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An Investigation of Gender Classifiers in Modern Japanese First Names

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Abstract

This study explores the linguistic characteristics of Japanese first names in terms of their function as gender classifiers. In general, one of the functions that first names serve is to specify the gender of the person, irrespective of language. Various ways have been developed to linguistically encode masculinity and femininity in Japanese names. For example, girls' names seldom begin with a voiced consonant and are generally shorter than boys' names in length. Among these classifiers, the most popular have long been based on specific morphemes that are based on the meanings of Kanji [Chinese characters], as has been the practice in China for many centuries. More specifically, while boys' names have been chosen based on the meaning of Kanji, girls' names have mostly been chosen from Proto-Japanese morphemes like Ume [plum] and Yuri [lily]. However, a new method of gender classification emerged in the 1990s due to a surge in another type of naming called kira-kira names [shiny names], in which sounds are valued more than meanings. This new way of gender classification in modern Japanese is similar to the gender system developed grammatically in most European languages, but not exactly the same because Japanese is grammatically genderless. An experiment was conducted with 316 participants to explore the sound symbolism that functions as a gender classifier in modern Japanese first names.

Key words: first names, gender classifiers, syllable structure, kira-kira names, culture

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Introduction

First names are full of concepts, visions, beliefs, and ideas valued by people living in every society (Zane 2003) because all parents wish to give their children happiness and good fortune by giving them the best names. The names given to children by parents are based on their society's cultural values. Thus, names display the cultural values shared by the name-owners' parents at a certain time (Ōtō 2012).

In Western countries, many first names do not have any intrinsic meaning (Mill 1843). However, they can possess "personality," which is based on various factors such as their popularity, Christian or biblical names, relatives or ancestors, a close friend, a famous person or impressions derived from the sounds used in the names (Withycombe 1977, Room 1990, Darlington 2014). On the other hand, in the case of names in China and Japan where ideophones have been adopted in the writing systems, the relationship between names and vocabulary words is transparent; that is, names are just special uses of ordinary words, unlike most names in many European countries. Thus, names transcribed in Chinese characters (*Kanji*) cannot be completely free from the impressions caused by the meaning of each character.

Apart from the "personality" of names described above, first names have two functions as linguistic symbols. One is to identify individuals by the names given to them. The other is to indicate the individual's sex, although some names are not gender-specific. However, regardless of language, we can usually tell which gender the name-owners belong to. In modern Japanese, there are various kinds of gender classifiers that have developed over time.

Regarding these gender classifiers, the most noteworthy is the fact that modern Japanese speakers have thus far developed a sound system (i.e., "sound symbolism;" cf. Hinton et al. 1994) for gender classification similar to the linguistic way that most European languages have grammatically developed word-final sounds (usually vowels) to denote gender. Thus, in Japanese, the gender of a person can often be guessed by the ending of his/her first name. For example, Japanese boys' names are likely to end with the syllables [ta], [to], [shi], [ku], [ma], [u], or [o], while girls' names usually end with [ko], [na], [mi], [ne], [yo], or [e], regardless of the meaning of the Kanji characters used in the names. On the other hand, if the name ends with [ki], [ri], [mo], [i], or [n], it does not specify either gender because these morphemes are neutral indicators.

According to Tsunoda (2006), certain name-final syllables to indicate female names were developed in Japan in the 17th century. However, this was not the case for boys' names until the 1990s, in the wake of the appearance of the so called *kira-kira names* [shiny names], in which people put more value on sounds of the chosen Kanji characters than on their meanings.

A question naturally arises here as to why and how such a sound symbolism has developed, even though Japanese is a grammatically genderless language. What are the characteristics of the sound system for Japanese gender classification, compared to the system of grammatical gender in European languages?¹⁾ The goal of the present study is to answer these questions. To my knowledge, there are no previous studies on this topic.

Gender classifiers developed in Japanese first names

In this section, let us explore how the gender of a person can be guessed by Japanese-speaking people based on the person's name. Based on the data of the topranked popular names in recent years, which are published by the Meiji-Yasuda Insurance Company at the end of every year,²⁾ the following nine criteria are possible gender classifiers for first names in modern Japanese. Table 1 displays the 10 most popular names for both boys and girls born in 2014.

(1) Length of names: Boys' names are generally longer than girls' names

Girls' names are likely to be less than three morae or syllables, but boys' names tend to have at least three. The only exceptions are [sa.ku.ra.ko](核子)and [ka.o.ru.ko](薫子)for girls, which both have four morae.

E.g., For boys: [sō.ta](颯太), [ken.i.chi.rō](健一郎), [dai.ki](大輝), [yū.ji. rō](裕次郎), [ji.rō.e.mon](次郎右衛門³), etc.

For girls: [hi.na] (陽菜), [mo.e] (萌), [ma.o] (真央), [miu] (美羽), [hi.sa.ko] (寿子), [yu.ka.ri] (ゆかり), etc.

