing. It also expresses placidity and freedom because it can be articulated with your mouth wide open.

The back vowels /o, u/ are often thought to convey a dark image. In particular, they often followed /k, ɾ/. The place of articulation of a velar /k/ is close to that of the back vowel /o/. They are easy to combine and they can produce multiple effects. The liquid /ɾ/ shows interesting results. The ratio of frequency according to the positions initial, medial, and final will be examined. /ɾʲi/ was found in 26 initials, 28 medials, and 7 finals. /ɾe/ was found in 11 initials, 3 medials, and no final. These front vowels are commonly found at the beginning. /ɾo/ was found in 11 initials, 41 medials, and 23 finals. /ɾu/ was found in 9 initials, 14 medials, and 27 finals. These two vowels were commonly found close to the ending. It is notable that the placing of vowels in words are equivalent to the places of articulation. Each individual phoneme has its own unique defining characteristic. It functions as sound symbolism which makes use of its own and inherent characteristics. Vowels can imply images depending upon where they are articulated in the mouth. In addition, the fluidity of /ɾ/ when combined with the sense of calmness expressed by back vowels, harmonizes with the other phonemes.

/e/ was generally less frequently used. Of the eight consonants, it appeared most often with /m/. However, most of those in the study appeared in the word ‘Kame’, meaning turtle, and didn’t seem to be related to sound symbolism. Finally, the semivowel /j/ occurred in a few names. It was found with /p, k, ɾ, m, n/. It was often used in pets’ names, but it was not very common because it is difficult to pronounce.

These results could be conveying cause-effect relationships, not coincidental phenomenon. This paper will reexamine the phonetical tendencies in naming pets by comparing them with the names given to dolls and stuffed animals. The study might reveal certain similarities.

3. Method

A survey about the naming of dolls and stuffed animals was conducted in July and September in two universities in Fukuoka, Japan as was the case when collecting data for pets. The participants were 439 female students. They were asked to indicate if they have owned dolls and stuffed animals. They were also asked to specify the species, gender, names as well as information concerning how they were named. 142 students provided 219 examples of the names of dolls and stuffed animals with additional information. The species were 68 bears, 45 dogs, 18 dolls, 12 rabbits, 10 pandas, 6 penguins, 5 cats, 5 pigs, 3 chicks, 3 frogs, 3

monkeys, 3 seals, 2 dolphins, 2 ducks, 2 hedgehogs, 2 sharks, 2 sheep, 2 tigers, a bird, a cow, a dinosaur, an elephant, a ferret, a flying squirrel, a giant squid, a hamster, an owl, a raccoon dog, a reindeer, a tulip, a turtle, a unicorn, and 12 more. A total of 64 males, 67 females, and 88 with unspecified gender were collated. It is easier to determine a doll's gender. A stuffed animal's gender is often obscure. The owners arbitrarily judge their gender, or don't pay attention to it because they have no interest. Therefore, it is difficult to investigate the tendencies apparent in naming on the basis of gender. Regarding the origin of names, 177 examples were named by the participants themselves. Seven names were given by their mothers. Six answered their sister while another six answered their friend. Their brothers named two. Their father, family, or acquaintance named one each. 18 gave unclear answers because they couldn't recall who named them. Most of the dolls and stuffed animals were named by the owners themselves, thereby suggesting their strong affection for their possessions. Some of the owners discuss and adopt names together with their family or friends. They enjoy the process of naming with other people. If a doll or a stuffed animal is a gift from someone, the sender sometimes names it. The receiver cherishes the gift by calling it by the same name, reminding herself of their relation and shared memories. Concerning the sources of names, there were some who couldn't remember the details because they were named during their childhood. For instance, the names are sometimes inspired by the owners' impulse or creativity, the dolls' appearance, popular characters, and inflection of existing names. This research excludes names with brand names because they were not created by the owners themselves.

