



The semantics and sociopragmatics of the Japanese honorific titles *san*, *kun*, and *chan*: some focal points of variation

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Received: 16 July 2021 / Accepted: 16 January 2023 / Published online: 31 May 2023
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Abstract

This work discusses the semantics, pragmatic effects, and usage of the three “honorific titles” in Japanese, *san*, *kun*, and *chan*, which constitute an important aspect of the social-deictic system, as well as of the inventory of person-reference strategies, of the language. All three items are honorific expressions attached to a name. It will be argued that *kun* and *chan* convey a lower degree of respect than *san* does, and that due to this feature, they (i) often signal intimacy and endearment (without conventionally encoding such information) and (ii) are usually preferentially applied, instead of *san*, to children. It will also be proposed that there are two variants each of *kun* and *chan*, one unmarked and one marked. While the unmarked variety of *kun* is applied exclusively to male referents, the marked variety is neutral as to the referent’s gender but instead conveys that the speaker and the referent stand in a relation of collegueship in a broad sense. As for *chan*, while its unmarked variety indicates that the referent is a child or a female, the marked variety lacks this feature.

Keywords Honorifics · Person-reference strategies · Titles · Non-proffered content · Japanese

1 Introduction

This work discusses the semantics, pragmatic effects, and usage of the three “honorific titles” in Japanese: *san*, *kun*, and *chan*, which, like English *Mr.*, *Ms.*, etc., are attached to a name and convey respect toward the referent.

These expressions constitute a major component of the social-deictic system, as well as of the inventory of person-reference strategies, of the language. They, however, have been discussed rather scarcely in previous theoretically-oriented studies. A

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likely cause of this marginalization is that their meanings are complex in having both honorific and gender/age-related facets, and furthermore that the latter exhibits a good deal of interspeaker and stylistic variation. The three items are abundantly mentioned in reference works, but there are considerable discrepancies in the descriptions given there as to what types of individuals each of them is applied to with what sociopragmatic effects. I will develop a formal-semantic analysis of the three items, paying special attention to (i) the variation in their usage and (ii) the distinction between the coded and inferred aspects of what their use may convey. Some quantitative data, collected through a web-based questionnaire, will be presented to endorse some of the empirical claims.

It will be argued that *kun* and *chan* encode a lower degree of respect than *san* does, and that due to this feature, they (i) often signal intimacy and endearment (without conventionally encoding such information) and (ii) are usually preferentially applied, instead of *san*, to children. It will also be proposed that there are two variants each of *kun* and *chan*. While the unmarked variety of *kun* is applied exclusively to male referents, the marked variety is neutral as to the referent's gender but instead conveys that the speaker and the referent stand in a relation of collegueship in a broad sense. As for *chan*, while its unmarked variety indicates that the referent is a child or a female and is exclusively attached to a given name, the marked variety lacks these features. Unlike *kun* and *chan*, *san* is entirely free from constraints concerning the gender and age of the referent.

This work is organized as follows. Section 2 illustrates some key features of the grammatical class that subsumes *san*, *kun*, and *chan*, referred to in this work as “affixal designation terms (ADTs)”, and points out that the opposition of *san*, *kun*, *chan*, and the absence (non-use) of ADT can be seen as a key axis in person-reference strategies in Japanese. Section 3 reviews how the meanings and usage of the three items have been described in the existing literature. Section 4 introduces some theoretical assumptions as to how honorific meaning—i.e., the social-deictic meaning conveyed by honorific expressions—is to be formulated. Section 5 explains the features of a web-based survey whose results are referenced in the subsequent sections. Sections 6–8 put forth a semantic analysis of the meanings of *san*, *kun*, and *chan* respectively, along with discussion of the pragmatic effects of their use. Section 9 makes some remarks on how the choice between the three ADTs may interact with the contemporary issues of gender equality and inclusivity. Section 10 concludes.

2 Affixal designation terms

The Japanese language has a class of expressions which follow a name and convey information concerning the referent's social status, gender, age, or relation with the speaker. Some instances are illustrated in (1).¹ *San* conveys the speaker's respect

¹ Subscript *s* indicates a surname; subscript *m* and *f* indicate a given name referring to male and a female respectively. The subscript abbreviations in glosses are: Acc = accusative, AddrHon = addressee (-oriented) honorific, Attr = attributive, BenAux = benefactive auxiliary, BenPsvAux = benefactive-passive auxiliary, Cop = copula, Dat = dative, DAux = discourse auxiliary, DP = discourse particle, EvidAux = evidential auxiliary, EvidP = evidential particle, F = given name of a female, Gen =

toward the referent, much like English *Mr.*, *Ms.*, etc. do. *Sensei* likewise conveys respect, but unlike *san*, it is applied exclusively to teachers and experts in certain fields such as medicine and art. *Kyooju* and *hikoku* indicate the status of the referent as a professor and a defendant in court, respectively.

- (1) a. {Sato_s/Hiroshi_m} **san** ga toochaku shita.
 Sn/M *san* Nom arrive do.Pst
 ‘{(Mr./Ms.) Sato_s/Hiroshi_m} arrived.’
- b. Yamada_s **sensei** ga tegami o kakareta.
 Sn *sensei* Nom letter Acc write.SHon.Pst
 ‘(Dr.) Yamada_s wrote a letter.’
- c. Kojima_s **kyooju** ga pasokon o kawareta.
 Sn professor Nom book Acc buy.SHon.Pst
 ‘Professor Kojima_s bought a PC.’
- d. Murakami_s **hikoku** wa muzai o shuchoo shite iru.
 Sn defendant Th innocence Acc claim do.Ger NpfvAux.Prs
 ‘Murakami_s, the defendant, claims his innocence.’

Expressions like *san*, and their analogs in other languages (such as English *Mr.* and *Dr.*), have been given various labels, including “(honorific) titles”, “(honorific) suffixes/prefixes”, and “role terms”. This work adopts “affixal designation terms (ADTs)” as a label for the general-linguistic category that includes the Japanese expressions illustrated in (1), as well as English *Mr.*, *Dr.*, etc., Mandarin Chinese *xiansheng*, *laoshi*, etc., Korean *ssi*, *seonsaengnim*, etc., and so on.

2.1 How ADTs may vary

Japanese ADTs may be classified on various grounds. First, while some forms, including *san*, *kun*, and *chan*, are used exclusively as ADTs, some others, such as *kyooju* ‘professor’ and *yoogisha* ‘suspect’, may function either as a common noun or as an ADT, the latter use derivative of the former. A parallel contrast is exhibited by English *Mr.*, *Ms.*, etc. on the one hand and *doctor* (*Dr.*), *professor* (*Prof.*), etc. on the other.

Second, some ADTs encode honorific meaning while some others do not. *San* and *sensei* (applied to teachers, etc.) belong to the first type, and *kyooju* ‘professor’ and *hikoku* ‘defendant’ to the second. ADTs like *kyooju* and *keibu* ‘police inspector’, which represent social statuses of prestige, are often used in consideration of politeness and respectfulness. They are not to be regarded as honorifics per se, however, in view of the fact that they can be used in contexts and registers where the use of honorifics toward the referent would be unnatural (Kikuchi 1997: 245), as in (2).

(footnote 1 continued)

genitive, Ger = gerund, Imp = imperative, Inf = infinitive, Intj = interjection, M = given name of a male, Neg = negation, NegAux = negative auxiliary, Nom = nominative, NpfvAux = non-perfective auxiliary, PossHon = possessor honorific, Prov = provisional, Prs = present, Pst = past, Psup = presumptive, Psv = passive, SHon = subject-(oriented) honorific, Sn = surname, Th = thematic *wa* (topic/ground marker), Top = topic marker, Vol = volitional.

- (2) (in a book or article on the history of physics)
- a. 1895-nen, Würzburg daigaku no Wilhelm Röntgen (**kyooju**) ga
 1895-year W. university Gen W. R. professor Nom
 X-sen o hakken shita.
 X-ray Acc discover do.Pst
 ‘In 1895, (Professor) Wilhelm Röntgen at the University of Würzburg discovered the X-ray.’
 - b. #1895-nen, Würzburg daigaku no Wilhelm Röntgen **sensei** ga
 1895-year W. university Gen W. R. *sensei* Nom
 X-sen o hakken shita.
 X-ray Acc discover do.Pst
 - c. #1895-nen, Würzburg daigaku no Wilhelm Röntgen (kyooju/sensei)
 1895-year W. university Gen W. R. professor/sensei
 ga X-sen o hakken **sareta**.
 Nom X-ray Acc discover do.SHon.Pst

Third, different ADTs contrast as to the possible range of application in terms of age and gender. (*Ojoo(sama)*, *oo*, and *toji* are examples of ADTs that are used only for relatively small age/gender groups, applied respectively to young women, elderly men, and elderly women.

Fourth, different ADTs contrast as to what types of host they are attached to. Occupation- and rank-based ones, such as *kyooju* and *keibu*, generally are attached to a surname or a full name (of the form “Surname + Given Name”, in the case of the legal names of Japanese nationals), while kinship-based ones such as *oji(san)* ‘uncle’ are attached to a given name. *San* and *kun* may be used on a surname, a given name, or a full name, while the use of *chan* on a surname is relatively rare.²

2.2 The niche of ADTs within the system of person reference

It bears illustrating some notable features of person-reference strategies in Japanese, as a backdrop of the discussion to follow.

First, the use of an ADT on a name is not obligatory. In conversations, reference to acquaintances by their surname or given name only—called *yobisute* (lit. ‘calling-renouncing’) in Japanese—is usually made when the speaker is very close to them,

² *San*, *kun*, and *chan* may also be used with a common noun or the name of an organization, as in (i), or form a nickname with a part of a surname or given name, as in (ii).