(2) Use of a voiced consonant at name-initial position for boys' names

Voiced consonants are seldom used name-initially for girls, but this is not the case for boys' names. However, this does not apply when the Kanji character involved in a name is read in the Chinese way of pronunciation (which is called *on*-

¹⁾ In most European languages, name-ending vowels function as gender classifiers. For example, in Italian, Portuguese, and Spanish: men's names end in -/o/ (e.g., Paolo), and women's names end in -/a/ (e.g., Paola); in French, men's names end in -/C/ (e.g., Michel) and women's names end in -/e/ (e.g., Michele); in German, men's names end in -/C/ (e.g., Johann, Max) and women's names end in -/e/, /a/ (e.g., Elise, Emma); in Russian, men's names end in -/C/ (e.g., Ivan) and women's names end in -/a/, /ya/ (e.g., Anna).; However, there are no rules in English because English has lost its grammatical gender.)

²⁾ This publication started in 1911, so it has accumulated data on popular names in Japan for more than a century.

³⁾ This was the name of Mr. Kimura, who was a Guinness record holder in longevity. He died at the age of 116 in 2013.

yomi).

E.g., [ʤun.ko] (順子·淳子⁴⁾), [gin.ko] (銀子), etc., for girls; C.f., [go.rō] (吾郎), [ʤū.zō] (重三), [ʤi.rō] (次郎), [gen.ta] (源太), etc., for boys.

The reason for this is that boys' names have long been chosen based on the meaning of Kanji, which has led to the acceptance of various sounds for boys' names. On the other hand, girls' names in many cases have been chosen from two-mora Proto-Japanese words (e.g., U.me [plum], To.ku [profit], Ku.ma [bear], Yo.ne [rice], which never begin with a voiced consonant in Old Japanese (Yasumoto 1978).

(3) Use of voiceless plosives in the name-final syllable for boys' names

As shown in Table 1, boys' names often have voiceless plosives ([t, k]), while girls' names often have nasal sounds ([m, n]).

E.g., Boys' names: Hiroto (大翔), Hinata (陽向), Yōta (陽太), Minato (湊), etc.

Girls' names: Hina (陽菜), Rin (凛), Yume (結愛), Mami (真美), etc.

Table 1 Ranking of top 10 popular names for boys and girls in 2014 (From the data provided by the Meiji-Yasuda Insurance Company)

Boys				<u>Girls</u>			
	Names in Kanji	Pronunciation		Names in Kanji	Pronunciation		
1	蓮	Ren	1	陽菜	Hina, Hinata, Hana, Haruna, Akina, Hinano		
2	大翔	Hiroto, Haruto, Yamato, Sora, Taiga, Taito	1	凛	Rin		
3	陽向	Hinata, Haruta	3	結菜	Yua, Yuina, Yūna		
4	陽太	Hinata, Yoota, Haruta	4	葵	Aoi		
5	悠真	Yūma, Haruma	5	結愛	Yua, Yuina, Yūna, Yume		
6	湊	Minato, Kanade, Soo	6	愛莉	Airi, Meri		
6	悠人	Yūto, Haruto	6	美咲	Misaki		
6	陸	Riku	8	結衣	Yui		
6	駿	Shun, Hayato	9	桜	Sakura, Haru		
10	朝陽	Asahi	10	凛	Rin		
			10	心春 杏	Koharu An		

⁴⁾ Note that these two Chinese characters are also read as Ayako to avoid the name-initial voiced consonant [dʒ].

In addition, many girls' names seem to end with the syllables [i] and [na]. E.g., Yui(結衣), Hina, Haruna, Hinata(陽菜), Yūna, Yuina, Yūna(結菜)

(4) Use of the dictionary form for verb-related boys' names

In the case of verb-related names, which consist of a single Kanji character, boys' names are based on the dictionary form that ends with [u] in verbal declension, while girls' names are based on the te-form verbal roots that end with either [i] or [e], depending on whether the verb chosen is a u-verb or ru-verb.

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E.g., Boys' names: Mamoru (衛), Susumu (進), Tōru (通), Isamu (勇), Masaru (勝), Hiraku (拓), Tadasu (匡), Manabu (学), etc.
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Girls' names based on U-verbs: Megumi (恵), Kaori (香), Saki (咲), Maki (蒔), Taki (焚), Machi (待), Sumi (澄), Tomi (富), Mai (舞), etc.

Girls names based on Ru-verbs: Kanae (叶), Moe (萌), Tae (耐), Sae (冴), Sue (据), Tame (貯), Mie (看), etc.

The reason for this probably originates from patriarchy, which was once prevalent in Japanese society. For example, examine the following sentence involving a boy's name in the dictionary form of the verb *susumu* [go forward].

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E.g., Musuko-wa konnan-wo norikoe mae-ni susumu. 'My son' 'despite the plights' 'forward' 'go'
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Note here that the subject of this sentence must be the son (i.e., the name owner), who is regarded as volitional. On the other hand, the subject of the following sentence involving a girl's name in the te-form of the verb *kanaeru* [make something come true] cannot be the daughter herself, but someone else (probably her father). This implies that she is regarded as not being fully volitional. In other words, the father may believe that his daughter should submit to his will.⁵⁾

E.g., Watashi-wa musume-ni yume-o kanae-te hoshii.

Some girls' verb-related names do end with [u], as in Hikaru (光る), Kaoru (香る), and Teru (照る), Shinobu (忍ぶ), but these are used more often for boys' names. This implies that the dictionary form is used as a male gender indicator.

⁵⁾ Incidentally, if verb-related names are read in the Chinese way of pronunciation, the names are normally for boys. This is because Kanji has been considered to be more official than Kana in writing.

