A Phonetic Analysis of Japanese Names

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Abstract

This article has two main aims as follows: 1) to investigate the number of syllables or mora of Japanese male and female names and 2) to examine the relationship between genders and the sounds of the last syllables of Japanese names. This study used the data of the 100 most popular Japanese names given to males and females from the search results of a Japanese name ranking website in 2021. Then the data was phonetically analyzed to understand how the number of syllables or mora and phonetic characteristics of Japanese names' last syllables were related to genders of the owners of the names.

The study found a tendency that Japanese names given to males have more syllables or mora than the names given to females. Japanese names given to males with 3 syllables or mora accounted for 70%; while those with 2 syllables or mora made up only 27%. In contrast, Japanese names given to females with 3 syllables or mora accounted for 51%; while those given to females with 2 syllables or mora made up 49%. It was also found that Japanese names with 4 syllables or mora were given exclusively to males. Japanese male names ending

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with the consonant た [tɑ]. For Japanese female names, the names ending with the consonants な [na] และ り [rʲi] were most common, followed by those ending with consonants い [i] และ き [kʲi]. This study shows that last syllables of Japanese names have a correlation with genders. Therefore, it is argued that the genders of the owners of the names can be guessed from the last syllabic pronunciation of the names. This is in line with the hypothesis that the last syllables of Japanese names have a relation with genders.

Keywords: Japanese Names, Mora, Final Syllable, Male and Female Names, Phonetics

Introduction

1. Background and Importance of Study

Names of persons reflect the complexity of the social class structure. In a small society or a family, a name given to a person or a nickname seemed sufficient. However, as cities and towns expanded in the Middle Ages and during the Modern period in Europe, a legal system was essential for persons' identities verification in relation to tax payment, properties and job recruitment. As a result, naming a person has become necessary and important. A study of people's names could provide insights into social structures, social norms, social values, religions and traditions, as well as the expectations of parents seen in the names. The majority of studies on Japanese names are historically oriented. By examining the history of naming, it was found that some Japanese had many names. Those names show that Japan associated with the social class system. The social class system has an impact on the difference in naming males and females. In ancient times, only the elites were named. It was found that the names of the princesses typically end with a Chinese character or Kanji 子(-ko), for example, Princess Sumiko and Princess Chikako. The meanings of the names were also different between male and female names (Komori, 2002).

蕾 (Rai, 2008, Online) examined Japanese names in the ancient periods in Japan, i.e., Nara, Heian and Asuka, focusing specifically on the names in the Imperial House and those of warriors, by comparing with Chinese names in the same periods.

He found that Japan adopted the naming culture from China and adjusted it to become Japanese. The study is highly useful as it provides information regarding the naming tradition of upper-classed people. It shows that Japanese people give noticeable importance to the naming. Because the naming is not only a symbolic representation, but also indicates the position of the job including social status. In ancient times, upper-classed people had different names. A person had one name during his childhood. When he grew up and took up a position, his name would be different in accordance with his changed positions. Therefore, typically ancient Japanese warriors had more than two names.

The Japanese naming custom seems similar to those of other countries, especially when considering the social context of that particular period. According to the researcher's search for the most popular Japanese names during World War II, the top 3 popular names were 勝 (Masaru) meaning "victory", 勇 (Yuu) meaning "courage" and 進 (Susumu) meaning "move forward". According to the researcher's hypothesis, as Japan was a defeated country after World War II, these names were given to Japanese boys in an effort to encourage the Japanese people to be strong, not to give up, and to keep on fighting.

There has not been any study on the number of syllables or mora of both Japanese male and female names thus far. The researcher wanted to find out whether the number of syllables in male names is different from that of female

names or not, and how genders of the owners of the names are correlated with the sounds of the last syllables of the names. The questions which have never been answered in the existing studies will be answered in this study.

1.1 Objectives of Study

1) to examine the number of syllables or mora of the Japanese male and female names

2) examine the relation between genders and the sounds of the last syllables of Japanese names

1.2 Hypothesis

The sounds of the last syllables of Japanese names have a relationship with genders of the owners of the names.