- (i) a. [bengoshi ‘lawyer’ + san] ‘lawyer, Mr./Ms. Lawyer’
 b. [Tokyo Daigaku ‘The University of Tokyo’ + san] ‘The University of Tokyo’
 c. [o (honorific prefix) + sumoo ‘sumo’ + san] ‘(the) sumo wrestler’
 d. [megane ‘glasses’ + kun] ‘(the) guy with glasses’ (somewhat pejorative)
 e. [kuma ‘bear’ + chan] ‘(the) stuffed bear’ (in child language)
- (ii) a. Yanagiba_s + san ⇒ Gibasan
 b. Atsushi_m + kun ⇒ Akkun
 c. Noriko_f + chan ⇒ Norichan, Nonchan

The semantic contributions of *san/kun/chan* in such combinations vary a great deal, from being fairly transparent to being highly idiomatic. This work focuses on *san/kun/chan* following a (complete) name.

or openly looks down on them. People whom the speaker knows only indirectly (e.g., famous artists, historical figures) also tend to be referred to without an ADT.

- (3) a. {Sato_s / Hiroshi_m / Sato_s Hiroshi_m} ga toochaku shita.
 Sn M Sn M Nom arrive do.Pst
 ‘{Sato_s/Hiroshi_m/Sato_s Hiroshi_m} arrived.’
 b. (Sakka no) Kawabata_s Yasunari_m wa kono chikaku de umareta
 author Cop.Attr Sn M Th this vicinity in be.born.Pst
 soo da.
 EvidAux Cop.Prs
 ‘I hear that (the author) Kawabata_s Yasunari_m was born in this neighborhood.’

Second, a name with or without an ADT is commonly used not only for third-person reference, as in (1a–d), and for vocative second-person reference, as in (4a,c), but also for non-vocative second-person reference, as in (4b,c) (Takubo 1997: 21–23).

- (4) (addressing Sato_s)
 a. Sato_s **san**, nanji ni toochaku shita no?
 Sn *san* what.time Dat arrive do.Pst DAux
 ‘Sato_s, what time did you arrive?’ (lit. ‘Sato_s, What time did Ø arrive?’)
 b. Sato_s **san** wa nanji ni toochaku shita no?
 Sn *san* Th what.time Dat arrive do.Pst DAux
 ‘idem’ (lit. ‘What time did Sato_s arrive?’)
 c. Sato_s **san**, Sato_s **san** wa nanji ni toochaku shita no?
 Sn *san* Sn *san* Th what.time Dat arrive do.Pst DAux
 ‘idem’ (lit. ‘Sato_s, What time did Sato_s arrive?’)

Japanese has several second-person pronouns (or quasi-pronouns³), which contrast in their sociopragmatic meaning. However, they are used rather sparingly, and tend to convey an aggressive and confrontational tone when used in reference to a socially higher-ranked or distant person. Names (possibly accompanied by an ADT) in Japanese thus can be said to carry much of the functional load that second person pronouns carry in many other languages including English.

Third, quite a few common nouns denoting occupations, social roles, or kinship relations—e.g. *buchoo* (*san*) ‘director’, *sensei* ‘teacher, master’, *niichan* ‘big brother, bro’—have a potential to be used as substitutes for names and (quasi-)pronouns (Takubo 1997:13–20). Many of these forms can be used as an ADT, too. Some of them are optionally or obligatorily followed by, or are inseparably fused with, an ADT like *san*; how the semantic effect of an ADT (or a remnant thereof) in these cases compares with the same ADT following a name (e.g., how the way *buchoo* and *buchoo san* contrast with each other compares with the way *Sato_s* and *Sato_s san* contrast with each other) is a matter I leave to future research (see also Note 2).

³ It has been a matter of debate whether Japanese has personal pronouns as a grammatical category; see, e.g., Sugamoto (1989), Takubo (1997:13), and Frellesvig (2010: 245–246).

Fourth, a null form too is often used to make second-person and third-person, as well as first-person, reference to people (e.g. (9d), (16a,b)).

(Non-vocative) second-person reference to a woman called Ogasawara_s Hiroko_f could be made with all of the forms listed in (5), among other possibilities, on one (busy) day.

- (5) a. **name only:** Ogasawara, Hiroko
- b. **name + ADT:** Ogasawara san, Hiroko chan, Ogasawara keibu ‘Inspector Ogasawara’, Hiroko obasan ‘Auntie Hiroko’, Ogasawara senpai ‘(lit.) Senior Colleague Ogasawara’
- c. **name substitute (+ ADT):** keibu (san) ‘inspector’, kaasan ‘mom’, neechan ‘big sister, sis’, okusan ‘wife, ma’am’, senpai ‘senior colleague’, okyakusama ‘customer’
- d. **second-person (quasi-)pronouns:** anata ‘you (formal)’, kimi ‘you (neutral)’, omae ‘you (informal)’
- e. **null form:** ∅

All of these forms except for (5d) can also be used for third-person reference. *Kaasan* and *neechan*, as well as the null form, can be used for first-person reference too.

2.3 The privileged status of *san*, *kun*, and *chan*

Among the plethora of person-reference terms/strategies in Japanese, this work focuses on *san*, *kun*, and *chan* following a name. These three ADTs do not convey specific information about the referent’s social or kinship status, and accordingly, reference with *san*, *kun*, or *chan* has much wider applicability than that with an ADT or a name substitute encoding the referent’s occupation, social role, or kin status. They are used with a high frequency in a wide variety of registers including colloquial conversations and news reports.⁴ As such, the opposition of “Name + {*san*/*kun*/*chan*/∅}” can sensibly be regarded as a key axis in person-reference strategies in the language.

It will be argued below that not only *san* but also *kun* and *chan* encode honorific meaning. They thus form a subsystem of honorific expressions in the language, as well.

3 *San*, *kun*, and *chan*: Basic facts

In reference works on the Japanese language, it is widely noted that the use of *kun* and *chan* is subject to constraints concerning gender and age of the referent. In the textbook series *Japanese for Busy People* (Association for Japanese-Language Teaching 2006a, b), *san*, *kun*, and *chan* are described as follows:

⁴ The ADTs *sama* and *shi* (see (7)) too could be applied to wide ranges of people, but they are by and large confined to certain formal registers.

- (6) *San*: a title of respect that may be used with both male and female names
Kun: a title of courtesy used among friends or toward people who rank beneath you
Chan: an informal title of courtesy used mainly toward women younger than oneself, or toward children

Makino and Tsutsui (1989) describe *kun* as “a suffix attached to the first or last name of a male equal or to the first or last name of a person whose status or rank is lower than the speaker’s” (p. 211), and remark that *chan* “is used with children’s names or in child-like language” (p. 386). Shibatani (1999: 184) states that *kun* is “used for the names of male equals or inferiors”, and *chan* is used “typically for children’s first names”.

Contemporary newspapers and news programs generally adopt the guidelines in (7) (NHK Broadcasting Culture Research Institute 2005: 68–69; Maeda et al. 2020: 208; Kyodo News 2022: 520, 521, 546, 547), although the details may differ from organization to organization and from context to context (see also Sect. 9):

- (7)
- Chan* is applied to preschool children.
 - Kun* is applied to male elementary schoolers.
 - San* is applied to males in middle school and older, and females in elementary school and older.
 - Sama*, a more deferential variant of *san*, is applied to members of the imperial family (but not to the emperor, who is to be referred to as *Tennoo Heika* ‘His Majesty the Emperor’).
 - The formal ADT *shi* may be preferentially applied, instead of *san*, to professionals (and retired professionals) in certain fields, including politicians.
 - Other ADTs, such as *shushoo* ‘prime minister’, *kaichoo* ‘president’, and *hikoku* ‘defendant’, may be preferentially applied, where relevant.

The three ADTs’ ranges of application overlap in a rather intricate way. To list some points of interest:

- (8)
- In formal settings, *san* may be applied to preschool children.
 - Some speakers (typically male) apply *kun* to females in company or school settings.
 - In informal settings, *chan* may be applied to adult females, as well as, though less commonly, to adult males.

The discussion so far makes it evident that the way the gender and age of the referent affects the applicability of *san*, *kun*, and *chan* is much less deterministic than, for example, how the gender of the referent affects the applicability of English *Mr.* and *Ms./Mrs./Miss*. A full analysis of the three Japanese ADTs must account for this fact.

An additional noteworthy feature of *kun* and *chan* is that they tend to signal intimacy and endearment. Remarks to this effect are common in reference works. Some examples are shown below; *Daijisen* (Shogakukan Daijisen Henshuubu 2012) is a popular monolingual dictionary.

Kun is attached to the surname or given name of an equally ranked or lower-ranked person and expresses **friendliness** (*shitashimi*) and a mild degree of respect; *Chan* is attached to a name or a noun referring to a person, and is used when addressing them **in a friendly manner** (*shitashimi o komete*).

(*Daijisen*, 2nd ed.; my translation/emphasis)

To address an adult as "... chan" with **endearment** (*shin'ai*) is an example [of verbal expression] of affection [...].

(Kikuchi 2010: 25; my translation/emphasis)

-*chan* is added to small children's names instead of -*san* to indicate **familiarity**.

(3A Corporation 2000: 15; my emphasis)

It will be argued below that the indication of intimacy is not part of the coded meanings of *kun* and *chan*, but pragmatically arises from their conveying a mild degree of respect.

The semantics of *san*, *kun*, and *chan* has been scarcely discussed in the existing formal literature. McCready (2019) does discuss, though in passing, *san* along with some other ADTs from Japanese and English, but not *kun* or *chan* (her treatment of *san* will be mentioned in Sect. 6).

4 Formal semantics of honorification

This section introduces some background assumptions as to the semantics and pragmatics of honorifics (honorific expressions).

4.1 The formal representation of honorific values

Japanese honorifics can roughly be divided into (i) addressee(-oriented) honorifics and (ii) referent(-oriented) honorifics. The first type conveys respect toward the addressee; the second type, which subsumes honorific ADTs like *san*, conveys respect toward one of the referents mentioned or evoked in the utterance.

