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Wilkinson Daniel Wong Gonzales

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# Spread, stability, and sociolinguistic variation in multilingual practices: the case of Lánnang-uè and its derivational morphology

# Wilkinson Daniel Wong Gonzales

Department of English, The Chinese University of Hong Kong, Hong Kong SAR, People's Republic of China

#### ABSTRACT

This study examines nominal derivational affixes in a multilingual practice in the Philippines involving Hokkien, Tagalog, and English called Lánnang-uè. A feature of this practice is the systematic combination of affixes and roots (henceforth, 'system'). Certain morphological combinations (e.g. Tagalog prefixes + English root) are used frequently and are regarded by Lánnanguè users as well-formed, while others are not. This paper seeks to examine the spread, stability, and possible patterns of sociolinguistically-conditioned variation involving this system in Lánnang-uè-speaking community. I conducted the an acceptability judgment experiment involving 65 users in Manila and found high rates of spread and stability within my sample. Factors such as age, sex, and attitudes towards mixing selectively conditioned how some speakers adhered to system. For example, older users tended not to follow the affix source language, length, and position condition of the system whereas male users only tended not to follow the first condition. Based on the findings, I argue that the derivational affixation system exhibits conventionalisation, and that it emerged due to identity negotiation practices led by younger and female users. I also argue that conscious positive attitudes towards mixing help shape the stable development of multilingual practices.

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#### **KEYWORDS**

Multilingualism; multilingual practices; morphology; spread and stability; language attitudes; sociolinguistic variation and change

# 1. Introduction

Decades of research on multilingual practices, such as code-switching or mixed codes, has shown that the characteristics of these practices vary from community to community (Chan, 2004; Lipski, 2020; Meakins, 2012). Some practices have high rates of adoption within their community of use (i.e. higher 'spread'), such as the case of Tagalog-English 'Taglish' code-switching in the Philippines, where it is employed by virtually all (contemporary) Tagalog speakers (Thompson, 2003). However, there are multilingual practices that are only adopted by a portion of speakers and thus have lower 'spread.' An example would be Catalan heritage community in Germany, where Catalan-German code-switching is generally found in individuals whose families do not adopt a 'one parent-one language' policy and have selected a family language (Arnaus Gil &

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Jiménez-Gaspar, 2022, p. 1). Apart from spread, we also know that the 'stability' of these multilingual practices – here operationalised as the consistency or lack of variability between and within their speakers – is also highly community-dependent. Some communities, like the Gurindji Kriol speech community in Australia (Meakins, 2012), have high rates of inter- and intra-speaker consistency, and thus stability, in their deployment of multilingual resources. Speakers of this mixed language involving Gurindji and Kriol, for example, always derive pronouns from Kriol, and tend to be derive nouns from Gurindji (Meakins, 2012, p. 116). However, this is not the case for some communities. The Catalan-German community in German discussed earlier, for example, have low rates of interspeaker consistency (i.e. low rates of stability) with respect to their code-switching practice. Some speakers employ limited code-switching to German in Catalan, while others almost always code-switch to German (Arnaus Gil & Jiménez-Gaspar, 2022). The research so far indicates that the nature of multilingual practices (e.g. degree of spread and stability) is not universal but is highly dependent on the sociolinguistic context and the community of use. Consequently, to comprehend multilingualism more thoroughly, it is essential to consider the social and cultural contexts in which multilingual practices take place. Further research on multilingual practices in various contexts and communities is, thus, necessary.

In this paper, I attempt to contribute to our understanding of multilingual practices by presenting a case study featuring the Philippines. The object of study is a salient mixing practice used by an ethnic minority in Manila (northern Philippines) called Lánnang-uè – a practice that involves the systematic use of Hokkien, Tagalog, and English lexicon and grammar (see details in Section 2). I particularly focus on a feature of Lánnang-uè that has received little attention in the literature - its systematic use of nominal derivational affixes (see Section 3 for details). This phenomenon (henceforth, system) was described using a corpus-based approach (Gonzales, 2022a) but has not yet been systematically investigated with respect to spread/diffusion and stability. Little is known whether most Lánnang-uè users follow the system at all or whether only a subset of users does. Not much is also known about the stability of the system: do Lánnang-uè users consistently use the feature individually? Are the patterns of variation similar to each other? How much variability is there? To the best of my knowledge, no existing research has also examined whether social factors directly constrain potential variability in the adherence to the derivational system. The closest example is Gonzales (2018), who identified social factors that influence the overall acceptability of affixes, but not the variation in adherence to the nominal derivational affixation.

The primary goal of this paper is to bridge the gaps by examining the system's diffusion or spread within the community as well as intraspeaker and interspeaker consistency in the adherence to the system. I also attempt to examine the variability (i.e. lack of consistency) and test whether social factors – particularly age, sex, and attitudes towards mixing – condition it. It is hoped that this investigation will enrich current descriptions of the low-resource mixing practice Lánnang-uè and contribute to the scarce but growing body of work exploring the intersection of multilingualism and language variation and change (Dickson & Durantin, 2019; Lee, 2014; Starr & Balasubramaniam, 2019).

The rest of the paper is organised as follows: Section 2 provides general information about Lánnang-uè while Section 3 details its derivational affix system. These sections

are followed by Section 4, which introduces the hypotheses of this paper. Sections 5 and 6 present the methodology and findings of the study, respectively. The paper ends with a general discussion in Section 7 and some concluding remarks in Section 8.

#### 2. Lánnang-uè

Lánnang-uè (also sometimes referred to as Philippine Hybrid Hokkien) is a predominantly oral Sino-Philippine multilingual practice employed in the Philippines, a Southeast Asian nation home to seven major ethnolinguistic groups (e.g. the Tagalogs, the Cebuanos, the llocanos) (Philippine Statistics Authority, 2010). It is used by a minority ethnic group – the Lannangs or individuals with a mixed Southern Chinese (predominantly Hokkien, Cantonese) and Filipino cultural heritage (Gonzales, 2021; Uytanlet, 2014). Unlike other linguistic practices, Lánnang-uè (loosely, 'our people speech/language') is relatively unknown in the literature, partially since its users generally avoid the use of Lánnang-uè when communicating with 'out-group' community members.

To date, there is no consensus on the nature of the mixing practice: some research has characterised the practice as intra-sentential code-switching between Hokkien, English, and Tagalog (Gonzales, 2016; Gonzales, 2017a; Zulueta, 2007), while some has regarded it as a product of imperfect acquisition of Hokkien (Uytanlet, 2014). Others have analyzed it as a 'mixed language' with Hokkien-, English-, and Tagalog-derived features, as well as features that cannot be directly traced back to a single language (Matras & Bakker, 2003, p. 1; Meakins, 2013; Gonzales & Starr, 2020; Gonzales, 2022a). The most recent work done so far on Lánnang-uè situates the practice in a multidimensional continuum of contact phenomena rather than exclusively belonging to an exclusive type of contact language (e.g. 'creole', 'mixed language') (Gonzales, 2022a).