'I' 'daughter' 'dream' 'to realize' 'want her'

(5) Use of the dictionary form for adjective-related boys' names

For adjective-related names, boy's names are based on the dictionary form ending with [shi] and girls' names are based on adjectival roots or ku-ending conjunctive form.

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E.g., Boys' names: Kiyoshi(清), Satoshi(聡), Tadashi(正), Masashi(正), Hiroshi(広), Takashi (高), Hisashi(久), etc.

Girls' names: Kiyo(キョ), Sato(サト), Tada(タダ), Masa(マサ), Taka(タカ), Chika(チカ), Fuka(フカ), Yuka(ユカ), etc.
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The reason for this can be explained in the same way as was mentioned just above in (4).

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E.g., Watashino musuko wa <u>satoshi</u>.

'My' 'son' 'is clever'

Watashi wa musume ni <u>sato-ku nat-te hoshii</u>.

'I (father)' 'daughter' 'clever' 'to become' 'want (her)'
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(6) Use of heavy syllables in boys' names

For boys' names, the heavy syllables /CVC/ and /CVV/ are prevalent in use. E.g., Ren(蓮), Yōta(陽太), Yūto(裕翔), etc.

But these types of syllables are used less in the case of girls' names. The typical pattern for them is /CV.CV/.

(7) A clear gender difference between girls' names and boys' names is noticeable from the use of Kanji characters, according to the meaning of the Kanji characters⁶

Boys' names usually refer to traditionally male characteristics like power and courage. Girls' names express virtues thought to be feminine, such as chastity, purity, and beauty.⁷⁾

⁶⁾ Characters based on the twelve signs of the Chinese zodiac like 牛 [cow], 虎 [tiger], 龍 [dragon], 未 [sheep], and 馬 [horse] have also been popular in names to some extent, even in modern times, especially for boys' names. However, this practice has almost ceased for girls' names since the Taisho period in the early 20th century (Tsunoda 2006).

⁷⁾ According to a news report in Ta Kung Pao (京華時報) of China dated September 14, 2012, the most popular name for boys in 2011 was 浩宇 (/haoyuu/: 46,096), and the most popular name for girls' was 欣怡 (/shinii/: 40,352). The most popular name regardless of gender was 子 涵 (/zuuhan/: 47,697). For boys' names, the characters 宇, 浩, 軒, 博 were very popular, indicating that the parents wish that their sons should succeed in life. On the other hand, for girls, the characters 涵, 怡, 欣, 夢 were very popular, indicating that their parents wish that their

E.g., Boys' names: 太, 大, 翔, 斗, 真, 悠, 陽, 人, 颯, 輝, 義, etc. Girls' names: 愛, 菜, 美, 花, 奈, 結, 心, 優, 莉, 咲, 貞, etc.

(8) The Kana syllabaries are used only for girls' names

This is because Kana syllabaries seem "softer" than Kanji. In fact, girls' names used to be written in Kana extensively, except for female aristocrats, until the Meiji period. However, this was not the case for boys' names. The use of Kana as a female indicator is still common in Japan.

E.g., Girls' names: Kiyo (キヨ), Aya (あや), Hinata (ひなた), Mie (ミエ), Sayuri (さゆり), Chiaki (ちあき), etc.

(9) The use of ordinal numbers for boys' names

In the past, when Japanese parents had large families, boys were often given names indicating the order in which they were born. This has been a tradition since the 52nd emperor Saga (786-842) named his three sons this way in the Heian period (794-1185). This followed the Chinese way of naming, which had been prevalent during the Tang dynasty⁸⁾ in the 7th to 9th centuries (Ōno 2013). However, ordinal numbers have never been used in girls' names. Note here that name-final morphemes function as gender indicators.

E.g., Shinichi/(真一), Ichirō (一郎), Shinji (信二), Keiji (啓次), Shōnirō (昌二郎), Shirō (四朗), Kyōzō (京三), Gorō (五郎), etc.

The recent appearance of kira-kira names

There are more than 2000 Kanji that are legally allowed to be chosen for naming a child. Accordingly, even a phonetically equivalent name can be written in many different Kanji combinations (Tamiya 2005), but the meaning of the name differs depending on the Kanji characters used. For example, Hiroko is a common female name, and there are more than 40 Kanji variations to represent this name (e.g., 寛子, 弘子, 博子, 浩子, 裕子, 太子, etc.).

Despite the large number of Kanji characters used, there used to be certain patterns for names in terms of sound sequence, and there was little change in them from the 1910s to the mid-1970s (\bar{O} tō 2012). For example, names ending with [ko] (子) were very popular for girls until 1986, and names ending with [rō] (郎, 朗), /o/ (雄, 男), and [ta] (太) have been popular for boys from long ago until the

daughters should become cute and affectionate in the future. The most popular character for boys' names was 宇 (90,455), and for girls' names, it was 涵 (78,737).

⁸⁾ This naming tradition has completely disappeared in modern China.

present.

It seems to be universal that the same names reoccur very frequently (Room 1990). However, nowadays, there are no patterns in modern popular names in Japan because names given to newborn babies are much more diverse than they were in the past.

What is characteristic of modern first names dubbed as *kira-kira names* is their wide variety of readings in Kanji.⁹ It seems that people are trying to create new or unique names for their children rather than simply choose a common or traditional name (Makino 2012). Thus, today, many parents choose names based primarily on their pronunciation, and then choose the Kanji character to represent the name. As a result, there is often no correlation at all between the pronunciation of the name and the Kanji character used.