(9a) involves an addressee honorific verb with the component *mas*. (9b) involves a subject-oriented honorific verb—a subtype of referent honorific—derived with the suffix *are*. (9c,d) involve both; note that (9c) conveys respect toward two different parties, while in (9d) the two honorific components happen to target the same individual.

- (9) a. Watashi wa pasokon o **kaimashita**.
 I Th personal.computer Acc buy.AddrHon.Pst
 'I bought a PC.'
- b. Kojima_s kyooju ga pasokon o **kawareta**.
 Sn professor Nom personal.computer Acc buy.SHon.Pst
 'Professor Kojima bought a PC.'
- c. Kojima_s kyooju ga pasokon o **kawaremashita**.
 Sn professor Nom personal.computer Acc buy.SHon.AddrHon.Pst
 'Professor Kojima bought a PC.'

- d. (Kojima_s kyooju.) pasokon o **kawaremashita** ka?
 Sn professor personal.computer Acc buy.SHon.AddrHon.Pst DP
 ‘(Professor Kojima,) did you buy a PC?’

As widely noted (e.g., Kikuchi 1997, 2010; Hasegawa 2015; McCready 2019; Oshima 2019, 2021; Yamada 2019), different honorifics convey different degrees of respect toward their target. For example, the two addressee honorific verbs GOZAIMASU⁵ and ARIMASU share the same truth-conditional content—‘(for a non-sentient entity to) exist’—but differ in that the former conveys a higher degree of respect (see below for illustration).

With Potts and Kawahara (2004), McCready (2019), and Oshima (2021) among others, I take the social-deictic meaning contributed by honorifics to be a kind of non-proffered (not-at-issue) content⁶ distinct from presupposition. I will further assume that, with McCready (2019), any (honorific or non-honorific) meaning contributed by an ADT—e.g., the status as a professor of the host nominal’s referent conveyed by *kyooju* used as an ADT—is also non-proffered and non-presuppositional.

Largely based on Oshima (2019, 2021), I adopt a framework for formal representation of honorific meaning with the following features.⁷

- (10) a. The range of respectfulness expressible with honorifics is represented as the interval of real numbers 0 and 1. The members of this interval are referred to as “honorific values”. The value 0 corresponds to the lack of respect, and the value 1 corresponds to the maximum degree of (linguistically expressible) reverence.
- b. In any given utterance context, the addressee and potential referents are assigned honorific values within the interval: [0, 1], depending on to what extent (if at all) the speaker (acknowledges that she) honors them.
- c. Each honorific expression is associated with an honorific value greater than 0 and not greater than 1 (i.e., within $\{n \mid 0 < n \leq 1\}$), and conveys that its target’s honorability is at least as high as that value.

The indexical (i.e. context-sensitive) function **HON** is introduced as the contextual parameter that honorifics refer to. This function assigns honorific values to individuals, thus serving as a representation of whom the speaker (acknowledges that she) honors to what extent in the utterance context. It bears noting that more elaborate ways to represent the social relation/status that honorifics make reference to (the notion that has been labeled as “honorability”, “honorificity”, etc.) have been put forth in the literature; for example, McCready (2019), formulates it in terms of real-number intervals, and Yamada (2019) in terms of probability distributions. The relatively simple representation in terms of real-number values, however, will suffice for the purposes of the current work.

⁵ Expressions in small capitals refer to lexemes.

⁶ An alternative label here is “conventionally implicature”. It must be noted, however, that this term has been used in various ways by different authors.

⁷ Oshima (2019) discusses that some referents may be assigned, and some honorifics—called negative honorifics or dishonorifics—encode, honorific values smaller than 0. The issue of negative honorification is not directly relevant to the purposes of the current work, and will be put aside.

4.2 The choice between honorific variants

For a Japanese conversation to be felicitous, it is required that “due respect” be expressed toward the individuals mentioned in the utterance as well as toward the addressee, and also that none of these individuals be excessively elevated (“over-honorified”). I put forth the following discourse principle to account for this, building on Oshima (2019, 2021).⁸

- (11) **Reverence Maximization:** For any utterance u , each lexical item (word or multi-word unit) i involved in u must not have a stronger honorific variant that is compatible with the honorific values assigned to (i) the addressee of u and (ii) the referents mentioned or evoked in u .

The definition of honorific variants and the relative strength among them is as follows; S stands for an arbitrary sentence frame:

- (12) Lexical item α is a stronger honorific variant of lexical item β (the latter possibly being null) in context C if and only if: (i) the proffered content of $S(\alpha)$ is entailed by, if not equivalent to, that of $S(\beta)$, (ii) the (non-proffered) honorific content of $S(\alpha)$ unilaterally entails that of $S(\beta)$ (the latter possibly being vacuous) or α has a larger number of honorific feature types than β does (the latter possibly having none), and (iii) all of the non-honorific, non-proffered contents of $S(\alpha)$ and $S(\beta)$ (if there are any) hold true in C .

The effect of Reverence Maximization can be illustrated with a tuple of utterances like (13).

- (13) a. Resutoran wa kyuukai ni **aru**.
restaurant Th 9th.floor Dat exist.Prs
‘The restaurant is on the 9th floor.’
b. Resutoran wa kyuukai ni **arimasu**.
restaurant Th 9th.floor Dat exist.AddrHon.Prs
‘idem’
c. Resutoran wa kyuukai ni **gozaimasu**.
restaurant Th 9th.floor Dat exist.AddrHon.Prs
‘idem’

⁸ The principle of Reverence Maximization formulated in (11) incorporates the effects of the two discourse principles posited by Oshima (2019, 2021):

- (i) a. **Reverence Maximization (Content):** For any utterance u , each lexical item (word or multi-word unit) i involved in u must be chosen in such a way that i , among its honorific variants, expresses the highest degrees of reverence toward (i) the addressee of u and (ii) the referents mentioned or evoked in u that do not exceed what they deserve.
b. **Reverence Maximization (Form):** For any utterance u , each lexical item (word or multi-word unit) i involved in u must be chosen in such a way that i , among its honorific variants, expresses reverence toward (i) the addressee of u and (ii) the referents mentioned or evoked in u with the largest number of honorific feature types without expressing a degree of reverence that exceeds what they deserve.

(13a–c) share the same proffered content. (13a) does not convey any honorific meaning. (13b) and (13c) convey respect toward the addressee, the latter’s honorific meaning being stronger. (13b) and (13c)’s honorific meanings can be represented as in (14a) and (14b), with the tentative minimum honorific values of 0.3 and 0.7 (for the purpose of the current discussion, it is not the specific values but their relative order that matters).

- (14) a. **HON(Addressee)** ≥ 0.3
 b. **HON(Addressee)** ≥ 0.7

$\langle \text{ARU, ARIMASU, GOZAIMASU} \rangle$ is a tuple of honorific variants in the ascending order of strength. Reverence Maximization dictates that (13a), (13b), and (13c) be the appropriate choice when the addressee’s honorific value is within (i) $\{n \mid 0 \leq n < 0.3\}$, (ii) $\{n \mid 0.3 \leq n < 0.7\}$, and (iii) $\{n \mid 0.7 \leq n \leq 1\}$, respectively. When the addressee is the speaker’s child, sibling, or parent, (13a) will be the only natural option; this implies that the Japanese social norms are such that one does not attribute an honorific value of 0.3 or greater to one’s close blood relatives. When the speaker is a receptionist of a luxury hotel and is talking to a guest, (13c) will be the most natural option; this implies that in this setting the speaker is expected to assign an honorific value of 0.7 or greater to the addressee.

McCready (2019: 53) suggests that such patterns arise from a general scale-based pragmatic principle along the lines of Maximize Presupposition (Heim 1991; Schlenker 2012). (15) is a possible rendition of such a principle.

- (15) **Non-Proffered Content Maximization (NPC Maximization):** Suppose that a language makes available an expression α with proffered propositional content P and non-proffered propositional content N (N possibly being vacuous), and another expression β with proffered content P and non-proffered content N’ such that N’ unidirectionally entails N. Then, the speaker’s use of α will implicate that $\neg N'$ (unless the use of β would not be blocked for independent reasons).

While this general principle successfully accounts for the case of (13), there are certain phenomena that call for the more specific principle of Reverence Maximization. First, there are some tuples of honorific variants where a variant with stronger honorific meaning has less specific proffered content than a variant with weaker meaning (Oshima 2019: 334); tuples $\langle \text{TABERU ‘to eat’, MESHIAGARU ‘to consume (eat or drink)’} \rangle$ and $\langle \text{IKU ‘to go’, IRASSHARU ‘to go, come, or exist (be located)’} \rangle$, where the first member is a non-honorific and the second is a subject-oriented honorific, are cases in point.

Second, reference to the formal (as opposed to semantic) features of the competing expressions is required to account for the oddity of an utterance like (16c).

- (16) (Tanaka_s, an office worker, grabs a document on the desk. Eguchi_s, a younger colleague, says to her:)
 a. Sore, moo yomaremashita yo.
 that already read.SHon.AddrHon.Pst DP
 ‘You already read it.’

- b. Sore, moo yomimashita yo.
that already read.AddrHon.Pst DP
- c. #Sore, moo yomareta yo.
that already read.SHon.Pst DP

(adapted from Oshima 2019: 343)

Here, the subject-oriented honorific feature *are* and the addressee-oriented honorific feature *mas* target the same individual (Eguchi), and the former conveys a higher degree of respect than the latter. As such, the honorific contents of (16a) and (16c) are equivalent (*mas* in (16a) being semantically redundant), so that neither is to be favored by NPC Maximization. Reverence Maximization, on the other hand, successfully predicts that (16a) and not (16c) is the appropriate choice when Eguchi deserves the application of the subject-honorific feature *are*, because *yomare mashita*, which carries two types of formal honorific features, is a stronger variant than *yomareta*, which carries just one.

It will furthermore be discussed in Sect. 7 that Reverence Maximization is more suitable than NPC Maximization for explaining the distributions of ADTs.