4. Analysis

4.1 Mora

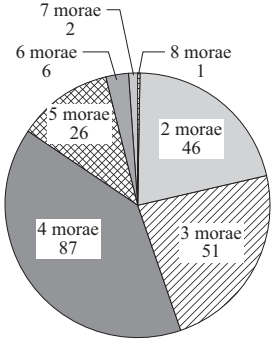

Figure 1. Number of morae

First, names collected by the survey will be analyzed according to rhythm analogous to the previous study in 2. The length of the names can be measured by the number of morae. The results were as follows (Figure 1). Names with 2 to 4-morae were popular which accounts for 84% of the total. This number of morae is considered appropriate when calling. However, compared with the naming of pets in 2.2.1, there were some differences. As for naming pets, 2-morae was the most popular followed by 3 and 4. Short names are easier to enunciate when interacting, but this doesn't apply to dolls and stuffed animals. The most popular names had 4-morae, followed by 3 and 2. The results are in stark contrast to the previous study on pets. In addition, 5-morae was more popular than in pets. There were 26 examples in dolls and stuffed animals while there were 11 for pets. Dolls and stuffed animals were given names with 6 to 8-morae. One possible explanation is the difference between living creatures and artificial objects. Pets are able to hear and react to what we say. People want and hope that their pets understand and respond to the names they give. Therefore, people often choose short names for pets. On the other hand, dolls and stuffed animals cannot communicate. People talk to them without getting any responses and the conversation they have takes place in their imagination. People never expect their dolls and animals to understand and respond to their names. Contrary to pets, there are fewer restrictions when naming dolls and stuffed animals. However, names that are long are hard to reiterate during the course of any single day. It seems that this is why 4 -morae was the most popular. It is neither too long nor short.

4.2 Other features

Some of the other phonetic features will also be examined. As for reduplication, there were 19 samples including 'Rara' and 'Aiai'. This feature appeared in the names of 16 pets. Hinton et al. (1994, pp.3-4) expand on this point in the following way:

> ... the rhythms of sound and the rhythms of movement are so closely linked in the human neural system that they are virtually inseparable. This is illustrated in the very natural human physical response to rhythmic music, in the forms of hand clapping, foot tapping, dancing, rhythmic physical labor, etc. Just as humans are capable of translating rhythmic sounds into rhythmic movements, they are also capable of the reverse: translating rhythmic movements into sounds, including sound-symbolic language forms. In the representation of repeated sounds and movements the linguistic strategy of reduplication is frequently utilized (as in English "ding-dong"), a direct

> imitation of the rhythm being represented. While it could perhaps be argued that these movement terms are a kind of synesthetic sound symbolism, they are so closely tied to imitatives that we would rather call them *movement imitatives*, and include them in this category.

This explanation particularly points out the process of producing onomatopoeia. Rhythmic sounds affect rhythmic movements while rhythmic movements affect rhythmic sounds. These two rhythmic phases are intertwined and function as synesthesia. In naming dolls and stuffed animals, people enjoy calling names with reduplication. They also breathe life into inanimate objects through rhythmic names. By doing so, they can talk to them as if communicating with living beings. Unlike pets there were no surprising results concerning alliteration and rhyming. If an owner's pet gives birth to babies, the latter will usually have names that phonetically resemble their parents. When an owner's pet has siblings, she tends to give them names that sound similar. The siblings are treated as one conglomerate. On the other hand, people have different types of dolls and stuffed animals and this may make it difficult to give them similar names.

Some other features peculiar to Japanese were found in the names that were collected: long vowels, the syllabic nasal sound /N/, and a glottal stop /Q/. Murata (1990, p.258) elaborates on this point in the following way:

> R, N and Q are Japanese subordinate mora phonemes which cannot be used independently as syllable nuclei, but are used as codas adding extra beats to nucleus vowels. R is the second moraic phoneme of a long vowel; N is a syllable-final nasal mora; and Q is the first part of a syllable-final geminate consonant, or a glottal stop when there are no following consonants. The phonetic values of N and Q are usually assigned according to the features of the following consonants.

As for long vowels, there were 62 samples. 35 samples appeared in the middle of names such as 'Piichi' (Peach) and 'Kuriimu' (Cream) while 30 samples were situated at the end such as 'Kuu' and 'Harii' (Harry). Three of them included two long vowels such as 'Puutaroo' and 'Chuuriichan'. Murata (1990, p.261) emphasizes that "long vowels are stronger than short vowels in the English Vowel Hierarchy". It means that long vowels are more prominent in sonority and more salient than short vowels. Particularly in Japanese, consonant clusters never occur. All consonants are followed by vowels, so long vowels function as a way for emphasizing something by making irregular rhythms. For children, something

different or salient means something special or significant. As a result, long vowels may be more noticeable to them. This appeared in 68 pets' names, too. 20 of them were found in the middle of names while 48 were at the end. The balance between middle and end was different for dolls and stuffed animals. It may be because final long vowels are easy to articulate from a far distance. When looking for them at home or outside, final long vowels can be pronounced for a longer period of time. On the other hand, dolls and stuffed animals are always with their owners and cannot move on their own. Children don't have to shout their names. Therefore, this could account for the difference between them.