The way of reading Kanji used for names used to be pronounced in a Japanese way (e.g., Akio (明男) and Shizuko (静子)), etc. But the Chinese pronunciation style has been replacing it recently (e.g., Miyu (美優), Mio (美桜), and Yua (結愛)). Therefore, it has become impossible to read Japanese names correctly without the help of the Kana transcriptions provided together with the Kanji characters. The absence of any legal constraint against this trend has been encouraging people to do this.

The first appearance of sound symbolism for femininity in names

According to Tsunoda (2006), up until the Meiji period (1868-1912), girls' names for lower-class and middle-class people were two to three morae in length, and were mostly written in Kana syllabaries. However, this was not the case for boys' names. Tsunoda also claims that girls' names for commoners during this time period can be classified into the following four types in terms of morpho-phonology. This

⁹⁾ For example, one of the popular names for girls "心爱" (ranked 7th in 2012) can actually be read in 34 different ways, including Konoa, Honoa, Kokoa, Ria, Meroa, Yūko, Pyua, Koko, Toa, Ai, Myuna, Hābu, Kizuna, etc.

¹⁰⁾ Here are some examples of *Kira-kira Names* used in recent years (Makino 2012): 良夢 (Ramu), 響 (Rizumu), 虹空 (Niku), 夜斗 (Naito), 音菜 (Nena), 雅生(Gao), 愛雪 (Ayu), and 雄 (Raion).

¹¹⁾ According to civil law, there are no restrictions regarding the ways of reading Chinese characters for names. This is because in the family register, only Chinese characters are recorded for newly-born babies' names. That is Kana is not used at all when babies' names are formally registered. Thus, the name 太陽 [sun], for example, can be read as /san/ in an English way. Likewise, a baby boy can have the same name as his father as long as their Chinese characters are different, as in 国雄 (Kunio) vs. 邦夫 (Kunio). On the other hand, 俊一 (Shunichi) and 俊一 (Toshikazu), for example, are not allowed, because even though these two names are pronounced completely differently, they have the same Chinese characters.

naming method was established by the onset of the Edo period (the early 17th century) and has had an influence on the present methods of naming children in Japan.

- (1) Two-mora names: <u>based on Proto-Japanese vocabulary</u>: e.g., Ku.ni [country], Ma.tsu [pine], Ta.ke [bamboo], Ha.ru [spring], Na.tsu [summer], Ku.ma [bear], To.ra [tiger], Hi.sa [longevity], Mu.me [plum], Yu.ri [lily], etc.
- (3) Three-mora names: type 1 vocabulary + suffix [i], [e], [no], [yo] or [o]: e. g., Ku.ni.e, Na.tsu.e, Ma.tsu.no, Hi.sa.no, Ki.yo.i, Ha.ru.yo, Ma.tsu.o, etc.
- (4) Three-mora names ending with [mi]: type 1 vocabulary + suffix [mi]: e.g., Ki.yo.mi, Ha.ru.mi, Ka.tsu.mi, Hi.sa.mi, Sa.to.mi, Yo.shi.mi, Ko.to.mi, etc.

What is noteworthy is that the appearance of sound-related gender classifiers [i, wi] $(\sqrt[1]{2})$, [e, we] $(\frac{1}{2}/2)$, [no] (0), [yo] (1), and [o, wo] (1/2) for girls' names was established by the beginning of the 17^{th} century.

No one knows why these five sounds (syllables) were chosen (Tsunoda 2006). But these female indicators as marked symbols placed word-finally were useful in differentiating between masculinity and femininity by sound alone because the two-mora Proto-Japanese words used for girls' names were not necessarily recognizable as female indicators in terms of meaning, for example, Tora [tiger] or Kuma [bear]. On the other hand, boys' names could end with any sound because, as was referred to earlier, Kanji characters representing their names were chosen based on the meaning of the characters and not based on sound.

Another question arises here as to whether or not gender classifiers are still in use for girls' names in modern times. This is the topic examined next in the present study.

An investigation of the sound symbolism of gender classifiers in first names

Unlike most European languages, Japanese has never developed an intrinsic grammatical category of "gender," which is a system of noun classification. However, modern Japanese has developed a phonological system composed of various gender classifiers in the final syllable of names. This may have been enhanced further due to the recent appearance of the kira-kira names.

To examine the validity of this assumption on the development of the sound system above, an experiment was conducted with native Japanese-speaking partici-

pants.

Method of the study

A questionnaire (shown below in Table 2) was given to 316 university students (136 males and 180 females studying at a university located in the Kansai area of Japan) in order to explore which gender they guessed a name belonged to, based only on its pronunciation. Seventy names, ending with a variety of sounds (/CV/, /CVC/, /CVV/), were tested. Most of the names were chosen from real names, but their frequency of use is very low. Thus, the participants could not rely on their familiarity with the names to identify their gender. The participants were asked to guess the gender of each name provided in Kana. If they believed that the name had an equal chance of being used for either gender, they were instructed to mark the names as being unisex.

