CONTACT-INDUCED SOUND CHANGE: ANALYSIS OF THE ALVEOLAR LATERAL FRICATIVE IN YAMI

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Abstract. Language change manifests itself in various ways. The majority of studies on language change in Yami, an endangered Austronesian language spoken on Orchid Island, Taiwan, have centered on the rapid language shift from Yami to Mandarin within the speech community (Chen 1998, Li and Ho 1988, Lin 2007, Rau 1995). The present study, however, aims to explore whether the sound change of [k] to [l] in Yami (e.g., soli [suki] > [suli] 'taro') is triggered by language contact between Mandarin and Yami. Three variables were considered: Mandarin competence, Mandarin-speaking frequency, and social network integration. The results showed that the three variables were strongly correlated with sound change. Participants possessing advanced Mandarin competence, higher Mandarin-speaking frequency, and/or weaker social network integration into the Yami community (i.e., greater exposure to Mandarin) tended to exhibit the highest rate of sound change, which might be attributed to a cross-linguistic influence from Mandarin to Yami through extensive language contact.

Keywords: language contact, sound change, speech community, social network integration, cross-linguistic influence, Yami

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1. Introduction

"Language contact is everywhere: there is no evidence that any languages have developed in total isolation from other languages" (Thomason 2001: 8). However, intensive language contact has inevitably caused many minority groups to yield to privileged languages and cultures all around the world, just as it has in the case of Yami people in Taiwan. Accordingly, sociolinguistic studies on Yami, which have focused principally on the ongoing language shift from Yami to Mandarin, have demonstrated that Mandarin-Yami codeswitching is frequently observed among the middle-aged generation. As for the young generation, Mandarin has even become the primary language of daily conversation (Chen 1998, Li and Ho 1988, Lin 2007, Rau 1995).

In light of the imbalanced concentration on language shift in Yami studies, which has long left linguistic variations in Yami structure neglected, the present paper intends to conduct pioneering work on the sound change of [3] to [1] in Yami by examining whether extensive Mandarin contact is a potential explanation for the sound change, and, if so, in what way Mandarin contact contributes towards sound change for the Yami people.

2. The Yami speech community

Taiwan is a multiethnic and multilingual society comprising Taiwan Southern Min, Hakka, Mandarin, and a variety of Austronesian languages. Yami is one of the Austronesian languages and is specifically spoken on Orchid Island, a community on an island southeast of the main island of Taiwan (Figure 1). Currently, the Yami people constitute more than 80% of the 4,853 residents¹ across six villages on the island (Figure 2).



Figure 1. Location of the main island of Taiwan and Orchid Island.

Source: Google Maps

Statistics updated January 2013, Department of Household Registration, Ministry of the Interior, 2013.

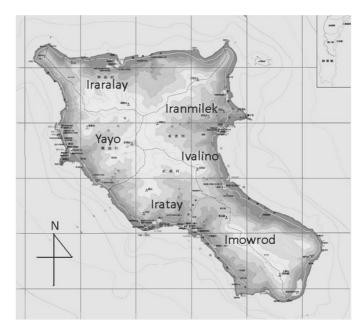


Figure 2. Geographic distribution of Orchid Island.

Source: Ministry of the Interior, Taiwan

Of all the Austronesian tribes in Taiwan, the Yami tribe is culturallinguistically distinct from others. Culturally, as opposed to the Austonesian tribes in Taiwan, most of whom are indigenous to Taiwan and establish their civilizations in the mountain regions, the Yami people migrated from the Batanes of the Philippines to Orchind Island approximated five hundred years ago and are renowned for their sophisticated oceanic culture. Linguistically, unlike other Austronesian languages spoken on the main island of Taiwan, which are classified as the Formosan branch in the Austronesian language family, the Yami language is considered a member of the Batanic languages, a subgroup within the Western Malayo-Polynesia branch. The relation of Yami and other Austronesian languages is shown below.