Linguistically, the practice – particularly the one employed in Manila – systematically derives its lexicon and grammar from Hokkien (Southern Min), Tagalog, English, and to a lesser extent, Mandarin (Gonzales, 2018; Gonzales, 2022a). A sizable part of the vocabulary and structure is sourced from Hokkien (Gonzales, 2022a). Several of its features across different linguistic levels have been documented, including the phonetic level (Gonzales & Starr, 2020), the discourse level (Gonzales, 2017a), and the syntactic level (Gonzales, 2022a).

#### 3. The nominal derivational affixation system of Lánnang-uè

The systematic combination of affixes and roots from different languages in Lánnang-uè (henceforth, system) has been argued to favour Tagalog, such that all affixes in Lánnang-uè come from this language (Gonzales, 2018; Gonzales, 2022a). Based on the most comprehensive corpus-based description to date (Gonzales, 2022a), however, the process of selection was not one of wholesale transfer. Users of Lánnang-uè did not select the entire nominal derivation system of Tagalog. Instead, they systematically incorporated parts of the system to form a new system unique to their practice. It only incorporated simple Tagalog prefixes (i.e. mono-/bi- morphemic/syllabic prefixes), which can be attached to a verb, noun, and/or adjective base derived from Hokkien, Tagalog, or English (see Table 1).

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(1)

Prefix	Type/class	Attaches to	Derives	Example
kà-	colleague	V, N (location for gathering, person that has gatherings)	N	<b>ka-</b> trabahò 'workmate/colleague'
mâg-	relationship	N	Adj	<i>mag-</i> pieng-iû 'characterized as having a friendly relationship'
nakà-	resultative	V	Adj	<i>naka-patông</i> 'being in a position or state directly resulting from the action of placing'
	article-wear	N (article)	Adj	naka-bakkià 'characterized as wearing glasses'
pag(kà)-	manner	V	Ν	<b>pag(ka)</b> -tshām 'manner of mixing'
pagkà-	state-of-being	Ν	Ν	<b>pagka</b> -lánnang 'the state of being a Lannang'
pampà-	cause	V, Adj	Adj	<i>pampa-gaú</i> 'intelligence-causing'
pâng-	reservation	V, N	Adj	<i>pang-air</i> fry 'machine that is reserved for air-frying'
tagà-	function	V	Adj	taga-tsítsiáh 'cook-er/cook'
	origin	N (location)	Adj	<b>taga-</b> San-Pablò 'San Pablo-er/ originating from San Pablo'

Table 1. Derivational affixes in the domain of the noun phrase (Gonzales, 2022a).

The examples below illustrate the conventions involving nominal derivational affixes, based on examples found in Gonzales (2018; 2022a), descriptions of affixes in English (Quirk et al., 1985), Tagalog (Schachter & Otanes, 1972), Hokkien (Chappell, 2019), and Mandarin (Li & Thompson, 1981) as well as the description of Lánnang-uè phonological rules in Gonzales (2022a). Examples preceded by an asterisk (e.g. \*b) indicate that the construction is not well-formed in Lánnang-uè – these constructions were either incomprehensible to informants who are dominant users of Lánnang-uè or awkward-sounding to them (Gonzales, 2018).

1. Affix source language: Affixes should be derived from Tagalog.

a.	ta <sup>22</sup> ga <sup>22</sup> t <sup>h</sup> i <sup>55</sup> t <sup>h</sup> o <sup>35</sup> <i>taga-</i> thîthó FUNC-play 'one who plays'	Tagalog-derived
*b.	t <sup>h</sup> i <sup>55</sup> t <sup>h</sup> o <sup>22</sup> -wỵ <sup>51</sup> thîthó <b>-er</b> play-FUNC 'one who plays'	English-derived
*с.	tsjaw <sup>55</sup> a <sup>51</sup> <i>tsiaû-<b>à</b> bird-DIM 'little bird'</i>	Hokkien-derived
*d.	law <sup>22</sup> taj <sup>22</sup> g <sub>1</sub> <sup>51</sup> <i>Iau-tigèr</i> ANIM-tiger '(animal) tiger'	Mandarin-derived

2. *Affix position/type*: In addition to being sourced from Tagalog, the affixes should be prefixes. The examples below all feature Tagalog-derived affixes.

a.	paŋ <sup>22</sup> mejk <sup>22</sup> ?up <sup>55</sup> <b>pang-</b> makeûp RES-make.up 'reserved for make-up'	prefix
*b.	ts <sup>h</sup> e? <sup>55</sup> ?an <sup>51</sup> <i>tshêh-<b>an</b> book-LOC 'location with books/library'</i>	suffix
*c.	ka <sup>22</sup> siok <sup>22</sup> die <sup>22</sup> ŋan <sup>51</sup> <b>ka</b> -siokdiéng <b>-àn</b> QUAL-holy-QUAL 'holiness'	circumfix

(2)

(3)

(4)

3. *Affix syllable number*: The affixes – specifically Tagalog-derived prefixes – should be mono-/bisyllabic. The examples below all feature Tagalog-derived prefixes.

a.	ka <sup>22</sup> kla <sup>22</sup> se <sup>51</sup> <b>ka</b> -klasè COLL- class 'classmate'	monosyllabic
b.	pag <sup>22</sup> ka <sup>22</sup> hwa <sup>22</sup> na <sup>55</sup> <b>pagka-</b> hwanâ STAT-local 'the state of being a local'	bisyllabic
*c.	pag <sup>22</sup> ka <sup>22</sup> ka <sup>22</sup> bo <sup>22</sup> le <sup>22</sup> so <sup>51</sup> <b>pagkaka</b> -bolesò GER-disrespect 'having disrespected'	trisyllabic
*d.	pag <sup>22</sup> ka <sup>22</sup> ka <sup>22</sup> pa <sup>22</sup> ki <sup>22</sup> ts <sup>h</sup> jo <sup>51</sup> <b>pagkaka-paki-</b> tshiò GER-ENSEM-laugh 'having joined in laughing'	pentasyllabic

4. *Base source language*: The short, Tagalog-derived prefixes can be attached to bases derived from Hokkien, Tagalog, or English. They do not exclusively attach to bases derived from a specific source language.

a.	ta <sup>22</sup> ga <sup>22</sup> tsi <sup>35</sup> tsja? <sup>35</sup> <i>taga-<b>tsítsiáh</b> FUNC-cook 'cook-er/cook'</i>	Hokkien-derived
b.	ta <sup>22</sup> ga <sup>22</sup> lu <sup>22</sup> to? <sup>55</sup> <i>taga-<b>lutô</b> FUNC-cook 'cook-er/cook'</i>	Tagalog-derived
c.	ta <sup>22</sup> ga <sup>22</sup> kuk <sup>55</sup> taga- <b>coôk</b> FUNC-cook 'cook-er/cook'	English-derived

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5. *Base domain*: The prefixes attach to verbs, nouns, and/or adjectives depending on the class of prefix (Table 1). They do not exclusively attach to bases in a specific domain.