Table 2 Questionnaire to investigate gender classifiers in first names

(男・女・共用)	25. ろうた	(男・女・共用)	49. こうね	(男・女・共用)
(男・女・共用)	26. まみろ	(男・女・共用)	50. ちなよう	(男・女・共用)
(男・女・共用)	27. みと	(男・女・共用)	51. よせの	(男・女・共用)
(男・女・共用)	28. ますね	(男・女・共用)	52. きお	(男・女・共用)
(男・女・共用)	29. とき	(男・女・共用)	53. さろい	(男・女・共用)
(男・女・共用)	30. ちたい	(男・女・共用)	54. じもり	(男・女・共用)
(男・女・共用)	31. たする	(男・女・共用)	55. さりて	(男・女・共用)
(男・女・共用)	32. まなし	(男・女・共用)	56. りうる	(男・女・共用)
(男・女・共用)	33. ふみと	(男・女・共用)	57. ちなよ	(男・女・共用)
(男・女・共用)	34. りる	(男・女・共用)	58. しょうえ	(男・女・共用)
(男・女・共用)	35. れん	(男・女・共用)	59. しこ	(男・女・共用)
(男・女・共用)	36. みなた	(男・女・共用)	60. りみ	(男・女・共用)
(男・女・共用)	37. しさよ	(男・女・共用)	61. くうと	(男・女・共用)
(男・女・共用)	38. すくな	(男・女・共用)	62. しょうま	(男・女・共用)
(男・女・共用)	39. りれん	(男・女・共用)	63. かすく	(男・女・共用)
(男・女・共用)	40. かりあ	(男・女・共用)	64. & 9	(男・女・共用)
(男・女・共用)	41. まか	(男・女・共用)	65. ひのち	(男・女・共用)
(男・女・共用)	42. かりせ	(男・女・共用)	66. かりて	(男・女・共用)
(男・女・共用)	43. りあ	(男・女・共用)	67. ましか	(男・女・共用)
(男・女・共用)	44. Ø b	(男・女・共用)	68. ねい	(男・女・共用)
(男・女・共用)	45. ゆしもり	(男・女・共用)	69. せの	(男・女・共用)
(男・女・共用)	46. くう	(男・女・共用)	70. まみお	(男・女・共用)
(男・女・共用)	47. すうな	(男・女・共用)		
(男・女・共用)	48. とうき	(男・女・共用)		
	(男・女・共用)	(男・女・共用) 26. まみろ (男・女・共用) 27. みと (男・女・共用) 28. ますね (男・女・共用) 29. とき (男・女・共用) 30. ちたい (男・女・共用) 31. たする (男・女・共用) 32. まなし (男・女・共用) 33. ふみと (男・女・共用) 35. れん (男・女・共用) 36. みなた (男・女・共用) 38. すくな (男・女・共用) 39. りれん (男・女・共用) 40. かりあ (男・女・共用) 41. まか (男・女・共用) 42. かりせ (男・女・共用) 44. ゆも (男・女・共用) 45. ゆしもり (男・女・共用) 46. くう (男・女・共用) 47. すうな	(男・女・共用) 26. まみろ (男・女・共用) (男・女・共用) 27. みと (男・女・共用) (男・女・共用) 28. ますね (男・女・共用) (男・女・共用) 30. ちたい (男・女・共用) (男・女・共用) 31. たする (男・女・共用) (男・女・共用) 32. まなし (男・女・共用) (男・女・共用) 33. ふみと (男・女・共用) (男・女・共用) 34. りる (男・女・共用) (男・女・共用) 35. れん (男・女・共用) (男・女・共用) 36. みなた (男・女・共用) (男・女・共用) 37. しさよ (男・女・共用) (男・女・共用) (男・女・共用) 38. すくな (男・女・共用) (男・女・共用) (男・女・共用) 39. りれん (男・女・共用) (男・女・共用) (男・女・共用) 41. まか (男・女・共用) (男・女・共用) (男・女・共用) 42. かりせ (男・女・共用) (男・女・共用) (男・女・共用) 43. りあ (男・女・共用) (男・女・共用) (男・女・共用) (男・女・共用) (男・女・共用) 44. ゆも (男・女・共用) (男・女・共用) 45. ゆしもり (男・女・共用) (男・女・共用) (男・女・共用) 45. ゆしもり (男・女・共用) (男・女・共用) 45. ゆしもり (男・女・共用) (男・女・共用) 45. かりせ (男・女・共用) (男・女・共用) 45. かりせ (男・女・共用) (男・女・共用) 45. かりもり (男・女・共用) (男・女・共用) 45. かりもり (男・女・共用) (男・女・共用) 45. かりもり (男・女・共用) (男・女・共用) 45. かりもり (男・女・共用)	(男・女・共用) 26. まみろ (男・女・共用) 50. ちなよう (男・女・共用) 27. みと (男・女・共用) 51. よせの (男・女・共用) 28. ますね (男・女・共用) 52. きお (男・女・共用) 29. とき (男・女・共用) 53. さろい (男・女・共用) 30. ちたい (男・女・共用) 54. じもり (男・女・共用) 31. たする (男・女・共用) 55. さりて (男・女・共用) 32. まなし (男・女・共用) 56. りうる (男・女・共用) 33. ふみと (男・女・共用) 57. ちなよ (男・女・共用) 34. りる (男・女・共用) 59. しこ (男・女・共用) 35. れん (男・女・共用) 59. しこ (男・女・共用) 36. みなた (男・女・共用) 60. りみ (男・女・共用) 38. すくな (男・女・共用) 61. くうと (男・女・共用) 39. りれん (男・女・共用) 62. しょうま (男・女・共用) 40. かりあ (男・女・共用) 64. もり (男・女・共用) 41. まか (男・女・共用) 65. ひのち (男・女・共用) 42. かりせ (男・女・共用) 66. かりて (男・女・共用) 43. りあ (男・女・共用) 66. かりて (男・女・共用) 44. ゆも (男・女・共用) 65. ひのち (男・女・共用) 45. ゆしもり (男・女・共用) 69. せの (男・女・共用) 45. ゆしもり (男・女・共用) 69. せの (男・女・共用) 45. ゆしもり (男・女・共用) 69. せの (男・女・共用) 46. くう (男・女・共用) 69. せの (男・女・共用) 47. すうな (男・女・共用) 70. まみお