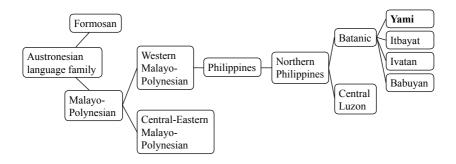


Figure 3. The position of Yami in the Austronesian family (after Blust 2009: 30–31 and Ross 2005).

Despite the cultural-linguistic distinctness, the Yami speech community is tightly linked with the socio-political development of the main island of Taiwan. One example is the post-war language policy. Regardless of the ethnic and linguistic diversity of Taiwan, the Nationalist government implemented a severe language policy – the Mandarin Movement – for forty years (1946–1987), which consequently caused "unidirectional bilingualism" (Tsao 2004) throughout Taiwan. During this period, Mandarin was not only the exclusive medium used in the public domain and education system² but the dominant language in mass media as well. In the Yami community, due to their geographic isolation and a lack of access to mass media, Mandarin was introduced chiefly through the education system, thus beginning a new era of Mandarin-Yami contact.

On the economic front, traditionally, fishing and farming were the major components of the local industrial structure. Because of the relatively inferior economic status, most young and middle-aged adults were inclined to seek job opportunities on the main island of Taiwan. It was not until the late 1980s that booming tourism attracted young adults to return to Orchid Island. Today, the prosperity of tourism has greatly altered the local economic structure and has created pervasive Mandarin-speaking settings for the Yami people.

² During the Mandarin Movement period, students were prohibited from speaking languages other than Mandarin on school grounds. Anyone who violated this regulation would be fined or be forced to wear a tag saying "Do not speak dialects" as punishment.

3. Methods

3.1. Participants

30 native Yami speakers (15 males and 15 females), aged from 30 to 84 at the time of recording, were recruited for this study. Participants were paid for their participation and were not told about the purpose of this study.

3.2. **Materials**

In Yami, the alveolar lateral liquid /l/ [l] becomes the alveolar lateral fricative [k] when followed by the high front vowel /i/ [i] (Asai 1936, Ho 1990, Rau and Dong 2006: 81), which can be expressed as $[1] \rightarrow [k]/[i]$, as in *soli* [suki] 'taro'.

Because the [k] allophone of /l/ does not exist in Mandarin, this study plans to investigate whether the sound change of [k] to [l] (e.g., soli [suki] > [suli] 'taro') in Yami is the result of Mandarin contact.

The original set of data consisted of 175 basic words in Yami (Rau and Dong 2006), but only the 15 lexical entries containing /li/ (Table 1) are discussed in this study. The others will be addressed elsewhere.

Lexical entries	IPA	Gloss
Ivalino	[ivatino]	'village name'
omlis	[ombis]	'sit'
likod	[ʒikud]	'back'
lilisnan	[ţiţişnan]	'chair'
lima	[tima]	'hand'
soli/sosoli	[şuţi]/[şuşuţi]	'taro'/'taros'
talinga	[takina]	'ear'
kolit	[ku肽it]	'skin'
kamalig	[kamakig]	'shelter of boats'
lima	[tima]	'cardinal number five'
aligned	[akiŋəd]	'short'
kokaliin	[kukakiin]	'dig'
alibangbang	[akibaŋbaŋ]	'flying fish'
kagling	[kagkiŋ]	'goat'
alikey	[aʒikəɪ]	'small'

Table 1. Target tokens

3.3. Procedure

3.3.1. Variable selection

In the field of sound change, age has been proved one of the most robust factors in most languages, inclusive of Yami (Lai 2011). The generational differences not only suggest an ongoing sound change but also imply the instability of the speech community (Labov 1994, McMahon 1994). However, the age factor alone is insufficient to exhaust sound change in our everyday languages. In order to have a closer look at the sound change of [\beta] to [\beta] in Yami, three potential variables were examined: (1) Mandarin competence, (2) Mandarin-speaking frequency, and (3) social network integration.