Overall, Lánnang-uè has a more restrictive set of noun phrase derivational affixes compared to Tagalog. A complete list of the affixes and constraints in the nominal derivational system of the language is found in Table 1.

Some example utterances containing affixed words are as follows:

t<sup>h</sup>aw<sup>35</sup>

thaú

(5)	kjaw <sup>33</sup> <i>kiaū</i> with 'with those, ti (PC0012-CLIN	?in <sup>55</sup> <i>în</i> 3.PL heir fellow worker 19)	hwaj <sup>35</sup> <i>huaí .</i> DEM.PL . rs'		?in <sup>55</sup> e <sup>33</sup> în = ē 3.PL = GEN	'ka <sup>22</sup> t.ıa <sup>22</sup> ba <sup>22</sup> <b>ka</b> -trabahadô COLL- work	'ha <sup>22</sup> 'do.1 <sup>55</sup> <i>r.</i> er
(6)	di <sup>55</sup> Dî 2.SG	tuj <sup>55</sup> <i>tuî</i> towards	la <sup>35</sup> naŋ <sup>22</sup> ?ue <sup>5</sup> <i>Lánnang-uè</i> = Lánnang-uè =	<sup>1</sup> e <sup>22</sup> ē GEN	pag <sup>22</sup> ka <sup>22</sup> <b>pagka-</b> MAN-	ts <sup>h</sup> am <sup>33</sup> <i>tshām</i> mix	
	?u <sup>22</sup> u have 'Do you feel	∫a <sup>22</sup> mi? <sup>55</sup> <i>shammîh</i> what anything towards	kam <sup>22</sup> kak <sup>55</sup> <i>kamkâk</i> feel Lánnang-uè's mar	bo <sup>51</sup> bò? NEG nner of mixin	ng?'		
	(PC0012-CLIN	119)	22 55	22	22		22 55
(7)	so <sup>33</sup> <i>Sō,</i> So,	hi <sup>33</sup> ge <sup>33</sup> h <i>īgê</i> ART.SG	gin <sup>33</sup> na <sup>33</sup> <i>gīnnâ</i> kid	tsju <sup>33</sup> <i>tsiū</i> then	si <sup>22</sup> sī COP	na <sup>22</sup> ka <sup>22</sup> <b>naka-</b> RSLT-	pa <sup>22</sup> toŋ <sup>35</sup> <i>patông</i> place

lo<sup>51</sup>

*lò*. PFV

PREP deer = GEN head 'So the kid is placed at the deer's head.'

di.1<sup>55</sup>e<sup>33</sup>

deêr = ē

(PC0103-FRST19)

ti<sup>33</sup>

tī

It is clear that users engaging in the Lánnang-uè multilingual practice generally do not favour combinations involving English and Mandarin, even if these languages hold prestige in the community as global languages that help them connect with the world (Gonzales, 2022b; Poa, 2004). The phenomenon might be historically rooted: Hokkien and Tagalog were introduced to the Lannang community of practice much earlier than English and Mandarin (Van der Loon, 1966; Wickberg, 1965), and as such had more time to interact with each other at different levels of language (e.g. lexical, morphological) and be conventionalised in the community.

It should be noted that while English is generally disfavoured, there are contexts that license the use of English affixes. Some younger speakers (i.e. those in their 20s and 30s), in Gonzales' (2018) ethnographic research – who tend to be highly proficient in English in the community – explicitly said that they do not usually want to use English affixes in bimorphemic morphological combinations. They also said that they rarely hear other people use it, but that they can still accept these English-related combinations if they are used in comedy or if they are used to present one's self as 'innovative' or 'trendy.' This finding points to the subtle influence of English on the system, where English affixes can be used possible stylistic resources beyond the 'system.'

#### 4. Hypotheses

I have three hypotheses regarding the nominal derivational affixation system described in Section 3. First, I hypothesise that the system will be highly widespread. Most users of Lánnang-uè will follow the system at least once. Second, I hypothesise that the system will be highly stable. Users who follow the system at all will do so at the individual level with high degrees of consistency. They will also have patterns of variation that will not differ too much from each other. Finally, I hypothesise that a significant part of the variation in the system, if present, will be conditioned by at least one of the following sociolinguistic factors: age, sex, and attitudes towards mixing. If the variation involves innovation/change, a large part of non-conformance to the system will come from younger users (specifically, younger females). A large part of non-conformance will come from users who perceive mixing in Lánnang-uè negatively, or as something that is a threat to linguistic 'purity' (Lannang Corpus, CLIN-18-19:5706).

My first and second hypotheses were motivated by previous findings in Lánnang-uè and the finding that Lánnang-uè is highly 'language-like' (Gonzales, 2018; Gonzales, 2022a; Gonzales & Starr, 2020). In prior work, high levels of spread and stability were consistently observed across many Lánnang-uè features: tone, stress, conjunction and preposition lexicon, and *wh*-phrase position distribution (Gonzales, 2022a). Given that Lánnang-uè has characteristics of 'language-ness', I expect features in other levels (e.g. derivational affixation system, morphological level) to also exhibit high degrees of spread and stability, as features belonging to a language usually cluster – they tend to exhibit similar linguistic properties (e.g. stability, spread) because they are part of a single linguistic system. In other words, Lánnang-uè will pattern after other languagelike multilingual practices like Colloquial Singapore English and the Topo and Ugsha varieties of Media Lengua where patterns of spread and stability were also noted across features (Leimgruber et al., 2021; Lipski, 2020): the spread and stability observed in one linguistic feature will also be observed in other features (Mechler & Buchstaller, 2019; Meir & Sandler, 2019).