1.3 Scope of Study

The scope of the study was limited to the most 100 popular Japanese male names and the most 100 popular Japanese female names ranked by the website https://st.benes. ne.jp/ninshin/name/2021/ This web may be accessed free of charge.

1.4 Conceptual Framework

This study is about the sounds of the last consonants in Japanese language. The knowledge about phonetics is essential to explain how to correctly pronounce the last consonants in Japanese language. Therefore, knowledge of phonetics proposed by 今田 (Imada, 1993) was adapted and used in this study.

1.5 Methodology

1.5.1 The researcher compiled 100 Japanese male names and 100 Japanese female names.

1.5.2 Then the researcher examined all of the complied Japanese names within the framework of the number of syllables or mora and that of the sounds as stated in the hypothesis by using the knowledge about phonetics.

1.5.3 After that, the researcher analyzed and interpreted whether and how the results were consistent with the hypothesis.

1.5.4 Lastly, the researcher assessed whether the sounds of the last syllables and the number of syllables or mora of Japanese names have a relation with genders of the owners of the names or not.

1.6 Contributions to Knowledge

1.6.1 the knowledge of the difference between the number of syllables of Japanese male names and that of the Japanese female names

1.6.2 the knowledge of the relation between genders and the sounds of the last consonants of Japanese names

2. Literature Review

The documents and the research used for this study are comprised of the research relevant to naming and phonetic alphabets in Japanese language.

2.1   Research on Naming

As remarked by 朱穎 (Shuei, 2014, Online), naming has been a long traditional practice for Japanese people. In recent years, however, it has been discovered that Kanji-based names are either difficult to pronounce or rigid with few alternative pronunciations. This style of naming is known as kirakirane-mu (unconventional name). It is commonly found in the names of people in the younger generations. Modern-day parents may give their children names in accordance with what they found on social media or in Online games. Some families believe that by giving their children unique names, their children will be more easily recognized. However, Shuei suggests that the difficult-to-pronounce names may be disadvantageous for their owners especially when they visit a hospital, as medical staff may have difficulty in pronouncing them. Moreover, the difficult-to-pronounce names appear to be unpleasant rather than impressive. Some lovely names may be appropriate for their owners during childhood, but they may be a cause of embarrassment when their owners become adults. In his study on the naming of Japanese people,

川岸 (Kawagishi, 2013, Online) added his explanation to the findings of 朱穎 (Shuei, 2014, Online), pointing out that the phenomenon leading to kirakirane-mu (unconventional name) was due to an external factor, i.e., a Kanji used to name a person has limited ways of pronunciations. As a result, although the Kanji in question is the same, the way in which it is pronounced is uncommon. According to the survey on popularity

of Kanji characters used to name persons, 勇、勝、勲、武、功 was popular between 1927-1945. However, 勲、武、功 was removed from the 1946-1969 list of the 10 most popular Kanji for naming people. while 勇、勝 were still on the 10 most popular Kanji characters. After 1980, the most popular Kanji for naming people has been 太, followed by 也 on the second place. As regards the popular Kanji characters of female names during the same time periods, 愛 was on the tenth place. Furthermore, 達 也 have been incorporated in people's names, since the naming after cartoon characters has become trendy. Additionally, the naming after celebrities and superstars is also a common practice. Also, it is quite normal nowadays to name people based solely on the pronunciation of Kanji characters without regard for their original meanings and the rule stipulating that a Kanji has only one meaning with a specific pronunciation.

In the study on the trend of naming in accordance with the genders in the 20th Century, Komori (2002, Online) found that, during the feudal Edo period (17th – 19th Centuries), the system of naming males was distinct from that of naming females, drawing a clear line between male and female names. The names of upper-classed women typically ended with "ko"; while the names of female commoners contained only 2 Hiragana syllables. The study of male names in the sample group in 20th Century revealed that only male names were written with Kanji characters. There came in 3 different forms. The first

form had only a single Kanji character; the second form had 2 Kanji characters and the third one had 3 Kanji characters. In contrast, there were five distinct forms for writing female names. The first one was that female names were exclusively written with Kanji characters. The second form was written with Hiragana. The thirdorm was written with Katakana. In the fourth form, female names were written with a combination of Kanji characters and Hiragana. The final form of female names was written with a combination of Kanji characters and Katakana.