3.3.2. Variable scoring

To quantify the three variables, all participants were instructed to complete a questionnaire (see Appendix 1), which was partitioned into three sections correspondingly.

Mandarin competence. In the first section, the participants were asked to rate their Mandarin fluency on a scale of 1 to 5, with 1 being weak and 5 being very fluent. In addition, since Mandarin had long been used as the exclusive medium of instruction in schools prior to the 1990s, one's education level is believed to reflect one's Mandarin proficiency in all four areas of listening, speaking, reading, and writing (Tsao 1997a). Hence, each participant's level of education was used as a reference for their Mandarin proficiency. Education level was scored from 1 to 5, with 1 indicating elementary school or below; 2, junior high school; 3, senior high school; 4, university or equivalent; and 5, graduate school. The two scores (self-rating and education level) were summed up to represent each participant's Mandarin competence. Generally, a greater score indicated higher competence in Mandarin.

Mandarin-speaking frequency. In the second section, Mandarin-speaking frequency was determined by surveying the participants' language use patterns, namely, "who speaks what language to whom and when" (Fishman 1965). In the evaluation of Mandarin-speaking frequency, unequal weights were assigned to different language choices, with speaking Yami only, 1 point; Mandarin-Yami codeswitching, 2; and speaking Mandarin only, 3. The interlocutors included: (1) older relatives, (2) siblings, (3) spouses, (4) people from the young generation (under 20), (5) same-age friends, (6) grocery clerks, and (7) colleagues. The total scores were used to indicate each

participant's Mandarin-speaking frequency. Overall, the interlocutor categories, with the exception of spouses, applied to all participants. Since seven of the participants were unmarried, the participants' raw scores were transformed into proportions for subsequent analyses. As can be expected, a greater proportion suggested a higher Mandarinspeaking frequency.

Social network integration. In a highly mobile society, people can interact with people from various backgrounds without difficulty. How one's social network comes into play with his or her linguistic performance has thus become a major issue in sociolinguistic studies (Labov 1980, 2001, Lippi-Green 1989, Milroy 1987, Chambers 1995). To assess the degree of language contact in the process of interactions, social network integration (Lippi-Green 1989) was employed here to determine the intensity of the participant's exposure to Mandarin.³ In this section, twelve categories were established: (1) parents, (2) family type, (3) spouse, (4) the neighbors the participant most frequently interacts with, (5) length of residency in the Yami community, (6) length of residency on the main island of Taiwan, (7) religion, (8) mass media, (9) past occupation, (10) current occupation, (11) colleagues, and (12) the friends the participant most commonly makes contact with. Within each category, different items assigned with unequal points were offered for the participants to choose from (the details are tabulated in Appendix 1). As was done with Mandarinspeaking frequency, the participants' raw scores were converted into proportions for further analyses as well. It was expected that a negative relation would exist between a participant's social network integration into the Yami community and the intensity of his or her exposure to Mandarin. In other words, weaker social network integration into the Yami community should imply greater exposure to Mandarin.

3.3.3. Elicitation and recording

The 175 tokens were collected via two methods: the tokens referring to concrete objects were elicited through picture-naming tasks; the action verbs and those used to depict abstract concepts were collected through word list elicitation (Table 2).

In the Yami community, Mandarin is the most commonly used inter-ethnic medium for conversation; rarely do people speak languages such as Taiwan Southern Min, Hakka, or English. For this reason, these languages were not considered the decisive factors in language contact in this study.