My third hypothesis on variation was motivated by general sociolinguistic theories (Eckert, 1989; Labov, 1963; Sankoff, 2006) and previous sociolinguistic work done in Lánnang-uè. A common thread in variationist sociolinguistics research is that linguistic features encode social meaning. From a constructivist perspective (Eckert, 2012), in particular, researchers have reported how socially-meaningful linguistic elements serve as resources for (un)consciously stylistic practices (Dodsworth, 2005), such as the performance of ethnic and domain-specific identities (Starr & Balasubramaniam, 2019; Zhang, 2005); individuals can skillfully manipulate linguistic resources depending on the social context (e.g. use tapped and trilled /r/ in Colloquial Singapore English to perform Indian-Singaporean identity) (Benor, 2010; Eckert, 1989; Starr & Balasubramaniam, 2019). In other words, variation in linguistic behaviour that cannot be accounted for by linguistic factors can be constrained by social factors – languages have sociolinguistic conventions on top of linguistic ones. Adopting this view of language and variation, I anticipate linguistic behaviour pertaining to Lánnang-uè nominal affixation to also be sociolinguistically constrained, similar to what was observed in previous work on other Lánnang-uè features (Gonzales, 2018; Gonzales, 2020; Gonzales, 2022a; Gonzales & Starr, 2020).

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I hypothesised the effects of age, sex, and language attitudes on affixation because these variables were reported to be robust predictors of linguistic behaviour in variationist research in different multilingual practices such as Kriol in Australia as well as Colloguial Singapore English and Baba Malay in Singapore (Dickson & Durantin, 2019; Lee, 2014; Leimgruber et al., 2021). Furthermore, based on ethnographic observations in the Lannang community and preliminary research on Lánnang-uè, these factors were found to account for variation in linguistic behaviour better compared to other variables like generation (e.g. first-generation Lannang) and educational level (e.g. post-graduate) (Gonzales, 2018). I predicted that young and female users of Lánnang-uè will vary (not follow the affixation system) more in the context of language change because young and female individuals tend to be full of 'energy and enterprise' (Maclagan et al., 1999, p. 19) and tend to be at the forefront of change – a sociolinguistic pattern observed in many several sociolinguistic studies that view variation as a consequence of linguistic innovation (Eckert, 1989; Maclagan et al., 1999; Sankoff, 2006). The pattern was also found in Lánnang-uè: younger and female users, for example, produced the  $[\upsilon]$  and  $[\varepsilon]$ monophthongs in Lánnang-uè differently compared to the rest of the population – an innovative practice (Gonzales & Starr, 2020). In addition to age and sex, the literature shows that users' views towards certain linguistic processes can have a profound impact on actual linguistic practice (Sande, 2015; Thomason, 2007). Users of a particular language, for example, who view language mixing practices with disfavour (e.g. mixing as a threat to authenticity or purity) (Wan, 2022) tend not to do so (e.g. Ibani-Igbo bilingual speakers in southern Rivers State in Nigeria avoiding borrowing to maintain a 'pure' Ibani) (Thomason, 2007) while those who perceive mixing as a positive practice tend to engage in mixing practices (e.g. Colloquial Singapore English users preferring to use Chinese and Malay discourse particles as part of their Singaporean identity) (Leimgruber et al., 2021). Given this, I anticipate that attitudes towards mixing will condition linguistic behaviour relevant to the nominal affixation system: Lánnang-uè users who view mixing positively (e.g. mixing as part of their identity) will adhere to the system while those who stigmatise it will be less likely to do so.

# 5. Methodology

# 5.1. Participants

After receiving approval from the University-level Institutional Review Board, seventy prospective participants were invited for a pre-study screen conducted in April 2017. Roughly half of them were recruited online through Facebook whereas the other half was recruited based on recommendations given by the first half of the participants (i.e. friend-of-afriend sampling) (Schleef & Meyerhoff, 2010). Not all individuals who expressed interest in my study participated in the study. Only those who fit the following criteria were invited as participants:

- 1. Claims to have native-like proficiency in Lánnang-uè
- 2. Must identify as Lannang
- 3. Must be between 20-89 years old
- 4. Must identify as male or female

- 5. Must have no problems with hearing
- 6. Must be willing to sign a consent form endorsed by the Institutional Review Board

After screening, a total of 65 male and female respondents ranging from 20 to 89 years old were recruited (Table 2). The imbalance in the distribution (i.e. fewer older male participants) was partially due to the difficulty of finding older male participants, who either reported not being interested in the study or were busy focusing on their careers or businesses.

#### 5.2. Data collection

I met the screened participants individually in one-hour sessions conducted in a quiet location of their choice (e.g. their house, church) between April and August 2017. Lánnang-uè was the medium of communication in the sessions to prime the participants for the Lánnang-uè task. After signing the consent form, participants were first asked to participate in an experiment, specifically, an acceptability judgment task (~ 40 min): they were asked to judge words (affix + base) that either adhered to the nominal derivational affixation system or not. The words, presented to them via audio and textual stimuli, were embedded in a Lánnang-uè carrier sentence (i.e. *And so huaí mga Manila-e Lánnáng e usually kongtsuê* \_\_\_\_\_\_. 'And those Manila Lannangs would usually say this as \_\_\_\_\_\_.') to ensure that the words are interpreted as Lánnang-uè words and not as words from Filipino – a standardised hybrid variety of Tagalog that accommodates English and Hokkien lexicon.

The audio stimuli, recorded using a Zoom H1 device in a laboratory-like location in metropolitan Manila, featured my voice. Participants listened to them using 3.5mm-jack wired headphones manufactured by Apple connected to a 2017 iPad Pro tablet. Participants were simultaneously exposed to textual stimuli in the form of a hard-copy word list containing the aforementioned words written using Lannang Orthography (The Lannang Archives, 2020). They were instructed to give a rating between 1–6 after being presented each affix-base combination (in the form of audio and textual stimulus). The task was self-paced, which means that the participants were allowed to listen to a particular audio stimulus more than once if they were not able to comprehend it the first time. No restrictions were also imposed with respect to the speed of the response – participants responded to the stimuli when they were ready to.

A total of 408 unique words (affix-base combinations distributed across conditions relevant to the nominal affixation system) were created (Table 3) (Appendix 1). The affixes in the stimuli were derived from a comprehensive list of nominal derivational affixes in Tagalog and English (Quirk et al., 1985; Schachter & Otanes, 1972). The bases were all familiar/non-technical nouns, verbs, or adjectives derived from Hokkien, Tagalog, or English that were vetted by two native Lánnang-uè users. Note that there are no stimuli involving long Tagalog-derived suffixes/circumfixes or long English-derived suffixes because the

	Age group									
Sex	20–29	30–39	40–49	50–59	60–69	70–79	80–89	Total		
Female	8	6	7	4	9	9	7	50		
Male	2	3	3	5	0	0	2	15		
Total	10	9	10	9	9	9	9	65		

Table 2. Distribution of participants by self-reported sex and age group.