The syllabic nasal sound /N/ occurred in 97 samples. There were 32 of them in the middle as in 'Penta' and 'Wankoro' while 83 appeared at the end, as in 'Rein' (Rain) and 'Beatan' (Bear-tan). Moreover, 18 of them repeated /N/ a couple of times such as 'Don-chan' and 'Pengin-kun' (Penguin-kun). 73 included a title, for instance, 'kun', 'chan' and 'san'. Concerning pets' names, there were 52 samples with /N/, and 14 of them appeared in the middle and 38 at the end. Despite the number of names collected for pets and dolls/stuffed animals were comparatively close (the former were 287, the latter 219), there was a huge difference in how frequently /N/ appeared in these names. The reason is the usage of titles 'chan', 'san' and 'kun'. The names of dolls and stuffed animals included more titles. This is partly because of the difference between living creatures and artificial objects as was referred to in 4.1. When owners adopt pets, they are for the most part older and more mature than their pets. As one human year is equivalent to multiple years for a dog or cat, animals will soon outgrow humans. If they initially call their pets with titles, they often change the way they address them by calling them without titles. On the other hand, dolls and stuffed animals don't undergo much change even when they get used a lot. Concerning dolls and stuffed animals, those who own them are usually young and they treat them as either younger or of the same age as themselves. Owners mature, but dolls or stuffed animals don't. The gap between their ages becomes considerable. Therefore, owners might tend to call them with titles.

A double consonant or a glottal stop /Q/ was found in 14 samples such as 'Chappi' and 'Piyocchi'. As seen in 2.2.2, there were 19 samples in pets' names, which was almost equal in frequency such as 19 out of 287 and 14 out of 219. /Q/ was less frequent than the others above because of restricted usage. Watanabe (1990, p.331) explains that /Q/ can generally occur after short vowels and before voiceless consonants such as /p, t, k, s, š, č/. He also points out that people perceive /Q/ on the basis of the length of a preceding vowel. People find this change in sound to be rhythmical and is part of the reason why the Japanese

choose it for names.

The usage of multiple elements is apparent in 46 samples. For instance, ‘Bebetan’ includes reduplication and the syllabic nasal sound. ‘Supankii’ includes the syllabic nasal sound and a long vowel. And ‘Moffii’ includes a double consonant and a long vowel. Making use of more factors can engender a combined effect, and when they combine together they produce sounds that make the names attractive. When people speak or listen, their senses are not only used but stimulated. Children enjoy and find meaning in making and giving elaborate names. They cherish these names and regard them as magical.

4.3 Phonemes

4.3.1 Consonants

Table 4. The frequency of consonants

Manner of Articulation	Place of Articulation						
	bilabial	labio-dental	dental	alveolar	alveo-palatal	velar	glottal
plosive	p (45) b (23)			t (33) d (12)		k (84) g (10)	
fricative		f (6)		s (27) z (3)	ʃ (17)		h (10)
affricate					tʃ (76) dʒ (14)		
tap/flap				ɾ (78)			
nasal	m (57)			n (25)			
semivowel	w (6)				j (6)		

*/j/ appeared only as contracted sounds.