Table 2. Data collection methods

Methods	Lexical entries	Number of target tokens
Picture naming	lilisnan 'chair', lima 'hand', soli/sosoli 'taro'/'taros', talinga 'ear', kolit 'skin', kamalig 'shelter of boats', alibangbang 'flying fish', kagling 'goat'	8
Word list elicitation	Ivalino 'village name', omlis 'sit down', likod 'back', lima 'cardinal number five', aligned 'short', kokaliin 'dig', alikey 'small'	7

During the recording sessions, the participants were asked to produce the tokens naturally upon seeing the picture or the word list, followed by the experimenter's repetition to confirm their pronunciation. In some cases, word list elicitation did not work because most of the old participants (above 65) were illiterate. Under such circumstances, the experimenter's partner, a Mandarin-Yami bilingual interpreter, helped explain the meanings to the old participants to collectively collect as many tokens as possible.

3.3.4. Coding

The data were transcribed using an orthographic system for Formosan languages (Li 1992) and were analyzed through auditory analyses.

When doing the analyses, as shown in Table 3, if the alveolar lateral liquid /l/ was fricativized and was pronounced as [ki] in the /li/ context, it was coded as "no sound change". If the alveolar lateral liquid /l/ was not fricativized and was pronounced as [li] in the /li/ context, it was coded as "sound change". In certain cases, articulation seemed to occur somewhere between [k] and [l], which was then coded as [ki] ~ [li]. Since tokens of this kind only comprised a small portion of the data (4%), they were treated as tokens of "sound change".

Category No sound change Sound change Realization e.g., soli 'taro' [suli] [sulgi] ~ [suli] [sulgi]

Table 3. Coding criteria

3.4. **Prediction**

As mentioned, the [k] allophone of /l/ only occurs in Yami, and not in Mandarin. Based on this phonological contrast, the author hypothesized that the sound change of [k] to [l] in Yami might stem from the influence of Mandarin language contact. Therefore, participants possessing higher Mandarin competence and/or Mandarin-speaking frequency were expected to exhibit greater percentages of sound change than non-proficient and/or infrequent Mandarin speakers. In terms of social network integration, participants having weaker social network integration into the Yami community were thought to have greater exposure to Mandarin and were thus expected to exhibit higher proportions of sound change than strongly-integrated ones.

4. Results

In this study, 446 tokens containing /li/ were investigated. The statistical analyses first rule out the possibility that the sound change of [k] to [l] in Yami was affected either by data collection methods (picture naming and word list elicitation) [Z = -1.336, p = .096] or by where the /li/-syllable was positioned (initial, medial, and final) in the target words [F(1.76, 51.21) = 2.65, p = .087, with Huyn-Feldt corre-]lation].4

As for the three variables, the statistical analyses show that Mandarin competence ($r_s = 0.857$, n = 30, p < .01), Mandarin-speaking frequency $(r_s = 0.840, n = 30, p < .01)$, and social network integration $(r_s = 0.840, n = 30, p < .01)$ = -0.744, n = 30, p < .01) were strongly correlated with the sound

Because the numbers of target tokens drawn from the two methods are different (8 in picture naming and 7 in word list elicitation), the participants' sound change was expressed using proportions and was arc-sine transformed before performing the Wilcoxon test. Similarly, since the /li/-syllables are not evenly distributed across the target tokens (4 in word-initial, 5 in word-medial, and 6 in word-final), the participants' sound change was expressed using proportions and was arc-sine transformed before running the one-way repeated ANOVA.

change under investigation.⁵ As shown in Table 4, advanced and frequent Mandarin speakers produced approximately the same rate of sound change (68% vs. 67%) in the tokens. In addition, social network integration into the Yami community also serves as an indicator of sound change. The results showed that weakly-integrated participants, who were more frequently exposed to Mandarin, produced sound change in 61% of the tokens, which was markedly higher than the sound change produced by strongly-integrated ones (9%).