Affix source language	Affix position/type	Affix length	Base source language	Base domain	Items
Tagalog	prefix	short	Hokkien	nominal	30
				verbal	24
			Tagalog	nominal	0
				verbal	0
			English	nominal	30
				verbal	24
		long	Hokkien	nominal	21
		-		verbal	21
			Tagalog	nominal	0
				verbal	0
			English	nominal	21
				verbal	21
	non-prefix (i.e. suffix, circumfix)	short	Hokkien	nominal	12
				verbal	9
			Tagalog	nominal	0
				verbal	0
			English	nominal	12
				verbal	9
		long	Hokkien	nominal	0
				verbal	0
			Tagalog	nominal	0
				verbal	0
			English	nominal	0
			-	verbal	0
English	prefix	short	Hokkien	nominal	0
-				verbal	0
			Tagalog	nominal	0
				verbal	0
			English	nominal	0
			-	verbal	0
		long	Hokkien	nominal	0
				verbal	0
			Tagalog	nominal	0
				verbal	0
			English	nominal	0
				verbal	0
	non-prefix (i.e. suffix)	short	Hokkien	nominal	57
				verbal	30
			Tagalog	nominal	57
				verbal	30
			English	nominal	0
				verbal	0
		long	Hokkien	nominal	0
				verbal	0
			Tagalog	nominal	0
				verbal	0
			English	nominal	0
			-	verbal	0
Total					408

**Table 3.** Distribution of stimuli by conditions: affix source language, affix position/type, affix length, condition, base source language, and base domain.

two languages do not have them (Quirk et al., 1985; Schachter & Otanes, 1972). Also, stimuli involving combinations where the affix and base were derived from the same language (e.g. *pang-kaîn*, Tagalog-derived prefix + Tagalog-derived base), stimuli featuring combinations involving Hokkien- and Mandarin-derived affixes (and English prefixes), and stimuli involving combinations involving Mandarin-derived bases were excluded in the final set of stimuli. This was done to reduce the amount of time in each session while still being able to test my hypotheses involving the derivational

affixation system. The decision to downsize the stimuli set was made after participants in a pilot study in early 2017 complained about the long session time, which affected the quality of their responses.

To further mitigate the effect of session duration on response quality, I only exposed participants to a subset of the whole stimulus set. The stimuli were evenly distributed between three sets such that each participant was only exposed to a third of the stimuli (a total of 136 items per participant distributed across the conditions) (see Appendix 2), which were presented to them in random order.

After the experiment, I collected age and sex information from my participants to test my hypotheses involving age and sex. I also asked them to respond to the following prompt using a 6-point Likert scale (1 – strongly disagree, 6 – strongly agree), to test my hypothesis involving language attitudes: *Guâ kamkâk halo-halô ti Lánnang-uè yá acceptablè.* 'I view mixing in Lánnang-uè very acceptable.'

#### 5.3. Dataset preparation

Each of the 8,840 responses (136 judgments X 65 participants) was coded for affix source language (Tagalog vs. English), affix position/type (prefix vs. non-prefix), affix length (short or one/two syllables vs. long or three or more syllables), base source language (Hokkien vs. Tagalog/English), base domain (nominal vs. verbal), participant, experiment item, age, sex (male vs. female), and attitudes towards mixing. All categorical predictor variables that were coded binarily were also coded using unweighted effect contrast coding conventions (i.e. 1 vs. –1) (Sonderegger, 2022). The responses (dependent variable) were *z*-scored by participant.

Because my analysis of system spread and stability requires frequencies, I also coded each judgment for 'adherence to system'. If the judgment meets all the following criteria or conditions, it is marked as 'adhering':

- Z-scored judgment is above 0 ('acceptable')
- Affix source language is 'Tagalog'
- Affix length is 'short'
- Affix position/type is 'prefix'
- Base source language is 'Hokkien', 'Tagalog', or 'English'
- Base domain is 'nominal' or 'verbal'

If the *z*-scored judgment is below 0 ('unacceptable') and meets any of the following criteria, it is also marked 'adhering':

- Affix source language is 'English'
- Affix length is 'long'
- Affix position/type is 'non-prefix'

Otherwise, the judgment is marked 'non-adhering'.

#### 5.4. Analytical method

I estimated the system's degree of spread by dividing the number of participants who adhered to the system at least once by the number of all users (henceforth, spread score). System stability was approximated by acquiring the mean and mean-normalized standard deviation (i.e. 'coefficient of variation') (Pélabon et al., 2020, p. 180) of the individual intra-user consistency scores (i.e. number of judgments made by an individual that adhered to the system divided by the total number of judgments made by that individual). I interpret both the mean as individual consistency and the coefficient of variation as group-level consistency or stability. My hypothesis on spread will be supported if the spread score is above average (i.e. above 0.5, or more than half of the population). My results support my hypothesis on stability if the mean individual intra-user score is above 0.5 (the features were used more than 50% of the time, on average) and if the coefficient of variation is below 0.5 (the patterns of variation among users have heterogeneity levels below 50%).

To test my hypotheses on the potential effects of social factors on possible patterns of variation, I fitted a linear mixed-effects regression model on my data using the Imer package in the R environment (Bates et al., 2015; Kuznetsova et al., 2019). Participant and experiment item were included as random effects; the fixed effects tested included affix source language, affix length, affix position/type, base source language, base domain, age, sex, and attitudes towards mixing. Interaction effects between two social factors (i.e. age and sex) and each of the structural factors were included. Interaction effects between attitudes towards mixing and two structural factors (i.e. affix source language, base source language) were also included. My hypotheses on the effects of social factors will be supported if I find that any of the interaction effects are significant and if an analysis of the marginal effects (Lüdecke, 2018a; Lüdecke, 2018b) show that the direction of the effect is in the expected direction.

# 6. Results

# 6.1. Spread and stability

All 65 of my participants followed the nominal derivational affixation system at least once (spread score = 1) – they rated constructions that conformed to the system (e.g. *panghaktshè* 'item reserved for the bathroom', Tagalog-derived prefix + Hokkien-derived base) acceptable (*z*-scored response mean = 0.6689, SD = 1.01, SE = 0.02) and rated constructions did not adhere to the convention (e.g. *dating-àl* 'arrival', Tagalog-derived base + English-derived suffix) as unacceptable (*z*-scored response mean = -0.2408, SD = 0.87, SE = 0.01) at least once. None of my participants did not follow the system at all.

