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# Variations of the third-person singular pronoun in Hong Kong Cantonese

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## 1 Introduction

The third-person singular pronoun 佢 in Hong Kong Cantonese has several variations. While the citation form is *koei* (IPA: [k<sup>h</sup>øy13]), which is generally regarded as the standard pronunciation, native speakers frequently substitute the voiceless aspirated velar stop *k*- with the voiceless aspirated alveolar stop *t*- (*toei* [t<sup>h</sup>øy13]), with the glottal fricative *h*- (*hoei* [høy13]) or with a zero onset (*oei* [Øøy13]). Some speakers use both *koei* and other forms alternatively, while other speakers consistently use only one of these forms (Bauer and Benedict 1997:330). This variation phenomenon is prevalent in modern Hong Kong, and has been the subject of various research studies.

Bauer and Benedict (1997:331) note that younger speakers tend to use the *hoei* form more than the older generation does. They also suggest that the change from a velar stop to a stop fricative is not only seen across Cantonese dialects, but also matches the historical velar-to-glottal sound change pattern in Chinese languages in general. Bourgerie (1990) identifies, from a variationist perspective, a correlation between the use of *hoei* and both age and formality of context. His main finding is that the use of *hoei* is more frequently observed among the younger generation and in informal situations. In comparison, other social factors examined in his study—for instance, gender, education, and place of birth—are not shown to significantly influence the *k-h* variation at the confidence level  $\alpha = 0.05$ . In this study, Bourgerie also finds that in terms of formality, there is very little difference in the frequency of *hoei* use between impromptu speech and interview settings (36.8% vs. 37.4%), while in public speech the frequency is notably lower (7.3%).

This paper picks up where the previous studies leave off, and aims to answer the following question: Other than age and formality of context, are there any other linguistic and social factors that influence Cantonese speakers' choice between the citation form *koei* (henceforth the *k*-form or the *k*-variation) and other variant forms? In particular, this paper investigates whether age, gender, conversational roles, and/or the position of the third-person singular pronoun in a sentence are closely associated with the use of the citation form vis-à-vis the variant forms. Although Bourgerie's (1990) research does not find significant difference between male and female speakers in favoring one form over another, Eckert (1989) points out that gender can interact with other social variables in a very significant way, even though gender itself may not necessarily be an independent variable that has a significant influence. In light of this fact, the influence of gender on variation of the third person pronoun will still be investigated in the current study.

## 2 Methodology

This paper relies on spoken Cantonese data from the Hong Kong Cantonese Adult Language Corpus (HKCAC). This database records some spontaneous phone-in programs and forums on Hong Kong radio stations between November 1998 and February 2000. The HKCAC database provides orthographic transcriptions (in standard written Chinese) and detailed phonetic transcriptions capturing phonetic variations. False starts, repetitions, overlapping speech, pauses, and speech errors are also included in the transcriptions.

This study extracted 721 tokens of the third-person singular pronoun from the HKCAC database. Examined in this study are the tokens from two of the phone-in radio programs with a total length of 142 minutes. Content details are displayed in Table 1 (c.f. Leung and Law 2001: 309).

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Program name	Theme	# of callers		Callers' ages	Hosts		Total time
		Female	Male		Female	Male	
To appease your mind	Current affairs	6	9	Middle-aged	0	1	69 minutes
Star Trek and Titanic	Personal matters	11	4	Teenagers & young adults	0	1	73 minutes

Table 1: Details of the examined programs

Then I put all tokens into a dataset which shows information concerning each token and its speaker. The response variable is the third-person singular pronoun (*k*-form vs. non-*k*-form). There are four fixed variables, namely, “role”, “age”, “gender”, and “position in sentence.” There is also a random variable, namely, “speaker.” Levels of each variable are listed in Table 2.