Table 4. Summary of Mandarin competence, Mandarin-speaking frequency, and Social network integration in sound change

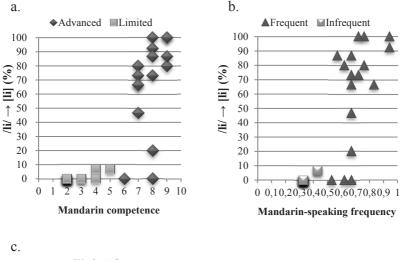
	Occurrence		~ ~		Total sound change (%)
Variables	Subgroup (score/proportion)	[kji]	[li]	[gi]~[li]	
Mandarin competence	Limited (score < 6) Advanced (score ≥ 6)	198 89	2 172	0 20	2/200 (1%) 192/281 (68%)
Mandarin- speaking fre- quency	Infrequent (score < .50) Frequent (score ≥ .50)	206 79	3 139	1 18	4/210 (2%) 157/236 (67%)
Social network integration	Strong (score ≥ .80) Weak (score < .80)	192 93	17 125	1 18	18/210 (9%) 143/236 (61%)

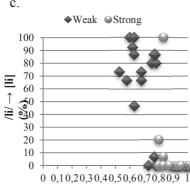
Note: The participants were subdivided into two groups, which were determined by the median of the 30 participants' variable scores/proportions.

A set of scatter plots was drawn to demonstrate the correlations between the three variables and sound change. As Figures 4 a and 4 b show, advanced and frequent Mandarin speakers tended to cluster in the top-right corner, which indicates a explicitly higher rate of sound change. In contrast, non-proficient and infrequent Mandarin speakers tended to cluster in the bottom-left corner, demonstrating a strikingly lower rate of sound change. In terms of social network integration (Figures 4 c), participants with weaker social network integration into the Yami community tended to cluster high in the middle, which indicates a high rate of sound change. The strongly integrated ones, on

⁵ Since the participants' variable scores were calculated using ordinal scales, Spearman's correlation coefficient was employed in this paper for adjustment.

the contrary, tended to cluster in the bottom-right corner, which suggests a extremely low rate of sound change.





Social network integration

Figure 4. Scatter plots of relationships between Mandarin competence and sound change, Mandarin-speaking frequency and sound change, and Social network integration and sound change.

5. Discussion

Although language contact is a potent factor inducing the sound change of [k] to [l] in Yami, it could, nevertheless, be argued that the

sound change is simply an allophonic change taking place internally within Yami without the influence of Mandarin. For instance, since the allophonic variant [k] is topologically rarer than [l], which already occurs in Yami, the participants would possibly choose to use the existed and more frequent variant [1], which will not cause perceptual confusion for their interlocutors. Besides, from the perspective of consonant strength, the alveolar lateral fricative [k] could probably be weakened as the alveolar lateral liquid [1] as a result of lenition (Lavoie 2001: 18, Crowley and Bowern 2010: 24). If these claims are true, the sound change should have occurred across different participants. However, previous study has pointed out that the sound change was not randomly observed across participants but was largely influenced by Mandarin-Yami contact: the old Yami participants, most of whom were Yami monolinguals, consistently preserved the conservative allophonic variant [k], whereas the language of the young and middle-aged participants, who were fluent Mandarin-Yami bilinguals, was undergoing rapid sound change (Lai 2011). The influence of language contact between Mandarin and Yami, therefore, is believed to outweigh internal factors in inducing sound change in Yami.

Following this, this authors would like to look deeper into how Mandarin competence, Mandarin-speaking frequency, and social network integration accounts for the sound change in Yami. While the statistical analyses strongly suggest that advanced Mandarin competence (total score of a participant's self-reported Mandarin fluency and education level) contributes towards a higher rate of sound change as a whole, that result should be interpreted with caution. Having no direct proof of the participants' Mandarin fluency such as scores of standardized language tests, the authors could not but utilize self-rating assessment. Convenient and efficient as it could be, self-rating can easily be challenged on its objectivity. For example, according to the experimenter's observation, participants No. 12, 13, and 24 seemed to underreport their Mandarin fluency, while participants No. 1, 22, and 29 appeared to overrate it. To avoid misinterpreting the results, the participants' education level was included as a reference of their Mandarin proficiency (Tsao 1997a) to counterbalance the bias inherent in self-rating. Now that education level is considered a more reliable indicator of Mandarin competence, and Mandarin competence has been proved to be one of the primary contributors to sound change in Yami, it is reasonable to see the soaring number of university and graduate degree holders⁶ as the future leaders in sound change within the speech community.