Examining the individual consistency rates, I found that participants varied in their adherence to the affixation system. None of the participants were 100% consistent in following it – variation is present. The rates ranged from 0.7353–0.9926 (median = 0.9412, 1st Quartile = 0.8971, 3<sup>rd</sup> Quartile = 0.9632). However, on average, participants rated constructions in accordance to the system with very high rates of consistency (mean intrauser consistency score = 0.9218, SD = 0.0652). In addition to high rates of intra-user consistency, I also observed that the participants' patterns of variation are relatively homogenous (coefficient of variation = 0.0707): the proportion of system-conforming and non-conforming judgments are similar across participants. This is illustrated in Figure 1, where the individual intra-user consistency scores cluster towards the right. The results indicate that derivational affixation system of Lánnang-uè has high rates of

spread as well as high rates of intra- and inter-user stability within my sample. Intra- and inter-user variation in adherence to the affixation system is limited.

# 6.2. Sociolinguistic variation

A breakdown of the consistency scores by age (younger vs. older), sex (male vs. female), and language attitudes towards mixing (positive vs. negative) reveals differences in adherence to the affixation system. Younger users (mean = 0.952, SD = 0.02, SE = 0.005, n = 29) were found to follow the system more consistently than older users (mean = 0.897, SD = 0.07, SE = 0.013, n = 36). Users who reported being female (mean = 0.923, SD = 0.067, SE = 0.009, n = 50) had higher conformance scores compared to male users (mean = 0.92, SD = 0.061, SE = 0.016, n = 15). Finally, participants who perceived language mixing in Lánnang-uè positively (mean = 0.92, SD = 0.07, SE = 0.009, n = 45) adhered to the system more consistently than those who did not (mean = 0.90, SD = 0.06, SD = 0.01). Descriptively analyzing the means by social factors, I found that age, sex, and language attitudes towards mixing all seemed to correlate with system adherence: being part of the group of older users, male group, and group of users who perceived mixing negatively appears to be linked to system non-conformance. These effects were found even after normalising the data (statistically isolating the effect of age, sex, and attitudes on system adherence) using regression. However, the effects of these social factors were found to be asymmetrical (Table 4). While age accounted for the bulk of the variation relevant to three conditions of the system (affix position/type, affix length, affix source language) and while language mixing attitudes accounted for variation relevant to the language mixing (i.e. affix source language), sex only accounted for a significant part of the variation with respect to one system condition – the affix's source language.

Specifically, for age, I found that younger users systematically distinguished between constructions that conformed to the source language, position/type, and syllable length conditions in the system (i.e. words with short Tagalog-derived prefixes, e.g.



Figure 1. Distribution of participants' individual intraspeaker consistency scores.

pang-) and constructions that did not (e.g. words with long prefixes, pagkaka-). They rated constructions with an affix derived from Tagalog ( $\beta = -0.01$ , SE = 0.0001, p < 0.001), constructions with prefixes ( $\beta = 0.01$ , SE = 0.0001, p < 0.001), and constructions with short affixes ( $\beta = -0.01$ , SE = 0.0001, p < 0.001) consistently high (Figure 2); they consistently rated constructions with English-derived affixes, suffixes, and/or long affixes low. This is not the case for older users, who appeared not to follow the affixation conventions in Lánnang-uè: they tended to rate all affix-base constructions – even constructions involving short Tagalog-derived prefixes - as unacceptable or bordering acceptable. The effects of age on constructions involving these three particular structural conditions in the derivational affixation system are clearly illustrated in Figure 2a to Figure 2c, where the lines corresponding to acceptability ratings are distinct in the youngest group (conforming to the system) but overlap for the oldest group (not conforming to the system). Note that the acceptability judgments of younger users towards constructions that conform to the three conditions – Tagalog-derived affixation (Figure 2a, blue), prefixation (Figure 2b, red), and short affixation (Figure 2c, blue) – are all above zero, the cut-off for acceptability in this study. This is noticeably different from the judgments of older users, where the ratings tended to be below zero or unacceptable regardless of whether the construction follows the affixation system or not.

There is no evidence of an age effect on the last two conditions of the system – base source language and domain non-exclusivity. Both younger and older users conform to the affixation system by rating constructions containing Hokkien-derived bases similar to constructions containing Tagalog-derived and English-derived bases. Both groups also behaved similarly with respect to their ratings of constructions with verbal or nominal bases: the lines overlap regardless of age group (Figure 2d and Figure 2e).

A close examination of the results for sex showed that female users patterned differently from male users with respect to the affix source language condition of the

5 5 7 7 7		5		
Predictors	Estimates	SE	CI	р
(Intercept)	0.02	0.31	-0.58-0.62	0.95
Affix – Source language (Tagalog vs. English)	0.61	0.13	0.35-0.88	<0.001
Sex (Male vs. Female)	0.03	0.14	-0.25-0.31	0.841
Age	0.0001	0.0001	-0.01-0.00	0.119
Affix – Position ( <b>Prefix</b> vs. Suffix, Circumfix)	-1.12	0.13	-1.370.88	<0.001
Affix – Number (1–2 vs, <b>3 above</b> )	0.73	0.1	0.53-0.92	<0.001
Base – Source language (Hokkien vs. Tagalog, English)	0.05	0.09	-0.12-0.23	0.56
Base – Domain ( <b>nominal</b> vs. verbal)	-0.18	0.07	-0.310.04	0.013
Attitudes (language mixing)	0.02	0.04	-0.06-0.10	0.602
Sex: Affix – Source language	-0.13	0.06	-0.240.02	0.022
Age: Affix – Source language	-0.01	0.0001	-0.010.00	<0.001
Sex: Affix – Position	-0.09	0.06	-0.21-0.03	0.123
Age: Affix – Position	0.01	0.0001	0.01-0.01	<0.001
Sex: Affix – Number	0.02	0.05	-0.07-0.12	0.655
Age: Affix – Number	-0.01	0.001	-0.010.00	<0.001
Sex: Base – Source language	-0.04	0.03	-0.10-0.03	0.289
Age: Base – Source language	0.0001	0.0001	-0.00-0.00	0.637
Sex: Base – Domain	0.0001	0.03	-0.07-0.07	0.972
Age: Base – Domain	0.0001	0.0001	-0.00-0.00	0.181
Attitudes: Affix – Source language	0.03	0.01	0.01-0.05	0.014
Attitudes: Base – Source language	-0.01	0.01	-0.03-0.01	0.188

Table 4. Linear mixed-effects regression results – predictors of acceptability ratings (observations =	=
8,840, $R^2 = 0.596$ , random intercepts for item, trial number, and participant). Reference levels ar	e
highlighted in boldface; in the <i>p</i> -values column, statistically significant values are in boldface.	