However, the studies found that there were differences in the meanings between male and female names. The Kanji characters written in male names had meanings related to power, fierceness, and virtue, while those written in female names had meanings related to beauty, cuteness, and joy. In the case of Kanji characters for animals, typically, male names contained Kanji characters which meant dragons, while female names contained Kanji characters that meant cranes.

According to the study of Watanabe (2005, Online), Japanese parents typically considered the Kanji characters' meanings, the balance between the Kanji characters in the names and the surnames, the pronunciation of the Kanji characters, and the word spellings when naming their children with Kanji characters. In addition, some families took into account the future lives of their children as predicted by the Kanji stroke method of fortune telling.

Furthermore, Mori-Kolbe (2020) who examined the naming traditions in three eras, i.e., Taisho (1912-1926), Showa (1926-1989) and Heisei (1989-2018) found the methods of naming similar to the study of Komori (2002). He found that the characters in female names were written in various forms, for example, the Kanji character 杏/花、 Hiragana さくら and Katakana サクラ. Moreover, in Japanese names, a specific Kanji character can have multiple ways of pronunciations. It depends on how the person who gave the name has specified how it is pronounced, for example, the Kanji character 心 in the name 心陽 [koharɯ]. It was also found that different Kanji characters may have an identical pronunciation, for instance, 悠翔 [harɯto] same sound with 遥斗 [harɯto]. In addition, the last syllable can be pronounced -ko in female names and either -ki or - roo in male names.

There have not been previous studies on the difference of number of syllables or mora between male and female names in Japanese language thus far. Moreover, the issue pertinent to the relationship between genders and the sounds of the last syllables of Japanese names in the Reiwa era (2020 - present) has not been studied yet. Therefore, the researcher wanted to examine these issues with a hope that it would provide a method to guess genders of the owners of the names from the sounds of the last syllables and the number of syllables or mora of the names in question. This could prove that the sounds of the last syllables and the number of syllables or mora have relationship with male or female names. The data

used in this study was from the top 100 popular Japanese male and female names.

2.2 Documents relating to phonetics of Standard Japanese

According to the examination of phonetic system in Japanese language by the researcher, there are 25 sounds: /p / / t / / k / / b / / d / /g/ /m/ /n/ /ɲ/ /ŋ/ /N / /ɸ/ / s / /ʃ/ /ç/ / h / / z / /ʒ/ /dz/ /dʒ/ / ts / /tʃ/ /r/ / w / / j / They are illustrated in the table below.

Table 1 Phonetics of Standard Japanese Place of Articulation

Manner of Articulation \ Place of Articulation	Bila-bial	Al-veo-lar	Post al-veo-lar	Pala-tal	Velar	Uvu-lar	Glot-tal
Plosive	p b	t d			k g	N	
Nasal	m	n		ɲ	ŋ		
Flap		r					
Fricative	ɸ	s z	ʃ ʒ	ç			h
Affricate		ts dz	tʃ dʒ				
Semi-vowel				j			

Note: Adapted from 今田 (Imada, 1993, p.15)

In Japanese language, there are 5 vowel sounds. There is one special final consonant, which can be pronounced in multiple ways depending on what consonant follows it.

(Japanes simple vowels)

あ　　い　　う　　え　　お
[a]　　[i]　　[e]　　[o]　　[ɯ]

Figure

[i]　'close front'　　[ɯ] 'close back'
[e]　'mid front'　　[o] 'mid back'　　[a] 'open central'

Consonants that are semivowels:

や　　ゆ　　よ　[ja jɯ jo]

わ　　[wa]

The different ways of pronouncing ん are as follows:

ん　[m n ɲ ŋ N]

Example:　さんぽ　　[sampo]　　しんるい　[shinrui]
こんにゃく [koɲɲkɯ] げんご　　[geŋgo]

In the case that there is no consonant following, the pronunciations are as follows:

きん [kiN]   ほん [hoN]

Note:

1.   The sound of consonant [k] when used as an initial consonant is [k^h]. However, pronouncing the word as [k] or [k^h] does not alter its meaning.