5 Survey data

The discussion to follow makes reference to the data collected with a web-based survey conducted by the author in September 2020. The this section explains the basic features of the survey; some additional details will be given in “Appendix I”.

The survey was administered using Questant,⁹ a web-based questionnaire platform. A total of 1102 responses were collected, among which 151 were weeded out on suspicion of being careless or insincere. The remaining responses ($n = 951$) consist of 464 from males and 487 from females, and are distributed more or less evenly among the five age groups: (i) 20–29 years, (ii) 30–39 years, (iii) 40–49 years, (iv) 50–59 years, and (v) 60–69 years.

The questionnaire consisted of a series of questions of the following form:

- (17) [TIME/SETTING], what types of expressions did [PEOPLE] use to refer to you when they talked to or about you?

The slot of [TIME/SETTING] was filled by one of: (i) “in (the earlier of) the fifth year of your professional career (and the present time)”, (ii) “when you were a college student”, (iii) “when you were a high/middle-school student”, and (iv) “when you were an elementary schooler”. The slot of [PEOPLE] was filled by such items as “male superiors and male senior colleagues”, “female colleagues who started in the same year as you”, and “your classmates’ fathers”.

The respondents were asked to answer these questions by selecting all items that apply from the list including (18a–h), or selecting “Not Applicable”, which is to be chosen when the respondent does not have or recall relevant experiences.

⁹ <https://questant.jp/> (checked on July 12, 2021)

- (18) a. Surname only (i.e., without an ADT)
 b. Surname + *san*
 c. Surname + *kun*
 d. Surname + *chan*
 e. Given Name only (i.e., without an ADT)
 f. Given Name + *san*
 g. Given Name + *kun*
 h. Given Name + *chan*

The data obtained with this survey will be referenced in Sects. 6–8 to endorse some empirical assumptions and claims.

6 The semantics and pragmatics of *san*

6.1 *San* as an honorific

San can sensibly be regarded as a referent honorific targeting the referent of its host (the name). *San* is associated with a lower degree of respect than an addressee honorific verb with *mas* (so-called “polite verb”) is. This can be confirmed by observing that one may use a plain (non-honorific) verb while applying *san* to the addressee, as in (19a) (see also (4a–c)).

- (19) a. Sato_s **san**, reizooko no keeki **tabeta**?
 Sn *san* refrigerator Gen cake eat.Pst
 ‘Sato, did you eat the cake in the fridge?’
 b. Sato_s **san**, reizooko no keeki **tabemashita**?
 Sn *san* refrigerator Gen cake eat.AddrHon.Pst
 ‘idem’

The alternative patterns where the speaker uses a verb with *mas* while leaving out *san*, or using *kun* or *chan* instead, sound disharmonious.¹⁰

- (20) a. #{Sato_s/Hiroshi_m}, reizooko no keeki **tabemashita**?
 Sn/M refrigerator Gen cake eat.AddrHon.Pst
 ‘{Sato_s/Hiroshi_m}, did you eat the cake in the fridge?’
 b. #{Sato_s/Hiroshi_m} **kun**, reizooko no keeki **tabemashita**?
 Sn/M *kun* refrigerator Gen cake eat.AddrHon.Pst
 ‘idem’
 c. #Tomoyo_f **chan**, reizooko no keeki **tabemashita**?
 F *chan* refrigerator Gen cake eat.AddrHon.Pst
 ‘Tomoyo_f, did you eat the cake in the fridge?’

¹⁰ An anonymous reviewer notes that the pattern in (20b)—the combination of second-person reference with *kun* and a polite verb—is found in certain settings, such as when a college professor is talking to a male student in a classroom. One way to account for this is to suppose that for some speakers, in some settings, *kun* can be associated with as high a minimum honorific value as *san* is. See also Note 14.

Note that this does not imply that *san* indicates that its target is only mildly honorable; it, instead, indicates that its target is *at least* mildly honorable.

The (non-proffered) meaning contributed by *san* can be represented as in (21), with the tentative minimum value of 0.2; α is the slot for the (logical translation of the) host of *san*.

$$(21) \quad \mathbf{HON}(\alpha) \geq 0.2$$

This honorific meaning of *san* is quite similar to the one proposed by McCready (2019: 76–77), but differs in not constraining the upper limit of the honorific value of the host's referent (under McCready's treatment, *san* conventionally indicates that its target is honorable but not extremely so). The choice of *san* may be deemed “not respectful enough” in some contexts, but I take this to be an effect arising from the non-use of some other more appropriate ADT, such as *sama* and *sensei*. This inference is partly but not entirely accounted for by the aforementioned principle of Reverence Maximization. In the setting specified in (22), (22a) is much less plausible than (22b,c), the choice of *san* likely perceived as disrespectful.

(22) (Kojima_s is a university professor, and the interlocutors work in administration at her department.)

- a. Kojima_s **san** ga pasokon o kawareta.
Sn *san* Nom book Acc buy.SHon.Pst
'Kojima_s bought a PC.'
- b. Kojima_s **sensei** ga pasokon o kawareta.
Sn *sensei* Nom book Acc buy.SHon.Pst
'(Dr.) Kojima_s bought a PC.'
- c. Kojima_s **kyooju** ga pasokon o kawareta.
Sn professor Nom book Acc buy.SHon.Pst
'Professor Kojima_s bought a PC.'

Assuming that *sensei* conveys a meaning along the lines of (23) (so that *sensei* and *san* count as honorific variants in the context), the choice of *san* indicates, due to Reverence Maximization, that the speaker assigns to Kojima an honorific value smaller than 0.35; this explains why (22a) sounds less respectful than (22b).

$$(23) \quad \mathbf{HON}(\alpha) \geq 0.35 \ \& \ [\mathbf{teacher}(\alpha) \vee \mathbf{expert}(\alpha)]$$

On the other hand, that (22c) sounds more respectful than (22a), and more or less as respectful as (22b), cannot be attributed to Reverence Maximization, as *kyooju* does not directly encode honorific meaning (see Sect. 2) and conveys merely that the referent is a professor, as in (24).

$$(24) \quad \mathbf{professor}(\alpha)$$

This implies that some additional discourse principle, which (i) favors an occupation-based ADT and (ii) is potentially at odds with Reverence Maximization, needs to be

postulated to account for why some non-honorific—or quasi-honorific—ADTs such as *kyooju* may “win over”, or “tie with”, honorific ones (cf. (7f)).¹¹

6.2 The gender neutrality of *san*

San has been recognized as a gender-neutral ADT. When the referent is socially ranked higher than the speaker, *san* is the only plausible option among *san*, *kun*, *chan*, and “name only” (but see Note 14). Even in cases where the referent is socially ranked lower than or equally with the speaker, reference with *san* is quite common for both men and women.

The web-based survey included the questions in (25).

- (25) In (the earlier of) the fifth year of your professional career (and the present time),
- Q1_m**: what types of expressions did your **male** superiors and senior colleagues use to refer to you?
- Q1_f**: what types of expressions did your **female** superiors and senior colleagues use to refer to you?
- Q2_m**: what types of expressions did your **male** colleagues who started in the same year use to refer to you?
- Q2_f**: what types of expressions did your **female** colleagues who started in the same year use to refer to you?
- When you were a college student,
- Q3_m**: what types of expressions did the **male** educators use to refer to you?
- Q3_f**: what types of expressions did the **female** educators use to refer to you?
- Q4_m**: what types of expressions did the **male** senior students use to refer to you?
- Q4_f**: what types of expressions did the **female** senior students use to refer to you?
- Q5_m**: what types of expressions did the **male** students in the same year use to refer to you?
- Q5_f**: what types of expressions did the **female** students in the same year use to refer to you?

Table 1 is an upshot of how *san* competes with *kun*, *chan*, and “name only” in adult-to-adult speech where the speaker is socially ranked at least as high as the referent. The column “N/A” represents the number of respondents who selected “Not Applicable”. The column “{Sn/GN} only” represents the numbers of respondents who selected “Surname only” or “Given Name only” (or both) in their responses, and the column “*san*” (“*kun*”, “*chan*”) represents the numbers of respondents who selected “Surname

¹¹ It is worth noting that something similar happens with kinship-based ADTs and name substitutes. Let’s take the case of “aunt”. It is common for a nephew or niece not to apply any honorifics to their blood-related aunt, when talking to or about her. It is the norm, on the other hand, for them to choose a term encoding her aunthood when referring to her. Auntie Hiroko is typically referred to by her nieces and nephews as (*Hiroko*) {*obasan/obachan*}, rather than *Hiroko* (*san/chan*). This practice, like the possible preference of *kyooju* ‘professor’ to *san*, cannot be reduced to the matter of honorification.