Figure 2. Age effects on Lánnang-uè's nominal derivational affixation system.

system: they clearly distinguished between English-derived affixes and Tagalog-derived affixes (conforming to the system) but males did not. Females rated constructions with an affix derived from Tagalog ( $\beta = -0.13$ , SE = 0.06, p < 0.05) consistently high (Figure 3a) and consistently rated constructions with English-derived affixes low. Males also rated constructions with English-derived affixes low but tended to rate Tagalog-derived affixes low (Figure 3a). I did not find evidence of a significant sex effect on the rest of the conditions of the system (Table 4). The results indicate that male and female Lánnang-uè users pattern similarly with respect to affix position/type, affix length, base source language, and base domain (Figure 3b to Figure 3e).

I also analyzed the patterns of variation with respect to language attitudes and found that Lánnang-uè users who perceived language mixing positively tended to follow the affix source language condition in the system. These users had an affix source language contrast (English-derived affix vs. Tagalog-derived affix), unlike users who viewed mixing negatively. Specifically, users who viewed mixing positively rated constructions with an affix derived from Tagalog consistently high and rated constructions with English-derived affixes consistently low ( $\beta = 0.03$ , SE = 0.01, p < 0.05) (Figure 4a), but users who viewed mixing negatively did not. There was no evidence of a significant attitude effect on the base source language condition of the system (Table 4). Regardless of their views towards mixing, users conformed to the convention by treating constructions with Hokkien-derived bases and Tagalog-/English-derived bases the same (Figure 4b).



Figure 3. Sex effects on Lánnang-uè's nominal derivational affixation system.

# 7. Discussion

This study has examined spread and stability of the nominal derivational affixation system among Lánnang-uè speakers and has tested for the potential effects of social factors on patterns of variation. I found strong evidence that the system is highly widespread and stable. Variation in adherence to the system is relatively low, and the bulk of this variation was found to be conditioned by age, sex, and language attitudes towards mixing in Lánnang-uè. The results revealed that older users tended not to follow the affix source language, affix length, and affix position/type conditions of the affixation system; male users and users who perceived language mixing negatively were less likely to follow the affix source language condition compared to female users and those who perceived mixing positively. While the patterns of variation relevant to the affixation system were conditioned by all three hypothesised social factors, my findings overall indicate selective (stipulation-specific) sociolinguistic conditioning instead of system-wide, across-the-board sociolinguistic conditioning – a pattern that is consistent with previous work on Lánnang-uè and other contact languages (Gonzales, 2022a; Leimgruber et al., 2021; Starr & Balasubramaniam, 2019).

The high rates of spread and stability of the affixation system within Lánnang-uè speakers is expected, given previous research in the multilingual practice that also found similar



Figure 4. The effects of attitudes towards mixing on Lánnang-uè's nominal derivational affixation system.

patterns. It was discovered, for example, from a production perspective, that almost all users of Lánnang-uè adopted the tone and stress systems of the practice with comparable rates of spread and stability (Gonzales, 2022a). The findings also parallel what was found in Gonzales and Starr's (2020) study, where almost all Lánnang-uè users were found to consistently use a single vowel system instead of a stratified Hokkien-Tagalog-English system. The findings of the current morphological study contribute to the growing literature on the nature of Lánnang-uè, providing strong evidence against the popular claim in the Lannang community that Lánnang-uè is an unsystematic, ad-hoc mix of Hokkien, Tagalog and English (Ang See, 1990; Uytanlet, 2014). They also highlight striking differences between language-related behaviour (here, uniform judgments on affix-base constructions) and the dominant community belief that Lánnang-uè's features are mostly idiolectal or family-specific (Gonzales, 2022a) – that the features have low degrees of stability and spread within the community that generally does not view it as such (Gonzales, 2022a).

Although I have found that age and sex conditioned the variation in adherence to the system – a finding in line with my hypotheses, the direction of their effects was surprising in the context of language change. One striking finding is that much of the system-nonconforming behaviour is linked to older and male speakers rather than younger and female speakers. This pattern deviates from the general trend in sociolinguistic work, where young females tend to lead linguistic change (Maclagan et al., 1999), assuming of course that system-non-conforming behaviour is the innovation and not system-conforming behaviour. Under this view, older users and male users can be viewed as linguistic vanguards attempting to change parts of the conventionalised affixation system through avoidance of rules that promote impurity in their ancestral language Hokkien. There is some evidence of this in my post-experiment conversations with these participants, who constantly brought up the idea of Hokkien bastardisation throughout the experiment. Based on my observations, they seem to be innovating Lánnang-uè by consciously attempting to suppress their knowledge of Lánnang-uè derivational morphology to preserve the integrity of their Hokkien. Similar sociolinguistic patterns (at least, sex-related patterns) of change have also been observed in some variationist work, where males have been reported to pattern differently from the norm, due to several factors such as stressing a certain social identity (e.g. Vineyarder identity) (Labov, 1963) or avoiding sounding effeminate (Obeidat & Hammoudi, 2019).

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There is another possibility – that the system-conforming behaviour (i.e. the acceptance of constructions with short Tagalog-derived prefixes) is the innovation and not system-non-conforming behaviour. Under this assumption, the results support the sociolinguistic literature, showing that young females are leading change in apparent time (Sankoff, 2006) – in this case, change from a language that does not have stable rules for derivational affixes to a language that does. This particular interpretation of the sociolinguistic patterns is justified when one views the data in light of sociohistorical research on the Lannang community in Manila, reported to have predominantly Hokkien roots (Chu, 2021; Chua, 2004; Tan, 1993). From a language development perspective, it is possible that Lánnang-uè began as Hokkien, a language without said rules, but gradually diverged over time due to sociohistorical and political events experienced by its users. Many of these events (e.g. the Chinese Civil War, the rise of Communist China, Chinese immigration bans, the Filipinization movement, policies mandating a Filipino-oriented curriculum and discouraging Chinese-oriented curricula) drove a wedge between the Lannang community and its Chinese roots. At the same time, there were existing social practices (e.g. endogamy within the Lannangs, intentional exclusion of Filipinos in Lannang social activities and vice versa, anti-Chinese sentiments) – consequences of colonialism that promoted discord between ethnic groups – that prevented the Lannang community from completely integrating to the Filipino culture (Chu, 2021; Chua, 2004; Gonzales, 2017b; Tan, 1993; Uytanlet, 2014). The Lannangs were, as a result, at the margins of both Filipino and Chinese society: an effect that is still experienced by many Lannangs today.

(8) Nán khâlâng tiau lê puâ không tiông. umtsai-iâ guâ sĩ Huidipinláng âsĩ Tiôngkôkláng ... Taïdiók e láng khuâ guâ sĩ Huanâ là. Tsitâh Huanâ khuâ guâ sĩ lánnáng là. Tsiá e láng kā dî kông 'intsik yun ah'; Taïdiók khuâ dân tsuê ö sō sō ... khuâ dân tsuê Huanâ. Paláng kông guâ sĩ yayá.