Independent variable	Level	
Speaker	"AE" "AG" ... "ZS" "ZX"	30
Role	Host, caller	2
Age	Teenagers & young adults, middle-aged individuals	2
Gender	Male, female	2
Position in sentence	Sentence-initial, non-sentence-initial	2

Table 2: Levels of each independent variable

To analyze this dataset, I first cross-tabulated the data to check for any collinearity issues between any two of the independent variables. Based on the evidence yielded in the above steps, I decided which independent variable(s) to keep in the analysis, and removed the others. The next step was to assess and select independent variables again using stepwise methods. Given these remaining independent variables, I fitted them to a general linear model. I then considered random variables (“speaker”) and developed a mixed-effects regression model for comparison.

After presenting the results from these steps in the following section, I discuss related issues that emerged in the process and interpret the findings from the general linear model.

### 3 Results and discussion

Cross-tabulation shows that no pairs indicate problems except for “role” vs. “gender.” This problematic pair is shown in Table 3.

	Female	Male
Caller	228	266
Host	0	167

Table 3: Collinearity between “role” and “gender”

With female hosts absent from the data, “role” becomes partly predictable by “gender.” That is, if a speaker is female, one would immediately know that she is a caller, as hosts were male only. In this situation, although both “role” and “gender” are good predictors of the response variable *k*-variation by themselves, one of them can potentially be redundant and therefore may not be a good predictor of the response variable in a multiple-predictor model involving both independent variables. The variable selection analysis is helpful in view of this, as shown below.

After identifying this collinearity, I selected independent variables again using stepwise me-

thods. I conducted both forward and backward selections, and the results echo each other. As I predicted, one of the two independent variables having collinearity was thereby removed. Both forward and backward selection methods remove “gender”, and suggest a correlation between *k*-variation and the other three independent variables. This also echoes Bourgerie’s (1990) conclusion that gender does not significantly influence *k-h* variation. The two models including and excluding “gender”, respectively, are compared in Table 4.

K	~	host/caller	+	gender	+	age	+	position (AIC)
P-value	<0.001			0.778		0.004		0.024 -1135.17
K	~	host/caller	+			age	+	position (AIC)
P-value	<0.001					0.001		0.025 -1137.10

Table 4: Model comparison with and without “gender” as a predictor

Finally, I took random variables into consideration and developed a mixed-effects regression model for comparison. I included “speaker” as a random-effect predictor, with the fixed variables “role”, “age”, and “position in sentence.” The results show that in the mixed-effects model, the *k*-form cannot be effectively predicted by two of the fixed-effect predictors, namely, “role” and “age”, as suggested by large p-values (0.147 and 0.106, respectively). However, the *k*-form can be effectively predicted by the other independent variable: “position in sentence” ( $p < 0.001$ ). That is to say, the *k*-form can be predicted by “position in sentence”, even after allowing for the random effect of “speaker.” In other words, a generalization can be made between *k*-form, “speaker”, and “position in sentence.”

As shown in Figure 5, the relationship between the *k*-form and the independent variable “position in sentence” across speakers is not totally random. In a sentence-initial position (at the left-hand side of the figure), most of the dots are plotted above the 50% line: In this position, the *k*-form occurs more frequently than the non-*k*-forms. My conclusion, therefore, is that when the third-person singular variable is in a sentence-initial position, all speakers, with only two exceptions (LX and YS), tend to use the *k*-form.