Results

Table 3 shows 11 kinds of name-final syllables that were recognized as male indicators at a high rate of more than 60%. They are ordered from the highest (100%) to the lowest (63%), according to percentage. The names are written in parentheses placed after each percentage. Similarly, Tables 4 and 5 show the results of name-final syllables that were recognized as female and neutral indicators, respectively.

Table 3 Name-final syllables recognized as male indicators

```
1. [-ta]
           100% (Rōta), 97% (Fumita), 79% (Minata)
2. [-to]
           100% (Fumito), 99% (Kūto), 97% (Rento)
3. [-ma]
           99% (Syōma), 87% (Kasema), 12% (Nema)
4. [-shi]
           98% (Taseshi), 81% (Manashi)
           97% (Syō.o), 91% (Kasio), 76% (Mamio), 58% (Kio)
5. [-0]
6. [-ru]
           93% (Tasuru), 29% (Riuru), 6% (Riru)
7. [-ki]
           92% (Tōki), 34% (Toki), 22% (Minaki), 20% (Yūki)
8. [-ku]
           84% (Kasuku), 45% (Suku)
9. [-rō]
           87% (Mamirō)
           63% (Chitai), 48% (Saroi), 7% (Nei)
10. [-i]
           59% (Kaneu)
11. [-u]
```

Table 4 Name-final syllables recognized as female indicators

```
1. [-ko]
          99% (Chineko), 66% (Shiko)
          98% (Kokone), 92% (Sane), 73% (Masune), 65% (Kone)
2. [-ne]
3. [-ka]
          79% (Maka), 60% (Masika)
4. [-e]
          96% (Kotie), 92% (Kie), 58% (Syōe)
5. [-mi]
          96% (Rimi), 96% (Sāmi), 88% (Hirimi)
6. [-yo]
          96% (Tinayo), 94% (Sisayo)
7. [-na]
          85% (Sūna), 75% (Sukuna)
          67% (Nema), 4% (Kasema), 1% (Syōma)
8. [-ma]
9. [-mo]
          66% (Yumo), 31% (Yūmo)
10. [-n]
          62% (Saren), 53% (Riren), 43% (Miman), 3% (Ren)
11. [-no]
          59% (Yoseno), 55% (Seno)
```

Table 5 Name-final syllables recognized as neutral indicators

```
1. [-ki]
           79% (Yūki), 48% (Minaki), 46% (Toki), 5% (Tōki)
2. [-n]
           53% (Ren), 31% (Riren), 27% (Saren), 26% (Miman)
3. [-to]
           41% (Mito), 2% (Rento), 0% (Fumito), 0% (Kūto)
4. [-ri]
           37% (Mori), 27% (Shimori), 17% (Jimori), 11% (Yushimori)
5. [-ku]
           34% (Suku), 12% (Kasuku)
6. [-te]
           29% (Sarite), 28% (Karite)
7. [-mo]
          29% (Yūmo), 20% (Yumo)
8. [-o]
           25% (Kio), 15% (Mamio), 7% (Kashio), 2% (Syō.o)
9. [-bu]
           26% (Shisobu)
10. [-ru]
           26% (Riru), 25% (Riuru), 5% (Tasuru)
```

Analysis of the data

From the data above, it can be claimed that the following nine kinds of name-final syllables are firmly established as male indicators in modern Japanese (i.e., names with these sounds were recognized as masculine at a rate of more than 85%): [ta], [to], [ma], [shi], [ki], [o], [ku], [ro], and [ru].

Similarly, the following eight syllables were recognized as markers of girls' names at a rate of more than 85%: [ko], [ne], [ka], [e], [mi], [yo], [no], and [na].

Regarding neutral indicators, there were only two markers that were recognized as neutral at a rate of more than 85%: [ki] (79%: Yūki) and [n] (53%: Ren). However, these two final syllables have not been completely established as neutral indicators because they are sometimes used as male indicators, while at other times, they are used as female indicators. Therefore, it can be claimed that the neutrality of these sounds in gender classification is a result of their ambivalent use.

The present status of the old five female indicators

As was mentioned in the previous section, the five name-ending syllables [i, e, no, yo, o] were already in use as female indicators by the beginning of the 17th century. So what has become of them at present? What was found from this study is that only [e], [no], and [yo] remain unchanged as female indicators. The recognition rates for names ending with [e] and [yo] as female indicators were both 96%, and the rate for those with [no] was 59%.

On the other hand, the syllables [o] and [i] have become male indicators (at the rate of 91%, such as in Kashio and Chitai). In addition, the final syllable [i] has become a unisex indicator to some extent (22% for Chitai).