In terms of the influence of Mandarin-speaking frequency on sound change, two aspects were considered. Linguistically, crosslinguistic influence (Sharwood-Smith and Kellerman 1986) helps explain the sound change. Although previous studies noted that bilinguals tended to project the features of their first language onto the non-native languages (Odlin 1989), more recent studies have pointed in the opposite direction, showing that a non-native language can be the dominant source of cross-linguistic influence (Hammarberg 2011, Letica and Mardešić 2007). Based on this finding, it is logical to conclude that since the [k] allophone of /l/ does not occur in Mandarin, when Mandarin is frequently practiced in Yami people's daily life, the influence from Mandarin to Yami would then occur. Moreover, social pressure might be another reason for sound change. Due to the insufficiency of learning resources and job opportunities, most Yami adults chose to seek higher education and employment on the main island of Taiwan. Most young and middle-aged participants recalled that when they first traveled to the main island of Taiwan, people often mocked their pronunciation and accents when they spoke Mandarin. To adapt to the new community and earn respect, they avoided their former pronunciation in order to dilute their accent, hoping to make their pronunciation sound more like *standard* Mandarin.

As for social network integration, as predicted, participants weakly involved in the Yami community tended to produce higher proportions of sound change than their strongly-involved counterparts. The striking difference in sound change is believed to arise from how extensively participants are exposed to Mandarin. For weakly-integrated participants, especially those engaged in the service industry (e.g., tour guides, pension house owners, grocery clerks, and so on), the extensive inter-ethnic interactions with people outside the local community allow them to maintain easy access to Mandarin, thereby increasing the probability of sound change. Additionally, the growing number of immigrants is also a factor to consider. It can be expected that when more and more investors from the main island of Taiwan decide to locate in the Yami community and when intermarriage becomes more common than before, the intensity of daily exposure to Mandarin will also increase. This may both weaken the intensity of

The rate of high-degree holder among the Yami people has risen from 2.2% to 19.7% in the past thirteen years. Statistics spans from 1997 to 2010, Taitung County Budget, Accounting and Statistics Department, 2011.

The proportion of Yami people to all residents on Orchid Island has declined from 91.1% to 82.1% over the past two decades. Statistics updated September 2012, Department of Household Registration, Ministry of the Interior, 2012.

Yami people's integration into the local community and increase the amount of sound change in Yami in the future.

6. Conclusions and directions for future work

Unlike the majority of previous studies, which have primarily focused on language shift from Yami to Mandarin, this study investigates the contact-induced sound change of [k] to [l] in Yami. Overall, the results confirmed that participants possessing more advanced Mandarin competence, higher Mandarin-speaking frequency, and/or weaker social network integration into the Yami community tended to exhibit the highest rate of sound change, while those have limited Mandarin competence, lower Mandarin-speaking frequency, and/or stronger social network integration into the speech community tended to preserve the traditional allophonic variant [k], hence producing the lowest amount of sound change in the data. In addition to the three variables, the varying demographic composition resulting from the increasing number of high-degree holders and immigrants may further accelerate the progress of sound change in the days to come.

While the present study has provided some insights into the description and analysis of sound change in Yami, it still leaves much room for improvement. First, readers may question the naturalness of the data derived from word list elicitation. To mitigate this concern, (semi-) spontaneous utterances are going to be included in future studies to examine if there is any significant difference in sound change between different genres. Secondly, as a preliminary study on contact-induced language change in Yami, the present paper limits its scope to the variations occurring at the segmental level. To explore variations taking place in a higher hierarchy, acoustic and prosodic analysis should be carried out to see whether Mandarin prosodic patterns have permeated through Yami via intensive language contact in Mandarin-Yami bilinguals.