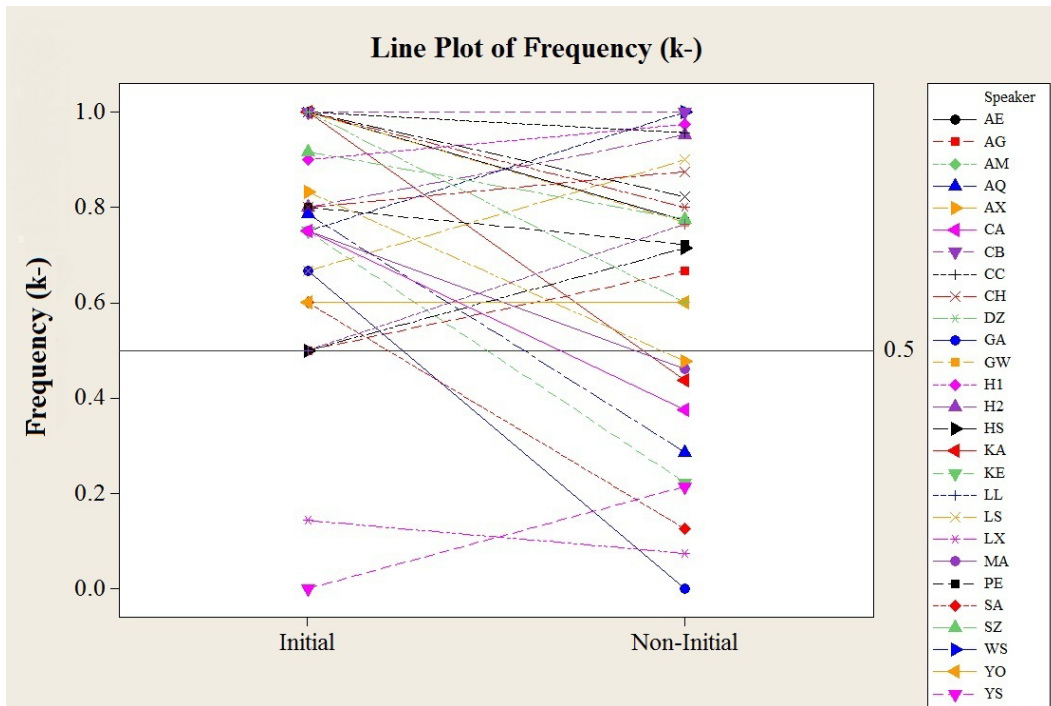


Figure 5: Line plot of frequency of the *k*-variation

## 4 Implications

This paper examines the third-person singular pronoun in Hong Kong Cantonese and investigates some of the social and linguistic factors that are correlated with the occurrence of the *koei* form and other variant forms. Based on statistical analyses, this paper finds that in a mixed-effects model with both fixed variables (“role”, “age”, and “position in sentence”) and random variables (“speaker”), the response variable *k*-form can only be effectively predicted by the linguistic factors “position in sentence” and “speaker.” None of the social linguistic factors show a significant correlation with the dependent variable. These results suggest that the use of the citation form vis-à-vis variant forms of the Hong Kong Cantonese third-person singular pronoun is more likely to be a linguistic issue than a social linguistic one.

Kirchner’s(1998) study sheds light on this phenomenon. Based on his extensive lenition survey of 272 languages, Kirchner finds a large number of cases in which lenition is blocked in the word-initial position, and some examples of this are given in the table below. Hong Kong Cantonese also seems to exhibit this phenomenon, and the low number of cases of non-*k*-forms in sentence-initial positions might be explained by a universal phrase-/utterance-initial blocking of lenition.

Language	Reference	Description
Nepali	Acharya 1991	Spirantization of k <sup>h</sup> except phrase-initially
Samoan	Mosel & Hovdhaugen 1992	s- ts utterance-initially
Spanish	Harris 1969	Spirantization obligatorily blocked utterance-initially
Tümpisa Shoshone	Dayley 1989	Spirantization of stops and nasals blocked phrase-initially

Table 6: Phrase- or utterance-initial blocking of lenition<sup>1</sup>

In future studies, more balanced data should be examined. In particular, a more complete study should include programs with female hosts, and this could potentially break the apparent collinearity between the independent variables “role” and “gender.” Another question to answer is: What exactly does the variable “role” mean in more everyday contexts? Such a predictor makes perfect sense in a phone-in radio program, but what might it suggest about everyday conversations in which there are no explicit “hosts” or “callers”? Future research should also consider the potential differences in third-person singular pronoun usage in speech with degrees of consciousness (spontaneous speech vs. reading, for example). Finally, it seems worthwhile to examine other variation forms (*toei* and *oei*) as well, rather than grouping them collectively as variant or non-standard forms together with *hoei*.

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<sup>1</sup>The original table is from Kirchner (1998:11) and has been slightly revised to fit the format of this paper.

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