Table 1 Adult-to-adult reference with *san*, *kun*, and *chan* and without an ADT

	N/A	{Sn/GN} only	<i>san</i>	<i>kun</i>	<i>chan</i>
Male respondents (<i>n</i> = 464)					
Q1_m	67	127 (32.0%)	201 (50.6%)	149 (37.5%)	23 (5.8%)
Q1_f	97	39 (10.6%)	245 (66.8%)	116 (31.6%)	12 (3.3%)
Q2_m	94	122 (33.0%)	174 (47.0%)	89 (24.1%)	17 (4.6%)
Q2_f	136	41 (12.5%)	213 (64.9%)	69 (21.0%)	11 (3.4%)
Q3_m	104	89 (24.7%)	109 (30.3%)	189 (52.5%)	5 (1.4%)
Q3_f	142	45 (14.0%)	133 (41.3%)	165 (51.2%)	1 (0.3%)
Q4_m	132	169 (50.9%)	69 (20.8%)	88 (26.5%)	8 (2.4%)
Q4_f	159	52 (17.0%)	99 (32.5%)	151 (49.5%)	7 (2.3%)
Q5_m	94	225 (60.8%)	46 (12.4%)	82 (22.2%)	15 (4.1%)
Q5_f	119	79 (22.9%)	90 (26.1%)	148 (42.9%)	25 (7.2%)
Female respondents (<i>n</i> = 487)					
Q1_m	61	53 (12.4%)	376 (88.3%)	13 (3.1%)	70 (16.4%)
Q1_f	61	31 (7.3%)	344 (80.8%)	4 (0.9%)	97 (22.8%)
Q2_m	134	45 (12.7%)	256 (72.5%)	9 (2.5%)	42 (11.9%)
Q2_f	103	49 (12.8%)	237 (61.7%)	5 (1.3%)	94 (24.5%)
Q3_m	122	67 (18.4%)	302 (82.7%)	4 (1.1%)	22 (6.0%)
Q3_f	130	28 (7.8%)	325 (91.0%)	1 (0.3%)	16 (4.5%)
Q4_m	229	60 (23.3%)	157 (60.9%)	5 (1.9%)	41 (15.9%)
Q4_f	189	54 (18.1%)	178 (59.7%)	0 (0.0%)	80 (26.8%)
Q5_m	186	107 (35.5%)	161 (53.5%)	11 (3.7%)	52 (17.3%)
Q5_f	116	117 (31.5%)	156 (42.0%)	1 (0.3%)	150 (40.4%)

+ *san* (*kun*, *chan*)” or “Given Name + *san* (*kun*, *chan*)” (or both) in their responses. The percentages in parentheses are calculated with the denominator excluding those respondents who selected “Not Applicable”; the same will apply to Tables 2–5 to follow.

6.3 *San* applied to young children

As mentioned above, in typical settings *san* is not applied to young (pre-school) children. I suggest that this is not because *san* encodes information concerning the referent’s age, but because the standard norms are such that in general children are not considered “honorable enough” to deserve the application of *san*—that is, they tend to be assigned an honorific value smaller than 0.2.

This supposition is corroborated by the fact that honorifics, including verbs with *mas* (which convey a relatively mild degree of respect), are generally not used toward children.

Table 2 *Reference by adults to child acquaintances*

	N/A	{Sn/GN} only	<i>san</i>	<i>kun</i>	<i>chan</i>
Male respondents (<i>n</i> = 464)					
Q6_m	139	24 (7.4%)	49 (15.1%)	224 (68.9%)	10 (3.1%)
Q6_f	127	14 (4.2%)	52 (15.4%)	241 (71.5%)	12 (3.6%)
Q7_m	146	28 (8.8%)	35 (11.0%)	222 (69.8%)	21 (6.6%)
Q7_f	132	21 (6.3%)	37 (11.1%)	233 (70.2%)	26 (7.8%)
Female respondents (<i>n</i> = 487)					
Q6_m	221	16 (6.0%)	141 (53.0%)	1 (0.4%)	112 (42.1%)
Q6_f	115	17 (4.6%)	146 (39.2%)	1 (0.3%)	210 (56.5%)
Q7_m	207	17 (6.1%)	103 (36.8%)	1 (0.4%)	158 (56.4%)
Q7_f	102	16 (4.2%)	108 (28.1%)	1 (0.3%)	254 (66.0%)

Table 3 *Adult-to-adult reference with kun*

	Male respondents (<i>n</i> = 464)				Female respondents (<i>n</i> = 487)		
	N/A	Sn + <i>kun</i>	GN + <i>kun</i>		N/A	Sn + <i>kun</i>	GN + <i>kun</i>
Q1_m	67	141 (35.5%)	11 (2.8%)	61	13 (3.1%)	0 (0.0%)	
Q1_f	97	109 (29.7%)	9 (2.5%)	61	3 (0.7%)	1 (0.2%)	
Q2_m	94	78 (21.1%)	14 (3.8%)	134	8 (2.3%)	1 (0.3%)	
Q2_f	136	62 (18.9%)	7 (2.1%)	103	3 (0.8%)	2 (0.5%)	
Q3_m	104	183 (50.8%)	8 (2.2%)	122	4 (1.1%)	0 (0.0%)	
Q3_f	142	159 (49.4%)	10 (3.1%)	130	1 (0.3%)	0 (0.0%)	
Q4_m	132	84 (25.3%)	8 (2.4%)	229	3 (1.2%)	2 (0.8%)	
Q4_f	159	139 (45.6%)	14 (4.6%)	189	0 (0.0%)	0 (0.0%)	
Q5_m	94	73 (19.7%)	13 (3.5%)	186	9 (3.0%)	3 (1.0%)	
Q5_f	119	136 (39.4%)	18 (5.2%)	116	1 (0.3%)	0 (0.0%)	

- (26) (The speaker, an adult, is at a train station and standing near the ticket machines.
 {i. A man about her age / ii. a boy around eight years old} passes by, and she
 notices a glove fall from his bag.)

- a. A, *tebukuro otoshita yo.*
 Intj glove drop.Pst DP
 ‘Hey, you dropped a glove.’ (man: #, boy: ✓)
- b. A, *tebukuro otoshimashita yo.*
 Intj glove drop.AddrHon.Pst DP
 ‘idem’ (man: ✓, boy: ??)
- c. A, *tebukuro otosaremashita yo.*
 Intj glove drop.SHon.AddrHon.Pst DP
 ‘idem’ (man: ✓, boy: #)

As illustrated in (26), when one talks to an adult stranger, it is the norm to use polite verbs with *mas* rather than plain verbs. The speaker may also apply a referent-oriented honorific feature such as *are* (a subject-oriented honorific suffix) to show a higher degree of respect toward the addressee. When the addressee is a young child, on the other hand, polite forms are generally not used, implying that children are usually assigned an honorific value smaller than 0.3. By the same reasoning, the fact that *san* is usually not applied to young children can be taken to mean that they are usually assigned an honorific value smaller than 0.2.

In some settings, however, *san* may be applied to young children. Some kindergarten teachers, for example, address and refer to the kindergarteners with *san*.¹² Ones who usually do not, too, may do so on some formal occasions, such as a graduation ceremony of their kindergarten. As discussed in works such as Iwasaki and Ingkaphirom Horie (1995), Kikuchi (1997, 2010), and McCready (2019), the use and choice of honorifics is not solely determined by the relative social rank (vertical interpersonal relation) between the speaker and the potential targets of honorification. Two other factors that play significant roles are intimacy (horizontal interpersonal relation) and the formality of the setting.¹³

(27) Three major factors affecting linguistic honorification

Other things being equal:

- a. The higher-ranked an individual is relative to the speaker, the higher honorific value the speaker tends to assign to him/her.
- b. The more intimate two individuals are, the lower honorific values they tend to assign to each other.
- c. The more formal the situation is, the higher the honorific values the speaker tends to assign to the addressee and the referents mentioned or evoked.

¹² The following quote, from a column posted on a job matching website for kindergarten teachers, provides anecdotal evidence.

How do you address the children at your kindergarten? And how do you have the children address their kindergarten teachers? Nowadays, it has been increasingly common not to address kindergarten teachers as "... *sensei*". At some kindergartens, all staff members and children address one another as "... *san*", or with some nickname they (or their parents/guardians) chose.

(Suga 2018; my translation)

¹³ Honorific values can be approximated as sums of the weighted measurements of the three factors, as in (i) (cf. McCready 2019: 28–30).

- (i) $\text{Hon}(x) = (a \times (\text{Rank}(x) - \text{Rank}(\text{Speaker}))) + (b \times \text{Distance}(\text{Speaker}, x)) + (c \times \text{Formality})$
(*a*, *b*, and *c* are constants weighting the three factors)

I hasten to emphasize, however, that this is but a very crude approximation. There are additional factors that affect the honorific value of a referent, including (i) discourse topics and situations (e.g. whether the conversation is about the referent's health issues or extramarital affairs, whether the speaker has been helping out or being helped out by the referent), (ii) the relationship between the addressee and the referent, and (iii) the personality (or persona) of the speaker (Kikuchi 1997: 42–76, 127–130). Also, the "constants" may not be constant across the board—e.g., some speakers might care more about relative rank than other speakers do.

I suggest that some kindergarten teachers consider the kindergarten activities to be fairly formal settings, and this leads them to assign honorific values exceeding 0.2 to the kindergarteners, and thus to apply *san* to them.

7 The semantics and pragmatics of *kun*

7.1 *Kun* applied to males

As noted above, *kun* is as a rule applied to (i) a male (ii) who is socially equal to or ranked beneath the speaker. Feature (i) can be accounted for by postulating that *kun* conventionally encodes the [+male] feature of the referent, like English *he* and *Mr.* do. Feature (ii), I propose, arises from *kun*'s conveying a lower degree of respect than its honorific variant *san*. I put forth (28) as the (non-proffered) meaning contributed by *kun*.

$$(28) \quad \text{HON}(\alpha) \geq 0.1 \ \& \ \text{male}(\alpha)$$

When the referent satisfies the maleness condition, the selection of *kun* implies, due to the principle of Reverence Maximization, the non-applicability of *san*, and thus the referent's being assigned an honorific value smaller than 0.2. The standard norms dictate that a speaker constantly uses polite verbs with *mas* when talking with a socially higher-ranked individual (outside her family), and this implies that a speaker assigns honorific values at least as high as 0.3 to socially higher-ranked individuals. As such, the use of *kun* is systematically blocked when the referent is a higher-ranked individual.¹⁴ It bears noting that the principle of NPC Maximization (given in (15)) does not bring about the same effect. While the honorific meaning of *san* unilaterally entails that of *kun*, the whole proffered content of *san* does not entail that of *kun*; while *san* conveys stronger information as to the honorability of the referent, *kun* conveys stronger information as to the gender of the referent. NPC Maximization thus makes neither *san* nor *kun* a winner, and fails to account for the fact that *kun* cannot be applied to a person whose honorific value exceeds 0.3.