2.   The sound of consonant [p] when used as an initial consonant is [p^h] However, pronouncing the word as [p] or [p^h] does not alter its meaning.

3.   The sound of consonant [t] when used as an initial consonant is [t^h] However, pronouncing the word as [t] or [t^h] does not alter its meaning.

In Japanese language, 1 Hiragana or Katakana letter is 1 syllable. つ [tsɯ] written in a small letter counts as 1 拍 (haku) or mora (haku or "mora" means a special syllable which is different from ordinary syllables in other languages which are pronounced with the same length of time). The exception to this rule is the combining consonants や [ja] ゆ [jɯ] よ [jo] which are not considered as "mora". For the purpose of the discussion in this article, the syllable counting system, which also counts a special syllable known as 拍 (haku) or mora, is used for the analysis of the number of syllables.

The syllable in Japanese language called 拍 (haku) or mora has a unique way of counting which is different from a normal syllable counting system as shown in Table 2.

Table 2 The Japanese syllable counting system

word	mora		syllable	
ひまり	Çi/ma/ɾi	3 mora	Çi/ma/ɾi	3 syllables
きっぺい	kʲi/p/pe/I	4 mora	kʲi/p/pe/I	3 syllables
りん	ɾi/N	2 mora	ɾiN	1 sylable

Methods

To examine the last syllables of Japanese names from a phonetic perspective, the researcher conducted a process of data management by collecting, classifying and analyzing data. The details are as follows:

3.1 Data Collection

The researcher collected 2021 Japanese names listed on the website https://st.benes.ne.jp/ninshin/name/girl/ name-ranking/ in January 2021. The website provided a list of the top 100 most popular Japanese names. Since the website already divided names into male and female categories, the researcher selected the top 100 names in each group.

3.2 The syllable structures and the sounds of the last syllables were analyzed by using phonetic knowledge.

3.3 Calculation of the percentage of the number of names appearing in the collected data

The statistic method used in this analysis was Percentage Calculation. Its formular was as follows:

Percentage = $\underline{s\ X\ 100}$ S: the syllable structures or the sounds of the last syllables

N   N: all names found in this research

Results

According to the analysis of the number of syllables or mora in Japanese names and the sounds of the last syllables within the framework of phonetic knowledge as shown in Figure 1, it could be explained that Japanese male names have more syllables than female names. The male names with 3 syllables or mora accounted for the greatest percentage at 70%, followed by those with 2 syllables or more which accounted for 27%. For female names, the names with 3 syllables or mora accounted for 51%, and those with 2 syllables or mora made up 49%. Furthermore, it was found that male names with 4 syllables or mora made up 3%, while none of female names had 4 syllables or mora.
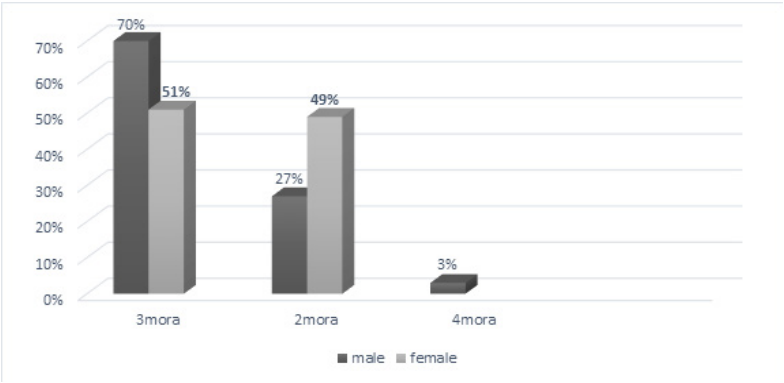
Figure 1: Number of Syllables or Mora in Japanese Names

Example: the analysis of Japanese male and female names with 2, 3 and 4 syllables or mora is shown in Table 2. The analysis of the sounds of the last syllables of Japanese male and female names is shown in Table 3.