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Appendix 1. Questionnaire (translated into English)

1. Basic information

	Date:	//	(mm/dd/yyyy)
Name			
Date of birth	/_	/	(mm/dd/yyyy)
Gender	Male	Female	
Place of birth		village	
Current residency		village	

2. Social variables

2.1. Mandarin competence

2.1.1. Self-rating

Grade	1	2	3	4	5
Self-rating	Weak	Limited	Fair	Good	Very fluent

2.1.2. Education level

Grade	1	2	3	4	5
	Elementary school or below		Senior highschool	University or equivalent	Graduate school

2.2. Mandarin-speaking frequency

Language	Language choice *weights					
use Interlocutors	Yami only *0	Mandarin-Yami *1	Mandarin only *2			
Older relatives						
Siblings						
Spouses						

Language	Language choice *weights						
use Interlocutors	Yami only *0	Mandarin-Yami *1	Mandarin only *2				
People from the young generation (under 20)							
Same-age friends							
Colleagues							
Grocery clerks							

2.3. Social network integration

Scor	re Items	5		4	3	2	1
	Parents	Yami			Inter- marriage		Non- Yami
di	Family type	Old gene or solitar		Old and Middle- aged genera- tions	Old and Young genera- tions	Three generations	Nuclear family
Kinship	Spouse	Yami					Non- Yami
	The neighbors the participant most frequently interacts with	Yami			Both Yami and non- Yami		Non- Yami
		Old (≥ 61 yrs old)	More than 40 years		20–40 years		Less than 20 years
	Length of local residency	Middle- aged (41–60 yrs old)	More than 30 years		15–30 years		Less than 15 years
y.		Young (≤ 40 yrs old)	More than 20 years		10–20 years		Less than 10 years
Proximity	Length of residency in Taiwan	Less than	n 3	3–5 years	6–10 years	11–15 years	More than 15 years

	Religion	Christian or Catholic		None		Other
	Mass media	No		Radio		TV, internet, or news- papers
	Past	Farming or fishing	Clergy or Yami teacher	Laborer	Civil servant or school teacher	Service industry
	Current	Farming or fishing	Clergy or Yami teacher	Laborer	Civil servant or school teacher	Service industry
Occupation	Colleagues (majority)	Yami		Both Yami and non- Yami		Non- Yami
Associations	The friends the participant most commonly makes contact with	Yami		Both Yami and non- Yami		Non- Yami

Kokkuvõte. Li-Fang Lai ja Huiju Hsu: Keelekontaktist tulenev häälikumuutus: yami keele alveolaarse lateraalse frikatiivi analüüs. Enamik uurimusi ohustatud yami keele alal (austroneesia keelkond, kõneldakse Taiwanis Orhideesaarel) on keskendunud yami kõnelejate üleminekule mandarini hiina keelele (Chen, 1998, Li ja Ho, 1988, Lin, 2007, Rau, 1995). Käesoleva uurimistöö eesmärk on aga selgitada, kas häälikumuutus [t͡ʒ] > [l] (näiteks soli [sut͡si] > [suli] 'taro taim') on põhjustatud keelekontaktist yami ja mandarini hiina vahel. Uuringus vaadeldi kolme tegurit: hiina keele oskus, selle kõnelemise sagedus ja sotsiaalne sidusus. Tulemused näitasid, et kõik kolm muutujat on tugevalt korreleerunud nimetatud häälikumuutusega. Hea hiina keele oskusega ja hiina keelt sageli kasutavatel ja/või yami keelekogukonnaga vähem seotud keelejuhtidel esines häälikumuutus sagedamini, mille põhjuseks võib seega pidada mandarini hiina keele mõju yami keelele.

Märksõnad: keelekontakt, häälikumuutus, keelekogukond, sotsiaalne sidusus, keeltevaheline mõju, yami keel