The development of sound-related gender classifiers in modern Japanese names

Now let us turn to the question of how the newly established gender classifiers for boys' and girls' names developed. What are the origins of these classifiers? The name-ending gender classifiers are listed again below for convenience.

Male indicators: [ta] (97%), [to] (97%), [ma] (99%), [shi] (98%), [o] (97%), [ki] (92%)

Female indicators: [ko] (99%), [ne] (98%), [mi] (96%), [yo] (96%), [e] (96%), [na] (85%), [ka] (79%)

Although it is not easy to draw a conclusion about the origins of these classifiers, let us consider the possible morphemes, with an assumption that they may have originated from the sounds of a limited number of common name-final morphemes.

Possible origins of classifiers used as male indicators:

- [-ta] (e.g., Kenta): The masculinity of this syllable may originate from the name-initial syllable [ta] in Tarō (太). The syllable [ta] has been used word-finally as well for the same purpose (e.g., Heita:平太[the first son of the Heike clan]) since the Heian period.
- [-to] (e.g., Masato): This syllable may have originated from the name-final syllable [to] in Hito (-人). Names in this pattern have been popular for boys (e.g., Tetsuhito (哲人), Masato (正人), Kazuto (和人), etc.).
- [-ma] (e.g., Kazuma): This sound may have originated from the [ma] of (馬) which is one of the 12 animals of the Chinese zodiac. Names in this pattern have also been popular for boys (e.g., Ryōma (龍馬), Kazuma (一馬), Yūma (勇馬), etc.). This Kanji character is sometimes replaced by another one that has the same sound; e.g., Yūma (佑真), etc.
- [-shi] (e.g., Kiyo**shi**): This sound may have developed from the last syllable [shi] of the dictionary form of shi-adjectives (e.g., Hiro**shi**, Masa**shi**, Kiyo**shi**, etc.).
- [-ki] (e.g., Daiki): This sound may have originated from the [ki] in the once-popular name-ending morpheme Yuki (之)(e.g., Saneyuki (真之), Masayuki (雅之), etc.). This Kanji character is sometimes replaced by other ones like 行, 幸(e.g., Masayuki (正行, 正幸), etc.).
- [-o] (e.g., Akio): This sound may have originated from the [o] in the popular name-ending morpheme [o] (男, 雄)(e.g., Kazuo (和男), Michio (道雄), etc.). This Kanji character is sometimes replaced by other Kanji such as 夫, 生(e.g., Michio (道夫, 三千生), etc.).

Possible origins of classifiers used as female indicators

- [-ko] (e.g., Yūko: The femininity of this syllable is related to the Kanji character [ko] (子). This character was adopted as a female indicator for the first time by the family of the Fujiwara clan, and the Saga emperor followed suit in the Heian period (Ōtō 2012).
- [-ne] (e.g., Ayane): The origin of this classifier is unknown. It might have been

related to the timelessly-popular name for girls Akane (茜).

[-ka] (e.g., Ayaka): This may have originated from the Kanji characters 華 and 香 [gorgeous, scent], which are identical in pronunciation.

[-mi] (e.g., Emi): This may have originated from the Kanji [mi] (美 [beauty]).

- [-na] (e.g., Erina): This may have originated from the European name 'Anna' that was introduced to Japan through the Russian novel *Anna Karenina* (Tolstoy 1877), translated by Senuma Kayō in 1902.
- [-yo] (e.g., China**yo**): This may have originated from the Kanji [yo] (代) because the name Chiyo (千代) was very popular as a girls' name in the past.
- [-e] (e.g., Kochie): This may have originated from the vowel that is followed by the te-form in verbal declension.

Gender classifiers other than sound

In addition to the establishment of the sound system for gender classification, the present experiment also revealed five other kinds of gender classifiers in modern Japanese first names.

(1) Femininity is likely to be recognized more from bimoraic names than trimoraic names.

Table 6 shows data on names in terms of the recognition rates for femininity. The recognition of a name as feminine is greater for two-mora names than for three-mora names. For example, the names Chitai (63%), Saroi (48%), and Nei (79%) all end with the same sound [i], but the last one, consisting of only two morae, had a much higher rate of being regarded as a female name than the others. The only exceptions are the cases of Ria (87%) vs. Karia (89%) and Mori (9%) vs. Shimori

Table 6 Recognition rates of femininity for two-mora names

Rimi (96%), Kie (92%), Sane (92%) c.f., Masune (73%)
*Ria (87%), c.f., Karia (89%)
Maka (79%), Nei (79%) c.f., Chitai (63%), Saroi (48%)
Nema (67%) c.f., Kasema (4%)
Riru (68%) c.f., Tasuru (2%)
Shiko (66%), Yumo (66%) c.f. Yūmo (31%)
Seno (55%), Mito (41%) c.f. Rento (0%), Kūto (1%)
Kū (33%) c.f., Kaneu (17%)
Suku (21%) c.f., Kasuku (4%)
Kio (17%) c.f., Mamio (9%)
*Mori (9%) c.f., Shimori (43%), Jimori (13%)

(43%).

Thus, it can be concluded that if a name has less than three morae, it is more likely to be regarded as a female name.

(2) If a name has four morae, it is likely to be recognized as a male name.

Table 7 below shows the recognition rates for masculine names based on the number of morae. It can be seen that four-mora names were recognized as being male at a much greater rate than three or two-mora names.