Table 3 The sounds of the last syllables of Japanese male and female names can be categorized as follows:

	Syllable features	Male names	Female names
1	2 mora	れん [ɾeN] あお [ao] りつ [ɾʲi tsɯ] そら [sora]	りん [ɾʲiN] あん [aN] みお [mio] りこ [ɾʲiko] ゆい [jɯi] はな [hana]

Table 3 The sounds of the last syllables of Japanese male
and female names can be categorized as follows:
(Continued)

	Syllable features	Male names	Female names
2	3 mora	はると [haɾɯto] いつき [itsɯkʲi] みなと [minato]	ひまり [çimaɾʲi] あおい [aoi] さくら [sakuɾa]
3	4 mora	たいせい [taisei] ゆうせい [jɯɯsei] たいよう [taijo]	none

Table 4   The sounds of the last syllables of Japanese male
and female names can be categorized as follows:

The sounds of the last syllables	Males Percentage	Females Percentage
あ [a]	-	4
い [i]	11	8
う [ɯ]	4	1
お [o]	1	5
か [ka]	-	7
き [kʲi]	6	8
く [kɯ]	6	1
こ [ko]	-	2

Table 4   The sounds of the last syllables of Japanese male
and female names can be categorized as follows:
(Continued)

The sounds of the last syllables		Males Percentage	Females Percentage
さ	[sa]	1	2
し	[ʃi]	1	-
た	[tɑ]	13	3
ち	[ʧi]	1	-
つ	[ʦɯ]	1	-
て	[te]	1	-
と	[to]	30	1
な	[na]	-	9
ね	[ne]	-	2
の	[no]	-	2
は	[ha]	-	5
ひ	[çi]	2	-
ほ	[ho]	-	3
ま	[ma]	5	3
み	[mʲi]	-	1
む	[mɯ]	1	-
ゆ	[jɯ]	-	2
ら	[ɾa]	2	4

Table 4   The sounds of the last syllables of Japanese male
and female names can be categorized as follows:
(Continued)

The sounds of the last syllables		Males Percentage	Females Percentage
り	[ɾʲi]	1	9
る	[ɾɯ]	3	5
れ	[ɾe]	-	2
ん	[N]	7	5
が	[ga]	1	
ぎ	[gi]	1	3
ず	[zɯ]	-	2
で	[de]	1	1
Total		100	100

The sounds of the last syllables of Japanese male and
female names can be concluded as follows:

1) The consonant sound [to] was most prevalent in
the last syllable of male names, accounting for 30 out of 100
names. The names were はると [haɾɯto] みなと [minato]
ひろと [çiɾoto] ゆいと [jɯito]

2) The consonant sound [tɑ] was the second most
prevalent in the last syllable of male names, accounting for 14 names.
The names were ひなた [çinatɑ] そうた [sotɑ] かなた
[kanatɑ] えいた [eitɑ]

3) Both consonant sounds [na] and [rʲi] were most prevalent in the last syllable of male names, each of which accounting for 9 names each. The names were ひな [çina] ゆいな [jɯina] はな [hana] あんな [anna] และ ひまり [çimarʲi] あかり [akarʲi]

4) Both consonant sounds [i] and [ki] was the second most prevalent in the last syllable of female names, each of which accounting for 8 names each. The names were あおい [aoi] ゆつき [jɯtsɯkʲi]

5) Other sounds of the last syllables found only in male names were คือ [ʃi ʧi ʦɯ te çi mɯ ga]. The examples were そうし [soɯʃi] だいち[daiiʧi] りつ [rʲitsɯ] はやて [hajate] あさひ [asaçi] あやむ [ayamɯ] たいが [taiga]

6) Other sounds of the last syllables found only in female names were [a ka ko ne no ha ho mʲi jɯ re zɯ]. The examples were ゆあ [jɯa] いちか [iʧia] りこ[rʲiko] ことね [kotone] しの [ʃino] おとは [otoha] りほ [rʲiho] ななみ [mʲinamʲi] みゆ [mʲijɯ] すみれ [sɯmʲire] すず [sɯzɯ]

7) The sounds of the last syllables found in both male and female names were [i ɯ o kʲi kɯ sa tɑ to ma ra rʲi rɯ N gi de]. The examples of male names were あおい [aoi] ゆう [jɯɯ] あお [ao], ゆうき [jɯɯkʲi], さく [sakɯ] つばさ [ʦɯbasa] そうた [soɯtɑ] はると [harɯto] ゆうま [jɯɯma] そら [sora] いおり [iorʲi] ひかる[çikarɯ] だん[daN] なぎ [nagi] かえで [kaede].