Focusing on phonemes, the frequency of consonants will be first discussed. The results are shown in Table 4. The most frequent consonant was /k/, and occurred 84 times such as ‘Kii-kun’, ‘Kameha’, ‘Koro’ and ‘Kukkii’ (Cookie). The second most frequent was /ɾ/ which appeared 78 times such as ‘Ririi’ (Lily), ‘Rabi’, ‘Roro-chan’ and ‘Ruu’. The third most frequent was /tʃ/ which occurred 76 times such as ‘Chiro’, ‘Chaarii’ (Charley) and ‘Choko’ (Choco). /m/ was the fourth most frequent and was found 57 times such as ‘Mei’ (May), ‘Manami’, ‘Moo-kun’ and ‘Muu-san’. /p/ was the fifth most frequent and was seen 45 times such as ‘Piyo’, ‘Peppaa’(Pepper), ‘Ponta’ and ‘Puu’ (Pooh). These top five consonants are very

prevalent. In general, voiceless consonants tend to be used. Kawahara (2015, p.9) states that voiced consonants convey an image that is both large and strong. Tamori (2002, p.175) maintains that voiced consonants imply big sounds or objects, large quantities and numbers, more active movement, drastic degrees, and negative nuances. Dolls and stuffed animals don't share these images. Because they are usually soft and cute, voiced consonants are not regularly used when giving them names. /ɾ/ and /m/ are voiced consonants, but they give both a gentle and mild impression and they are not as intimidating or aggressive as voiced plosives, fricatives or affricates. When considering the place and manner of articulation, plosives and bilabials generally are very popular. The former sounds tense and concise when articulated while the latter cannot be asserted without making full use of our lips. These consonants are easy for infants to pronounce. In particular, Kumagai & Kawahara (2017, p.49) point out that the labials of [p, m]

Table 5. Ranking of the frequency of consonants in names

No.	dolls/stuffed animals	pets
1	/k/ (84)	/ɾ/ (272)
2	/ɾ/ (78)	/k/ (230)
3	/tʃ/ (76)	/m/ (151)
4	/m/ (57)	/tʃ/ (95)
5	/p/ (45)	/t/ (61)
6	/t/ (33)	/b/ (56)
7	/s/ (27)	/n/ (52)
8	/n/ (25)	/p/ (42)
9	/b/ (23)	/s/ (40)
10	/ʃ/ (17)	/h/ (39)
11	/dʒ/ (14)	/ɡ/ (29)
12	/d/ (12)	/dʒ/ (25)
13	/ɡ, h/ (10)	/d/ (20)
14	-	/ʃ/ (16)
15	/f, w, j/ (6)	/j/ (13)
16	-	/z/ (11)
17	-	/f/ (6)
18	/z/ (3)	/w/ (3)

are used in some brand names of diapers used by infants: “**p**an**p**aasu”, “**m**eriizu”, “**m**uunii**m**an”, and “**m**a**m**ii**p**oko”. They also observe that the language infants use include labials such as papa and mama. Labials help us remind of babies.

Additionally, the results concerning frequency of consonants among dolls and stuffed animals can be compared to the results obtained for pets, as is shown in Table 5. In the two categories of pets vs. dolls/stuffed animals, the orders of consonants didn’t totally correspond to each other, but there are some obvious similarities. The first and second places of /k, ɾ/ were reversed while /tʃ, m/ were reversed in the third and fourth places. This means that the top four consonants were commonly ordered and sequenced in both. Moreover, the fifth to ninth were occupied by five consonants /p, b, t, s, n/ in both categories. The orders were actually at random, but it is worthy to note that the same consonants were lined up in common. That is to say, the first half of ranking one to nine included mutual consonants. Simultaneously, the last half 10 to 18 included the other nine consonants /d, g, f, z, ʃ, h, dʒ, w, j/ in both categories. There was a gap between the ninth and tenth places which divided 18 consonants into two sections. The first half was a group of more frequent consonants while the last half was a group of less frequent ones. It means that there were two types of consonants that people prefer and eschew when naming pets, dolls and stuffed animals.

Each section has its own tendency. As for the first half /p, b, t, k, s, tʃ, ɾ, m, n/ are pronounced in a more tense and concise manner or by using the front section of the mouth. These features give both a clear and positive impression, so owners seem to choose them when naming. On the other hand, the last half /d, g, f, z, ʃ, h, dʒ, w, j/ have two possible reasons for being uncommon. One of the reasons is that /d, g, z, dʒ/ are voiced consonants which convey a negative image. The other reason is that /f, ʃ, h, w, j/ are not commonly used. In Japanese a consonant is generally followed by one of five vowels /i, e, a, o, u/. These consonants, however, are combined with less vowels. /f/ is used only with /u/ as /fu/. /ʃ/ appears with /i, a, o, u/ as /ʃi, ʃa, ʃo, ʃu/. /h/ is followed by /i, e, a, o/ as /hi, he, ha, ho/. /w/ is combined only with /a/ as /wa/. /j/ occurs before /a, o, u/, but it can appear as contracted sounds including /pjo, ɾju/. Contracted sounds can be used with numerous consonants, but they weren’t very popular in this survey. /j/ is a semivowel and emits a delicate sound depending on the manner and place of articulation. Contracted sounds are also difficult for young children to pronounce. It is therefore understandable that they shouldn’t choose them as names. The combination of consonants and vowels is restricted in Japanese as can be seen above, but some people prefer using foreign names. Loanwords can accept more vowels combined with these consonants. Young children are not well-versed in