¹⁴ In some communities of sport players (notably soccer players) and pop artists, it is customary for male junior members to apply *kun* to (at least some) male senior members, while using polite verbs when talking to them (see also Note 10). This practice, however, is perceived as peculiar by speakers outside these communities, lending support to the supposition that generally reference with *kun* implicates that the speaker assigns a fairly low honorific value to the referent. One way to account for the described atypical usage of *kun* is to suppose that, in a small range of registers, there is a variant of *kun* that has a non-proffered meaning along the lines of (i) (in addition to the regular variant).

$$(i) \ 0.2 \leq \text{HON}(\alpha) < 0.4 \ \& \ \text{male}(\alpha) \ \& \ \text{groupmate}(\text{Speaker}, \alpha)$$

The postulated meaning captures the intuition that for those speakers who apply *kun* to senior groupmates, *san* still is a more respectful ADT than *kun* (a groupmate who is much older than the speaker is likely referred to with *san* rather than *kun*).

Another type of marked usage of *kun* is seen at the National Diet and some local government assemblies. There, members customarily address each other with *kun* in sessions of their respective House or assembly, regardless of their age, gender, and position (chairperson, minister, etc.). Again, this is generally perceived as a curious custom.

When the referent is equally- or lower-ranked, the speaker may assign to him a relatively high honorific value or a value as low as 0, a major determining factor being the intimacy. Adult strangers are, even if they are younger than the speaker, likely assigned the value of 0.3 or higher. Childhood friends, on the other hand, are likely assigned a very low value—possibly 0—so that the use of any honorific targeting them is deemed inappropriate.

Kun, consequently, may signal either a high or low degree of intimacy, depending on the standard of comparison. One who addresses his or her male work colleague Sato_s as *Sato san* (in both work and private settings) may switch to *Sato kun* (at least in private settings) after they start a romantic relationship. In this case, *kun* can be said to indicate the increased intimacy. A high-school student may address closer male classmates without an ADT (i.e. apply *yobisute*-reference to them), while applying *kun* to less close ones, as in:

- (29) (The interlocutors are high-school students. They are talking about a plan to go to the bowling alley together.)

Okada_s mo kuru tte. Komatsu_s **kun** mo sasotte miyoo ka?
 Sn also come.Prs EvidP Sn *kun* also invite.Ger try.Vol DP
 Hora, tenkoosei no.
 Intj transfer.student Cop.Attr
 ‘Okada_s says he is joining us too. How about asking Komatsu_s to come too?
 You know, the transfer student.’

In such cases, *kun* can be said to indicate a lower degree of intimacy.

As mentioned above, in newspapers and news programs, reference with *kun* is generally limited to (male) elementary schoolers. This can be taken to imply that, in these registers, boys in middle school or older are assigned the honorific value of 0.2 or higher (so that they “deserve” *san*), while elementary schoolers are assigned a value smaller than 0.2 but not smaller than 0.1.

It is interesting to note that in some settings *kun* functions as a “masculine counterpart” of *san*. In the context of (30), the two people mentioned, one male and one female, are expected to have comparable honorific values, given that they stand in by and large the same interpersonal relation with the speaker. As such, this *kun/san* pattern, which implies here that Yumi’s honorific value is 0.2 or greater but Kenta’s is below 0.2, is intriguing.

- (30) (The interlocutors are a married couple. They are talking about their neighbors’ twin children, Kenta_m and Yumi_f, who have recently taken the entrance exam of the local university. They are not particularly close to the neighbors, and have hardly spoken to the two children.)

Kenta_m **kun** wa gookaku shita kedo, Yumi_f **san** wa dame
 M *kun* pass Th do.Pst but F *san* Th unsuccessful
 datta n da tte.
 Cop.Pst DAux Cop.Prs EvidP
 ‘I heard that Kenta_m passed the exam, but Yumi_f did not.’

Recall also that, in news articles and news programs, it is a common custom to apply this *kun/san* pattern to elementary schoolers.

The results of the web-based survey corroborate this asymmetric pattern. The survey included the questions in (31).

- (31) When you were a high/middle-school student,
 Q6_m: what types of expressions did your classmates' **fathers** use to refer to you?
 Q6_f: what types of expressions did your classmates' **mothers** use to refer to you?
 When you were an elementary schooler,
 Q7_m: what types of expressions did your classmates' **fathers** use to refer to you?
 Q7_f: what types of expressions did your classmates' **mothers** use to refer to you?

The data presented in Table 2 show that, when parents refer to their children's classmates, they are much more likely to apply *san* to females (girls) than to males (boys).

Furthermore, the data in Table 1 in the previous section show that in adult-to-adult speech, too, women are more frequently referred to with *san* than men are.

One possible way to account for this asymmetric pattern is to suppose that *san* is not entirely gender-neutral after all, and specifies different minimum honorific values for a male and female referent—e.g., 0.2 for males and 0.1 or 0.15 for females. An alternative account, which I find more appealing, is that the gender asymmetry in question arises from Japanese speakers' general inclination *not* to assign very low honorific values—values smaller than 0.2, to be more specific—to females with whom they are not intimate ("Be courteous to ladies!"). This implies that the utterer of (30) does assign a higher honorific value to Yumi, a teenage girl, than to Kenta, a teenage boy.

7.2 Gender-neutral *kun*

Kun is sometimes applied to females, implying that the semantic representation given in (28) cannot be the whole story. Makino and Tsutsui (1989: 211) note: "A male may address females of lower rank by *-kun*. [...] Such addresses are commonly used in situations such as schools and companies". (32) and (33) are illustrative examples from manga (comics).¹⁵

- (32) (The speaker is a male employee of a newspaper company and is working in his office. Yamaoka, a 27 year-old male, and Kurita, a 22 year-old female, are his colleagues.)

Oi Kurita_s **kun** denwa, Yamaoka_s kara da.†
 hey Sn *kun* phone Sn from Cop.Prs

¹⁵ Throughout the paper, examples that are taken or adapted from naturally occurring texts are marked with the dagger symbol (†) at the end, and their sources will be provided in "Appendix II".

‘Hey Kurita_s, you’ve got a phone call from Yamaoka_s.’

- (33) (The speaker is a male professor of veterinary medicine. He is talking with a group of students including Hishinuma, a female doctoral student.)

Sooka, sengetsu no chuusha wa Hishinuma_s **kun** ni tetsudatte
 Interjection last.month Gen injection Th Sn *kun* Date help.Ger
 moratta n datta na.†
 BenPsvAux.Pst DAux Cop.Pst DP
 ‘Oh right, Ms. Hishinuma helped me vaccinate [the pigs] last month.’

(34) is an example from nonfiction writing.

- (34) (In reference to an old song with the lyric: “*Ten ni kawarite fugi o utsu* [On behalf of Heaven, we shall defeat the unrighteous]”, the author, a columnist-publishing editor in his 60s, talks about how young people nowadays are unfamiliar with this song and cannot even answer the question “What comes after ‘On behalf of Heaven, we shall ...’?”)

[...] “‘Aku o utsu’, desho” nante kotaeru uchi no jimusho no
 evil Acc defeat.Prs Cop.Psup such.a.thing.as answer.Prs we Gen office Gen
 Kasahara_s Chiaki_f **kun** (gen 30 sai) nanka wa, mada
 Sn F *kun* currently 30 year.old and.the.like Th in.comparison
 sukuwareru. Motto tanoshii no wa Mihara_s Chika_f **kun** (25 sai) de, “‘Fue
 save.Psv.Prs more amusing.Prs Pro Th Sn F *kun* 25 year.old Cop.Inf flute
 o fuku’, ja nai n desu kaa” nante
 Acc blow Cop.Inf NegAux.Prs DAux Cop.AddrHon.Prs DP such.a.thing.as
 kotaeru n desu ne.†
 answer.Prs DAux Cop.AddrHon.Prs DP
 ‘[...] my office colleague Kasahara_s Chiaki_f (currently 30 years old), whose answer was:
 “‘Defeat the evil’, right?”, is not too bad. More amusing is Mihara_s Chika_f (25 years old),
 who says: “Is it not ‘play the flute’?”’

One may hypothesize that, some speakers use, in certain registers, *kun* as a gender-neutral ADT like *san* but with a lower degree of deference. This simple analysis is hard to maintain, however, in view of the fact that application of *kun* to young female children is highly marked, and is much less common than that to adult females. Given that *kun* is commonly applied to male preschoolers and elementary schoolers, its gender-neutral version should be applicable to girls in the same age range.

Reference to women with *kun* appears (i) to be made typically by male rather than female speakers and (ii) to generally require that there be some professional or intellectual community—such as a company or university—to which both the speaker and the referent belong. Relatively few speakers use *kun* in this way.

Let us look at some quantitative data on *kun*-reference to women. The National Language Research Institute (NLRI) conducted an interview-based survey on how co-workers address each other in six offices of the company Hitachi, Ltd. in 1975–1977, the results of which are reported in National Language Research Institute (1982). The survey had 191 male participants and 66 female participants; only eight males,

and no females, reported that there were some female co-workers whom they, at least sometimes, addressed as “Surname + *kun*”.

Ozaki (2001) reports that, in a questionnaire-based survey administered to students of public middle schools in Tokyo (1285 males, 1171 females) in 1990, (i) 5.2% of male students and 7.5% of female students reported that they sometimes used “Surname + *kun*” to address their female classmates, and (ii) 5.8% of male students and 4.6% of female students reported that they sometimes used “Given Name + *kun*” to address their female classmates.

The data presented in Table 3, from the web-based survey, support the supposition that *kun*-reference to women is made rather rarely and more commonly by male speakers (see also Tables 1, 4).

I suggest that there is a stylistically constrained variant of *kun* with the meaning in (35) and characteristic to (but not entirely confined to) men’s speech.¹⁶ The logical predicate **col**, standing for “colleague”, is meant to cover not only co-workship but also a wider range of relations including ones between professors and their students, senior graduate students and junior ones in the same lab, an artist and his assistants, a politician and her secretaries, etc.