Table 7 Recognition rates of masculinity for four-mora names

Yushimori (77%) vs. Shimori (30%), Mori (54%)

(3) Names beginning with a voiced consonant are likely to be recognized as masculine names.

As shown in Table 8 below, the name Jimori, beginning with a voiced consonant, was recognized as being masculine at a much higher rate than its counterpart Shimori.

Table 8 Recognition rate of masculinity for names beginning with a voiced consonant

Jimori (70%) vs. Shimori (30%)

(4) Names with the structure /CVV.CV/ (i.e., heavy syllable + light syllable) are likely to be recognized as boys' names.

Table 9 Recognition rates of masculinity for /CVV.CV/ names

Shōma (99%) vs. Kasema (87%), Nema (12%)
Tōki (92%) vs. Minaki (22%), Toki (34%), *Yūki (20%)
Shōe (30%) vs. Kochie (2%)
Kōne (20%) vs. Sane (3%), Kokone (1%)

(5) Names involving nasal sounds ([m, n]) are likely to be recognized as girls' names.

Table 10 Recognition rates of femininity for names with nasal sounds

Kokone (98%), Rimi (96%), Sāmi (96%), Sane (92%), Sūna (85%), Sukuna (75%), Masune (73%), Nema (67%), Yumo (66%), Kōne (65%), Seno (55%)

As the percentages in Table 10 show, the recognition rates of femininity for names with nasal sounds are all high.

Conclusion

In this study, gender classification for first names in modern Japanese were investigated from various linguistic points of view. It was claimed that there are nine kinds of classifiers. One of them, namely, the sound system based on name-final syllables, was targeted for further investigation. As claimed in Tsunoda (2006), this system (i.e., the use of the name-final syllables [i, e, no, yo, o]) had already been developed for girls' names by the 17th century, but not for boys' names.

An experiment was conducted with 316 native Japanese speakers to investigate whether the participants had intuitive knowledge about whether a name sounds masculine or feminine. The result of the experiment was that the participants were able to classify most of the names as sounding either male or female depending on the final syllable of the name. It was found that the gender classifiers for boys' names are [ta], [to], [ma], [shi], [o], and [ro], and the gender classifiers for girls' names are [ko], [ne], [ka], [e], [mi], [yo], [no], and [na].

Among the five female indicators developed by the 17th century, the sound [i] is no longer an indicator of a female name and the sound [o] has become an indicator of a male name, although [e], [no], and [yo] remain unchanged as female indicators. This implies that the sound symbolism for gender classification has changed over time.

A limitation of this study is that the findings are only valid for Japanese people of approximately 20 years of age, because all of the participants in this study were about 20 years old. If the same experiment had been conducted with elderly people who were about 80 years old, the results could have been vastly different because the sound/gender classification system has been changing over time.

The reason why the gender classification based on phonology occurred with girls' names much earlier than with boys' names is because girls' names used to be based on Proto-Japanese vocabulary, whereas boys' names used to be based on the meaning of Kanji. In addition, the vocabulary adopted for girls' names was not always gender specific in terms of meaning; for example, Tora [tiger] was a girl's name in the 17th century. In addition, the recent appearance of *kira-kira* names has increased the number of unusual Kanji characters used for names, which has weak-

¹²⁾ The reason why this word was adopted for girls' names is because it was chosen for baby girls who were born in the Year of the Tiger (one of the 12 Chinese zodiac animals), in addition to the positive image of the word has, such as "active," "healthy," and "long-living."

ened the function of gender classifiers based on the meanings of Kanji. This is why phonology-based gender classifiers had to be increased to represent boys' names.

Chinese characters, which are ideophones, were adopted to represent the Japanese language as the first ancient writing system before the Nara period in the 8th century (Ōno 2013). These characters are known as "Manyōgana"¹³⁾ and use Kanji based on their phonetic qualities rather than semantic qualities. In this writing system, different Kanji can represent the same sounds because there is no standard system of Kanji selection. By the end of the 8th century, more than 900 Kanji were in use to represent the 100 or so morae of Japanese (Hayashi 2005). This system established in the past may have caused the appearance of *kira-kira* names in the 1990s because their methods of choosing Kanji characters are the same. In other words, in both cases, the names are made on the whims of the composer. This is why it is usually impossible to read *kira-kira* names without the help of phonetic Kana syllabaries added to them.

Japanese names have evolved to have gender classifiers, which are syllables placed at name-final position, rather than vowels, which are used in most European names. Moreover, the kinds of name-final syllables in Japanese are much more numerous than the name-final vowels used in most European names.

Finally, let us consider the question of where the gender classifiers originate. Since the Japanese language does not have grammatical gender, the name-final syllables used as gender classifiers may have originated from the sounds of Kanji used frequently by Japanese people over a long period of time. Kanji characters used for boys' names have been read in either the Chinese or the Japanese style of pronunciation (e.g., $[-r\bar{o}]$ originating from 郑[young man], [-o] from Otoko (尹[man]), and Osu (雄[male]), while gender classifiers for girls' names were mostly read in the Japanese style of pronunciation (e.g., [-ko] originating from 子[child], as in Ayako 順子). This difference may have caused the classifiers to develop differently between boys' and girls' names. The possible origins of most classifiers were examined in this study, but the origins of some female indicators (e.g., [no], [ne], and [na]) are still left unanswered.

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