foreign languages, so the names they give tend to follow the phonetical system of their mother tongue. People tend to choose names that are easy to assert, and the names tend to exhibit sounds they are familiar with. The data can be analyzed in a coherent way, not collected accidentally.

4.3.2 Positions of consonants

The positions of the six consonants, as can be seen in Table 5, will be analyzed. The top six consonants /p, t, k, tʃ, ɾ, m/ were discussed in Kido (2017) as shown in 2.2.3-2.2.5. As for pets' names, the top eight consonants were the focus of study because the total number of examples was 559 and there were more points for discussion. In relation to dolls and stuffed animals, the analysis of the top six consonants will be considered. They are found in three positions: initial, medial, and final. The results of the positions are shown from Figures 2 to 7.

/p, m/ appeared most frequently in the initial position. These consonants are bilabials pronounced in the front position of articulation. The position where

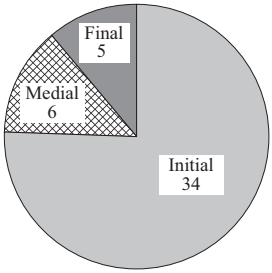

Figure 2. Position of /p/

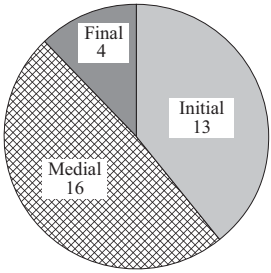

Figure 3. Position of /t/

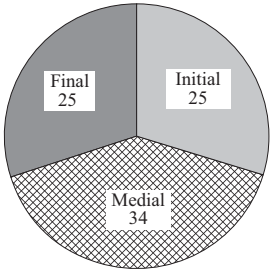

Figure 4. Position of /k/

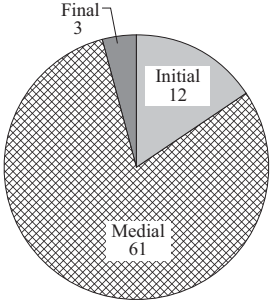

Figure 5. Position of /tʃ/

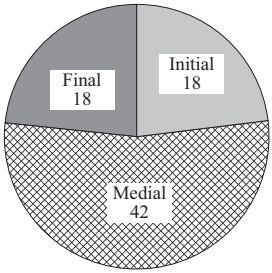

Figure 6. Position of /ɾ/

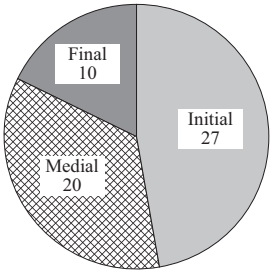

Figure 7. Positions of /m/

consonants occur corresponds with the place of articulation. This result shows consonants all have their defining features, and they are sometimes related to the meaning of words, such as when /b/ conveys both power and aggression entailed by 'bomb' or 'break'. Furthermore, /p/ has a tendency to convey vividness to listeners. This has been utilized by companies making sweets; many sweets have names starting with the sound /p/. This phenomenon was found in pets' names as well. As for /t/, the ratios in the pie chart were considerably similar to those of /m/. Medial was the most frequent, followed by initial. An alveolar plosive is powerful and obstruent, so it might not be used at the final position because strong sounds in the end have a strong effect to the listener. In pets' names, /t/ is used in the final position more frequently. Living creatures are active but dolls and stuffed animals are silent. This can partly explain the results obtained.