(35) **HON**(α) ≥ 0.1 & **col**(Speaker, α)

According to one account, *kun* was coined by Yoshida Shoin (1830–1859), a renowned intellectual in the late Edo period, as an ADT that can be used among members of his academy (Shoka Sonjuku) regardless of the social classes (samurai, farmers, etc.) and age of each other (Maruyama and Nakamura 2018). It is plausible that *kun* initially encoded, or at least was strongly associated with, “colleagueship” as well as maleness of the referent, and has split into two variants that encode only one of these features. It is worth noting, in this connection, that *kun* was used mainly by male speakers until relatively recently (Kanamaru 1997). The “colleagueship” variant of *kun* appears to retain this feature concerning the speaker’s (rather than the referent’s) gender.

Kun-reference to women is not exclusively made by male speakers, as noted by Ozaki (2001) and evidenced by the survey data in Table 3 (though the small number of positive instances require them to be treated with caution). The following is an example from the author’s note on a novel, where a female novelist (Shimajima Kei) refers to another female novelist (Takase Mie) with *kun*. (Here, it is plausible to suppose that the interlocutors are in the colleagueship relation in a broad sense.)

- (36) [...] Takase_s Mie_f **kun** to denwa de hanashite ite, “Ima,
 Sn F *kun* with phone with talk.Ger NpfvAux.Ger now
 donna shiin o kaite iru no?” to kikareta mon
 what.kind scene Acc write.Ger NpfvAux.Prs DAux Quot ask.Psv.Pst DAux
 da kara [...]†
 Cop.Prs because

¹⁶ The data reported by Ozaki (2001), where the factor of the speaker’s gender does not clearly correlate with whether (s)he applies *kun* to his/her female classmates, do not conform to this characterization. This might reflect somewhat idiosyncratic practices of (some of) the communities on which the survey was conducted.

‘[...] I was talking with Takase_s Mie_f on the phone, and she asked me “What kind of scene are you working on now?”, so [...]’

Furthermore, the range of application of the “gender-neutral” variant of *kun* is not strictly limited to colleagues in the aforementioned sense. Observe that the instance of *kun* in (37), from a novel in the 1980s, and the one in (38), from a novel in the 1970s, quite clearly do not meet the collegueship condition.

- (37) (The speaker, a male, is a section chief of the general affairs division of a major industrial company. The addressee is a teenage girl, and is visiting the company to gather information about her father, who came there several weeks ago and has been missing since then. She has been waiting in the lobby, where the speaker shows up.)

Eeto— Takenaga_s **kun** to itta ne. Chieko_f **kun** ka. Otoosan no
Intj Sn *kun* Quot say.Pst DP F *kun* DP father Gen
koto wa boku mo mae ni atta koto ga aru yo.†
matter Th I also before Dat meet.Pst matter Nom exist.Prs DP
‘Let me see—you are Takenaga_s, right? Chieko_f, was it? I have met your father.’

- (38) (The speaker, a woman of around 30, is the vice-director of a mental hospital. The addressee, Natsuki_f, is the director’s daughter and is a 16 year-old high-school student. They are in the living room of the director’s house, with the director and a new male doctor.)

Natsuki_f **kun**, itsumo yoku otetsudai shite, kanshin ne.†
F *kun* always well help do.Ger impressive DP
‘Natsuki_s, the way you always help [your parents] is quite impressive.’

It must thus be admitted that in some idiolects and registers *kun* can be applied to a wider range of females.

8 The semantics and pragmatics of *chan*

8.1 *Chan* applied to children and females

Chan signals that the referent of the host is a young child or a female, and exhibits a strong tendency to follow a given name or a full name rather than a surname. For example, a female elementary schooler Sato_s Emi_f is much more likely to be referred to as *Emi chan* than *Sato chan*. In this respect *chan* sharply contrasts with *kun*; reference to a male elementary schooler as “Surname + *kun*” is quite common. These points are endorsed by the responses to the questions in (39) (Q6 and Q7 are repeated from above), summarized in Table 4.

- (39) When you were a high/middle-school student,
Q6_m: what types of expressions did your classmates’ **fathers** use to refer to you?

Table 4 Reference to children with *kun* or *chan*

	N/A	Sn + <i>kun</i>	GN + <i>kun</i>	Sn + <i>chan</i>	GN + <i>chan</i>
Male respondents (<i>n</i> = 464)					
Q6_m	139	197 (60.6%)	40 (12.3%)	2 (0.6%)	8 (2.5%)
Q6_f	127	210 (62.3%)	48 (14.2%)	3 (0.9%)	9 (2.7%)
Q8_m	44	91 (21.7%)	12 (2.9%)	6 (1.4%)	8 (1.9%)
Q8_f	64	174 (43.5%)	22 (5.5%)	4 (1.0%)	9 (2.3%)
Q7_m	146	175 (55.0%)	40 (12.6%)	12 (3.8%)	19 (6.0%)
Q7_f	132	184 (55.4%)	62 (18.7%)	6 (1.8%)	21 (6.3%)
Q9_m	58	89 (21.9%)	28 (6.9%)	10 (2.5%)	24 (5.9%)
Q9_f	68	139 (35.1%)	40 (10.1%)	12 (3.0%)	19 (4.8%)
Female respondents (<i>n</i> = 487)					
Q6_m	221	1 (0.4%)	0 (0.0%)	4 (1.5%)	109 (41.0%)
Q6_f	115	0 (0.0%)	1 (0.3%)	12 (3.2%)	200 (53.8%)
Q8_m	65	11 (2.6%)	3 (0.7%)	7 (1.7%)	42 (10.0%)
Q8_f	31	2 (0.4%)	1 (0.2%)	36 (7.9%)	159 (34.9%)
Q7_m	207	0 (0.0%)	1 (0.4%)	10 (3.6%)	150 (53.6%)
Q7_f	102	0 (0.0%)	1 (0.3%)	11 (2.9%)	245 (63.6%)
Q9_m	45	8 (1.8%)	4 (0.9%)	10 (2.3%)	65 (14.7%)
Q9_f	37	2 (0.4%)	1 (0.2%)	25 (5.6%)	197 (43.8%)

Q6_f: what types of expressions did your classmates' **mothers** use to refer to you?

Q8_m: what types of expressions did the **male** students in the same year use to refer to you?

Q8_f: what types of expressions did the **female** students in the same year use to refer to you?

When you were an elementary schooler,

Q7_m: what types of expressions did your classmates' **fathers** use to refer to you?

Q7_f: what types of expressions did your classmates' **mothers** use to refer to you?

Q9_m: what types of expressions did the **male** students in the same year use to refer to you?

Q9_f: what types of expressions did the **female** students in the same year use to refer to you?

I propose that *chan* typically conveys the (non-proffered) meaning shown in (40).

$$(40) \quad \text{HON}(\alpha_{[+GN]}) \geq 0.1 \ \& \ [\text{child}(\alpha) \vee \text{female}(\alpha)]$$

Feature “+GN” indicates that the host has to be a given name ([−Sn, +GN]) or full name ([+Sn, +GN]). By Reverence Maximization, reference with *chan* implies that

the referent's honorific value is below 0.2. This accounts for the fact that second-person reference with *chan* clashes with the use of polite verbs (which conveys that the addressee's honorific value is 0.3 or greater; see (20)).

Chan may signal either intimacy or distance, in the same way as *kun*. A college student who refers to his or her senior female friend Akemi_f as *Akemi san* may switch to *Akemi chan* after they start a romantic relationship, in which case *chan* can be said to indicate a higher degree of intimacy. A female high-schooler may address the transfer student Miki_f as *Miki chan*, but switch to *yobisute*-reference (start dropping *chan*) as they get closer; in this case, the use of *chan* in the initial stage can be taken to have been motivated by her desire to avoid being too intrusive.

The proposed analysis of *kun* and *chan* correctly predicts that a boy may be appropriately referred to with either *kun* or *chan* and that the choice of the latter becomes increasingly unlikely as the referent becomes older. It appears that *chan* tends to be chosen when the speaker intends to highlight features that are stereotypically associated with children (such as cuteness), and *kun* tends to be chosen when the speaker intends to highlight features that are stereotypically associated with males (such as boldness).

8.2 Gender/age-neutral *chan*

As already seen in Table 4, *chan* sometimes occurs on a surname, rather than a given name. It is, furthermore, sometimes applied to adult males, as well as to adult females.

(41) is an example from a manga. (42) is an example from a magazine article based on a conversation.

- (41) (Kogure and Shima, both males in their 30s, are colleagues at a major company.)

K: Ja, Shima_s **chan**, anta mo yabai yo.
then Sn *chan* you also dangerous DP
'Then, you're in trouble too, Shima.'

S: Dakara Kogure_s **chan** ni tanonde n da yo! Ore wa
so Sn *chan* Dat ask.Ger DAux Cop.Prs DP I Th
umaku riyoo sareta n da!!†
good.Inf use do.Psv.Pst DAux Cop.Prs
'That's why I'm asking for your help, Kogure! They used me!'

- (42) (Fukuno_s is a male automobile critic in his 40s, and Arai_s is a male car dealer. They are test-driving a Volkswagen.)

F: Sooiya Arai_s **chan**, Roorusu no bampaa no natto tte doo
by.the.way Sn *chan* Rolls-Royce Gen bumper Gen nut Top how
natta?
become.Pst
'Oh, by the way, what happened with the bumper nuts for the Rolls-Royce, Arai_s?'