The examples of female names were めい [mei], みう [mʲiɯ] みお [mʲio] ゆづき [jɯzɯkʲi] しずく [ʃizɯkɯ] なぎさ [naɡisa] うた [ɯta] みこと [mʲikoto] えま [ema] さくら [sakɯɾa] あかり [aka [ɾʲi] こはる [kohaɾɯ] あん [aN] つむぎ [tsɯmɯkʲii] かえで [kaede]

8) It was also found that some names given to both males and females were identical. They were written by the same Hiragana letters which had the same sounds. The examples were あおい [aoi], ひなた [çinata], はる [haɾɯ], かえ [kaede]

Discussion

The results show that the number of syllables or mora found in male names were greater than those found in female names. Japanese people prefer to give the names with more syllables to males. The male names with 3 syllables or mora accounted for the greatest percentage, following by those with 2 syllables or mora. Certain male names had 4 syllables or mora, while there was no female name with 4 syllables or mora. It was more common to give shorter names to females. The number of female names with 3 syllables or mora was almost double that of female names with 2 syllables or mora. A comparative study on the number of syllables in male and female names has not been found in the existing studies.

As regards Japanese female names, the typical sound of the last syllable is [ko]. This finding is in line with the studies of Komori (2002) and Mori-Kolbe (2020). At present, the most

common last syllable of male names is [to], while [tɑ] is the second most common. In contrast, the most common last syllables of female names are [na] and [rʲi], while [i] and [kʲi] are the second most common. By considering the sounds of these final syllables, it can be said that they are different from the study of Mori-Kolbe (2020) which found that, in the past, the most common last syllable of female names was -ko and that of male names was -ki. These differences may be due to the fact that the popularity of last syllables used for naming persons has changed with the times.

Conclusion

This study shows that Japanese male names have more syllables than Japanese female names. The findings reveal that the male names with 3 syllables or mora which accounted for 70%, while the female names with 3 syllables or mora which accounted for 51%. The percentage of female names with 2 syllables or mora was 49%, which was more than that of male names with 2 syllables or mora, which was 27%. This article suggests that male names have a tendency to contain more syllables or mora than feminine names. In addition, the names with 4 syllables or mora are exclusively given to males. Furthermore, male names with the consonant [to] as the last syllable made up the greatest percentage, while female names with the consonant [na] as the last syllable comprised the largest proportion. This research is consistent with the hypothesis that the sounds of the last syllables of Japanese names corelate with genders.

This study shows that the sounds of the last syllables of Japanese names have a relationship with genders. Because the sounds of last syllables found only in female names are [a ka ko ne no ha ho mʲi jɯ ɾe zɯ]; while those found only in male names are [ʃi ʧi ʦɯ te çi mɯ ga]. It can be concluded that the sounds of the last syllables in Japanese names have a correlation with genders. Therefore, it is possible to guess the genders of the owners from the last syllables of their names. This is in line with the hypothesis of this study.

Lastly, by analyzing the writing system of the 100 most popular male and female names, only male names were written solely using Kanji characters, while female names were written with a combination of Kanji characters and Hiragana letters. There was no indication that the way in which Katakana was written was different from the findings in the previous studies. It was also found in this study that certain identical names were given to both males and females. These names, such as [aoi], [çinata], [haɾɯ] were written and pronounced exactly the same. This finding implies that, in some cases, it is difficult to guess whether an owner of the name is male or female. Larger sample sizes should be used in future studies to clarify the relationship between gender and the sounds of the final syllables.

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