More than half of /tʃ, ɾ/ were found in the medial position. As for /tʃ/, it was used as the title 'chan' for 90%. It means that owners are strongly attached to their dolls and stuffed animals. 'Kun' and 'san' don't occur as often as 'chan': 'chan' 56 times; 'kun' 11 times; 'san' 5 times. 'Chan' seems to imply sweetness both in its sound and meaning. As for pets' names, the initial position was a little more popular than the medial position. This reason was the same as shown in 4.2 /N/. Owners consider dolls and stuffed animals as forever younger than themselves while people know that their pets grow older and mature as the years go by. 20 of 559 (3.6%) include 'chan' in pets' names while 56 of 219 (25.6%) in dolls and stuffed animals. The owners of pets seem to avoid using 'chan' but prefer including /tʃ/ in a different way instead. Consequently, they tend to use it in the initial position, for instance, 'Cherii' (Cherry) and 'Chappi'. /ɾ/, generally speaking, has a mild and soothing effect and exerts this effect when combined with other phonemes. In the case of pets, however, /ɾ/ appeared with almost equal frequency in all three positions. What's the difference between them? Hamano

(1998, pp.140-142) defines it as relating "to a fluid or rolling movement" in Japanese mimetic adverbs such as "*peroQ-to*", "*torori-to*", "*kururi*" and "*suru-suru*". All the adverbs she examines include /ɾ/ in the medial or final positions. People seem to unconsciously depend on phonetic rules that govern the Japanese language. On the other hand, pets' names often include it in the initial position. It might be due to the influence exerted by foreign names such as 'Rocky', 'Lily', 'Leo' and 'Luis'. Pets' owners are perhaps more mature and older than those who have dolls and stuffed animals. As a result, they are more readily affected by features more commonly shared by foreign languages.

/k/ appeared equally in three positions which was a characteristic shared by pets' names. It has features as a plosive which manifests a clear and crisp image and as a velar which gives depth because of the back place of articulation. The results reflect the salient features of the plosive and velar.

4.3.3 Succeeding vowels

In Japanese language, consonant clusters never occur. There are five basic vowels following consonants: /i, e, a, o, u/ and contracted sounds /ja, jo, ju/. The results concerning vowels succeeding the six main consonants are as follows (see Figures 8-13).

Each consonant will be discussed. First in /p/, /pa, pe, pi/ were more frequent, providing a bright impression. /i, e/ are front vowels while /a/ is a central vowel. These vowels are easy to combine with a bilabial /p/ because similar areas of the mouth are used when they are articulated. Therefore, /pa, pe, pi/ are common combinations. Regarding pets' names, /pi/ was the most common while it was not as common among names for dolls and stuffed animals. This is a feature shared by names that refer to things that are alive. It is natural that /pi/ should be less

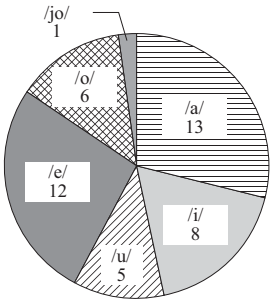

Figure 8. Vowels succeeding /p/

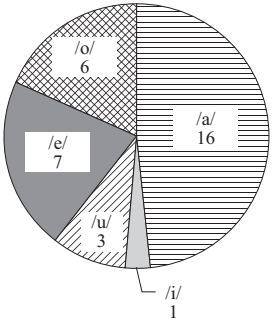

Figure 9. Vowels succeeding /t/

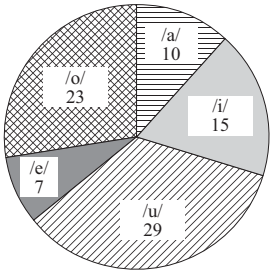

Figure 10. Vowels succeeding /k/

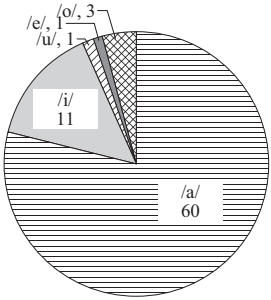

Figure 11. Vowels succeeding /tʃ/

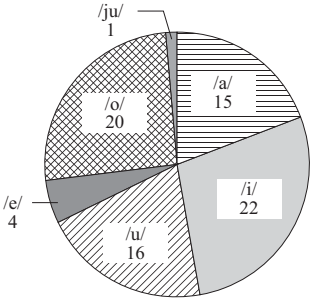

Figure 12. Vowels succeeding /ɾ/

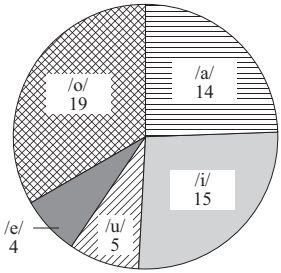

Figure 13. Vowels succeeding /m/

frequent for dolls and stuffed animals because they are still and silent.