Table 5 Adult-to-adult reference with *chan*

	Male respondents (<i>n</i> = 464)			Female respondents (<i>n</i> = 487)		
	N/A	Sn+ <i>chan</i>	GN+ <i>chan</i>	N/A	Sn+ <i>chan</i>	GN+ <i>chan</i>
Q1_m	67	17 (4.3%)	7 (1.8%)	61	36 (8.5%)	39 (9.2%)
Q1_f	97	7 (1.9%)	5 (1.4%)	61	38 (8.9%)	64 (15.0%)
Q2_m	94	14 (3.8%)	3 (0.8%)	134	19 (5.4%)	25 (7.1%)
Q2_f	136	7 (2.1%)	4 (1.2%)	103	34 (8.9%)	64 (16.7%)
Q3_m	104	2 (0.6%)	3 (0.8%)	122	3 (0.8%)	19 (5.2%)
Q3_f	142	0 (0.0%)	1 (0.3%)	130	5 (1.4%)	11 (3.1%)
Q4_m	132	4 (1.2%)	5 (1.5%)	229	13 (5.0%)	31 (12.0%)
Q4_f	159	3 (1.0%)	5 (1.6%)	189	25 (8.4%)	58 (19.5%)
Q5_m	94	10 (2.7%)	8 (2.2%)	186	13 (4.3%)	42 (14.0%)
Q5_f	119	13 (3.8%)	15 (4.3%)	116	39 (10.5%)	121 (32.6%)

A: Tanond okimashita yo. Eeto ashita
 order.Ger do.beforehand.AddrHon.Pst DP Intj tomorrow
 kurai toochaku kana.†
 approximately arrive DP
 ‘I’ve already placed an order. Let me see, I guess they’ll come very soon,
 perhaps tomorrow.’

In the web-based survey, a considerable number of male respondents selected “Surname + *chan*” and/or “Given Name + *chan*”, and a fair number of female respondents selected “Surname + *chan*”, in response to Q1–Q5 (Table 5; see also Table 1).

I propose that there is a variant of *chan* that conveys the same honorific meaning as regular *chan* but (i) is free from gender/age-based restriction, (ii) can be attached to a surname, and (iii) is used only in certain informal, laid-back styles.

This gender/age-neutral variant of *chan* may be used between private friends and relatives (e.g., a man and his brother-in-law), as well as between work-related acquaintances. I propose that its meaning is simply as in (43).

(43) **HON**(α) \geq 0.1

9 The usage of ADTs and gender issues

The fact that the meanings of (the unmarked varieties of) *kun* and *chan* involve the features of maleness and femaleness makes their usage an issue of potential concern in light of contemporary gender issues, in a manner similar to how the usage of such expressions as (i) personal pronouns (*he*, *she*, and singular *they*), (ii) honorific ADTs (*Mr.*, *Mrs.*, *Miss*, *Ms.*, and innovative *Mx.*), and (iii) agentive nouns like *waiter/waitress*, has been in dispute in English-speaking communities (Pauwels 2003).

The practice of choosing between *kun* and *chan/san* based on the sex/gender of the referent can be found problematic for two reasons. First, some might consider this to be at odds with the principle that people of different genders are to be treated equally unless there is a justifiable reason to do otherwise. Second, members of sexual minorities may perceive application of *kun* or *chan* to them as imposition of the wrong gender.

According to an article on a blog managed by *Mainichi Shimbun*, a major liberal newspaper, these issues motivated the newspaper to stop, as a rule, using *kun* in its articles in 2016 (Miyagi 2020). The same article also remarks that it has become increasingly common for school teachers to address their pupils with *san* regardless of their gender. It must be noted here that a speaker may choose *san* over *kun* in reference to a male in order to be more respectful to him. Teachers' applying *san* to male students more often thus could have happened for two different (but compatible) reasons; i.e., they may have chosen to do so in consideration of gender-impartiality, or to show more respect to boys. It is plausible that both motivations have contributed to the (putative) *kun*-to-*san* shift in teachers' language.

Hayashi and Oshima (2021) administered a web-based questionnaire-based survey in 2020, where about 300 participants were asked (i) whether they have heard of the opinion that using *kun* for males and *san* for females might lead to sexism and should be avoided in certain circumstances, and (ii) whether they agree with this opinion. They report that some 40% of the participants answered yes to the first question, while only less than 20% chose "agree" or "somewhat agree" for the second question.

The ways people in Japanese-speaking communities (and elsewhere) think of gender have changed significantly in recent decades. How these changes have affected, and will affect, the use of ADTs is an issue worthy of extensive inquiry.

10 Conclusion

A semantic analysis of the three high-frequency affixal designation terms (ADTs) in Japanese, *san*, *kun*, and *chan*, was put forth. It was argued that although *kun* and *chan* have been commonly characterized as markers of intimacy and endearment, they do not lexically encode such information. Rather, the affectionate tone pragmatically arises from *kun* and *chan*'s implying a relatively low degree of "honorability" of the referent.

San does not encode any information concerning the gender or age of the referent. It is generally not applied to children, because children tend to be considered "not honorable enough" to be addressed with *san*. *Kun* has two varieties, one indicating the maleness of the referent and the other being gender-neutral. The latter is used by a relatively small number of speakers, and tends to indicate that the speaker and the referent are in a colleague-like relation. *Chan* too has two varieties. One indicates that the referent is a child or a female, while the other does not convey such information. The latter is used relatively infrequently and only in colloquial registers.

The proposed analysis accounts for how the ranges of application of the three ADTs overlap, while distinguishing their typical and marked usage. The findings of this work

hopefully contribute to a better understanding of the systems of person-referring terms and honorifics in Japanese and across languages.

Acknowledgements Part of this work was presented at Logic and Engineering of Natural Language Semantics 18, held online in November 2021, and at The 35th Workshop of Contrastive Studies of Foreign Languages and Japanese, organized by the International Center for Japanese Studies, Tokyo University of Foreign Studies and held online in March 2022. I would like to thank the audiences there, as well as the JEAL reviewers and editors for valuable comments. This work was supported by JSPS KAKENHI Grant Number 21K18359.

Appendix I: The web-based survey

The survey was conducted using Questant, a web-based questionnaire platform administered by Macromill, Inc.

I.1 Questionnaire

The questionnaire consisted of 34 multiple-choice questions of the following form:

- (i) [TIME/SETTING], what types of expressions did [PEOPLE] use to refer to you when they talked to or about you?

The respondents were asked to answer these questions by selecting all items that apply from (ii) below, or selecting “Not Applicable” (which is to be chosen when the respondent does not have or recall relevant experiences).

- (ii)
- a. Surname only
 - b. Surname + *san*
 - c. Surname + *kun*
 - d. Surname + *chan*
 - e. Given Name only
 - f. Given Name + *san*
 - g. Given Name + *kun*
 - h. Given Name + *chan*
 - i. abbreviated Surname
 - j. abbreviated Surname + *san*
 - k. abbreviated Surname + *kun*
 - l. abbreviated Surname + *chan*
 - m. abbreviated Given Name
 - n. abbreviated Given Name + *san*
 - o. abbreviated Given Name + *kun*
 - p. abbreviated Given Name + *chan*
 - q. other (e.g., nickname)

The combinations of [TIME/SETTING] and [PEOPLE] are as in Table 6.

Table 6 The 34 combinations of TIME/SETTING and PEOPLE

ID	TIME/SETTING & PEOPLE
	In (the earlier of) the fifth year of your professional career (or the present time)
W1 _{m,f}	Your {male/female} superiors and senior colleagues
W2 _{m,f}	Your {male/female} colleagues who started in the same year
W3 _{m,f}	Your {male/female} junior colleagues
	When you were a college student
T1 _{m,f}	The {male/female} professors/instructors
T2 _{m,f}	The {male/female} senior students
T3 _{m,f}	The {male/female} students in the same year
T4 _{m,f}	The {male/female} junior students
	When you were a high/middle-school student
S1 _{m,f}	The {male/female} teachers
S2 _{m,f}	Your classmates' {fathers/mothers}
S3 _{m,f}	Your {father/mother}
S4 _{m,f}	The {male/female} senior students
S5 _{m,f}	The {male/female} students in the same year
S6 _{m,f}	The {male/female} junior students
	When you were an elementary schooler
P1 _{m,f}	The {male/female} teachers
P2 _{m,f}	Your classmates' {fathers/mothers}
P3 _{m,f}	Your {father/mother}
P4 _{m,f}	The {male/female} students in the same year

1.2 Respondents/responses

The respondents were recruited through the platform for a fee, from the panel of respondents organized by GMO Research, Inc. and consisting solely of residents of Japan. The respondents received a small amount of monetary reward, out of the paid fee, for their participation.

A total of 1102 responses were collected, among which 151 were weeded out on suspicion of being careless or insincere. The responses ($n = 951$) were accompanied by the information concerning the sex and age group of the respondent. The breakdown is given in Table 7.

Appendix II: The sources of the examples taken or adapted from naturally occurring texts

(32) *Oishinbo*, vol.1 by Tetsu Kariya and Akira Hanasaki, published by Shogakukan in 1984; (33) *Doobutsu no oisha san*, vol.1 by Noriko Sasaki, published by Kodan-

Table 7 *The respondents' information*

	male	female
20–29 years	80	99
30–39 years	97	99
40–49 years	94	90
50–59 years	94	101
60–69 years	99	98
Total	464	487

sha in 1988; (34) Balanced Corpus of Contemporary Written Japanese (BCCWJ; LBi6_00007:1570–2140). Originally from *Uso happyaku, kore demo ka!!!!* by Yukichi Amano, published by Bungei Shunjuu in 1994; (36) BCCWJ (LBo9_00016:16860–17170). Originally from *Ingetsu no kaja* by Kei Shimojima, published by Shogakukan in 2000; (37) BCCWJ (LBg9_00193:34380–34750). Originally from *Ningyoo tachi no isu* by Jiro Akagawa, published by The Asahi Shimbun Company in 1989; (38) BCCWJ (OB1X_00097:23300–23440). Originally from *Tooga* by Hiroyuki Itsuki, published by Bungei Shunjuu in 1976; (41) *Kachoo Shima Koosaku*, vol.1 by Kenshi Hirokane, published by Kodansha in 1985; (42) *Saigo no jidoosha ron* by Reiichiro Fukuno, published by Soyosha in 2005.

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