Likewise, concerning /t/, /ta/ was used most often among all the vowels. /t/ is an alveolar which is articulated in the center of the mouth and is close to a center vowel /a/. /ti/ had only one example though a high front vowel /i/ is not far from the position of /t/. It is a characteristic that is not found in the Japanese language. /ti/ is sometimes replaced by /tʃi/ in loanwords such as /tʃi:mu/ for ‘team’. It is even more difficult for young children to pronounce. Unfamiliar sounds should as a rule not be chosen. Compared with pets, the ratios in the chart look quite similar.

On the contrary, /m/ shows a peculiar result although it is a bilabial as well as /p/. /mo/ was the most frequent followed by /mi, ma/. This may be because /m/ is a nasal and can easily be connected to /o/ which is a back vowel and close to the nose. Regarding pets’ names, /ma/ was the most common. When a front vowel /a/ is pronounced with the mouth opened more widely than a back vowel /o/. It is easier to voice it aloud. Names with the sounds /ma/ are easy to state when owners

need to shout.

As for /k/, /ku, ko/ were used in more names. This result was shared by pets' names. /k/ is a velar close to back vowels /u, o/, so they are often combined together. It is not too demanding for infants to pronounce a consonant and a vowel which are articulated closely to each other. Additionally, it is effective to adequately utilize features of both phonemes.

In /ɾ/, vowels except for /e/ appeared with almost equal frequency. This result was similar to that in pets' names. /ɾ/ has a smooth sound and can have a similar effect to surrounding phonemes as seen in 4.3.2, so it is possible to guess it can work universally. However, /e/ occurs less frequently in general. As Hamano (1998) points out "The vowel /e/ is markedly less frequent and has an evaluative meaning quite different from the meanings of the other vowels."(p.76)

Regarding /tʃ/, /tʃa/ was the most popular. It has an obvious reason; namely it often appeared in the title 'chan' as seen in 4.3.2. On the contrary, /tʃi/ was the most frequent in pets' names because it might make people envision the actual cries given out by animals even if their names are not onomatopoeias such as 'Chiko' and 'Chippu'.

Finally, contracted sounds /ja, jo, ju/ occurred in two as /pjo, ɾju/. There were 23 examples in pets' names with the top eight consonants. There was a big gap between the two categories. One of the reasons is the difference between the total numbers: 559 for pets and 219 for dolls and stuffed animals. The total number was approximately 2.5 times while the result in /j/ was 11.5 times. Another possible reason is that contracted sounds are complicated phonemes especially to infants. They tend to choose phonemes they can easily say.

5. Conclusion

Through names we can identify someone or something. Naming is a first gift and ceremony in order to breathe life into a new creature. The names people choose for their children embody their hope and wish that they will lead a rewarding life in the future. An infant's self-awareness and identity bloom as her name is used by those around her. People's names often reflect their personalities. Names can also help build a person's character. As for what people have and own (pets, dolls and stuffed animals), names are used to serve communicative purposes. Some phonetic patterns are suitable for describing something or someone as cute, small, soft, round, and mild. Pets are active and alive while dolls and stuffed animals are still and silent. Though they share a number of phonetic tendencies, there were some notable differences. Pets can react to the sounds they hear, though

they cannot speak. They are most likely aware of their names. On the other hand, dolls and stuffed animals can't react at all. People, however, usually name and call them thereby treating them as a friend or a member of their family. The names people have are used in writing as well as speaking, but the names of dolls and stuffed animals are used mainly for speaking. People seem to call dolls and stuffed animals merely for self-satisfaction. Every time people call names, they enjoy the sounds they assert and hear. Generally speaking, names that incorporate sound symbolism can effectively elicit feelings and thoughts. Naming plays such a significant role.

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