'We are like caught in between. We don't know if we are Filipino or Chinese ... The Mainland Chinese regard me as Filipino. Here, the Filipinos say I am Chinese. They would say, that you're a Chinese. The Mainlanders would say we are too black, regarding us as Filipinos. They even said that I was a domestic helper.'

(PC0124: Female, 86 y/o, retiree, Lánnang-uè) (Gonzales, 2021, p. 11)

These events provided an environment conducive for the birth and maintenance of a hybrid identity – one that has Filipino and Chinese aspects (or neither Filipino nor Chinese, by virtue of being both) (Gonzales, 2021; Uytanlet, 2014), and consequently the genesis of a hybrid practice or language with conventions that integrate Filipino linguistic resources and ancestral Hokkien (Chinese) elements from a common Lannang 'eth-nolinguistic repertoire' (Benor, 2010, p. 162) reflecting the hybrid ethnic identity of the Lannangs. An example of such conventions is the nominal affixation system described in this paper, which is distinct from Hokkien and Tagalog despite being derived from both languages (i.e. tone and mono-bi-syllabic tendencies from Hokkien, selected phonological forms and meaning from Tagalog). Overall, from a Hokkien-origin perspective of Lánnang-uè development, it is likely that Lánnang-uè users did not initially have conventions for affixation mixing but developed one after a series of sociohistorical upheavals – a change presumably led by younger and female users, based on the current data. Of course, it is possible that the variation conditioned by age and sex is not a

consequence of change, but rather a result of stable age-specific or sex-specific stylistic practices (e.g. wanting to appear young and cool) (Eckert, 2012). However, I do not currently have evidence of them in this study, so I hesitate to commit to a stylistic account of variation in the affixation system. The documented socio-history of the Lannang community, along with the absence of evidence of age- and sex-specific stylistic practices involving the system, makes the aforementioned language change account of variation particularly compelling.

Another finding worth discussing is the correlation between language mixing attitudes and patterns of variation: users with positive attitudes towards mixing were found to exhibit more principled and systematic behaviour compared to those with negative attitudes. This finding is consistent with sociolinguistic work that underscores the fundamental role of user attitudes on linguistic innovation (Leimgruber et al., 2021; Thomason, 2007; Thomason, 2008; Wan, 2022). However, unlike previous work, my research goes further to illustrate a potential scenario where users' positive attitudes towards language mixing do not lead to increased adherence to *any* form (both structured and unstructured forms) of language mixing, as indicated by the lack of an attitude effect on general acceptability of mixed constructions in Table 4, but rather, an increased adherence to structured, *systematic* forms of mixing. This finding suggests that the conscious and deliberate acceptance of mixing practices within the community is an important factor (perhaps a necessary condition) for the crystallization of stable multilingual practices.

#### 8. Concluding remarks

The findings of this study are consistent with research on other features of Lánnang-uè, which indicate relatively high levels of stability and spread as well as sociolinguistic patterning in the nominal affixation system of the multilingual practice. They accentuate the differences between the Lannang community's perception and their actual linguistic practice, illustrating how many members of a community can adhere to sociolinguistic conventions despite not explicitly believing in the existence of such conventions. The findings involving sociolinguistic patterns of variation observed offers clues regarding the development of the affixation system in Lánnang-uè: using the apparent time methodological framework (Sankoff, 2006), I have argued for a developmental account where the unique hybrid affixation system emerged in Lánnang-uè as a consequence of its users' historical negotiation between Chinese (Hokkien) and Filipino (Tagalog) identities, based on sociohistorical evidence. A direct comparison of linguistic behaviour under different language mixing attitude conditions revealed an intriguing, and to my knowledge, undiscovered pattern: users with positive sentiments towards general mixing did not favour all mixed utterances, as one would expect; instead, they only favoured systematic forms of mixing. This result suggests that positive attitudes towards mixing is a crucial condition for the establishment of (linguistic systems in) multilingual practices.

While much has been explored in this study, many trajectories for future inquiry remain. For example, one might consider replicating the study in the present. As mentioned earlier, this study was conducted in 2017, and much has happened since then and today. It is unclear whether the patterns discovered in this paper apply to the present day. For instance, the influx of non-Lannang Mandarin speakers from Mainland China in the recent five years may facilitate the inclusion of Mandarin elements in the

morphological conventions of Lánnang-uè. However, given the less than amiable relationships between Lannangs and the Mainlanders, an opposite effect is also expected: Lannangs might deliberately try to keep out 'non-local' elements like Mandarin bases or affixes out of the mixing practice. The COVID-19 pandemic has also disrupted in-person networking within the community, which may have implications on the spread and stability of the system, as community-wide reinforcement of these norms has lessened. Future work can test whether the conventions still exist today or whether new patterns and inno-vations have emerged as a result of recent societal changes.

Another fruitful direction for further research would be broadening the scope of this research to include other social variables that were mentioned in the discussion earlier but not directly tested in the regression model of affixation system adherence, such as ethnic orientation (e.g. Filipino-oriented vs. Chinese-oriented), style (e.g. konyò vs. 'proper' style) (Reves, 2017), and attitudes towards Hokkien (e.g. maintenance vs. shift). Proficiency in the source languages have been found to condition linguistic behaviour in Lánnang-uè and could potentially influence the hybrid affixation system. Future work can test whether this is the case. Such an endeavour promises to provide a more holistic picture of the relationship between linguistic behaviour in Lánnang-uè and Lannang society, contributing to the scarce but growing body of literature exploring the nexus of multilingualism, language contact, and language variation and change. More generally, a comprehensive investigation of other features in Lánnang-uè with respect to spread, stability, and sociolinguistic variation will advance our understanding of severely underrepresented and understudied multilingual practices in the Philippines and the Asia-Pacific region at large. It pledges to provide a more nuanced dynamic, characterisation of multilingual practices that, based on limited work, appear to have systems with varying levels of spread and stability (Lipski, 2020) conditioned by the sociolinguistic landscape.

#### **Disclosure statement**

No potential conflict of interest was reported by the author(s).

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# **Appendices**

	Circlin	. comp		Junian				
	Affix	Affix	Affix	Base	Base			
#	Source	Position	Length	Source	Domain	Set A	Set B	Set C
1	English	Suffix	one	Hokkien	Α	sien-ery	tiekpiet-ery	kin-ery
2	English	Suffix	two	Hokkien	Α	tobieng-ism	tsiabieng-ism	sang-ism
3	English	Suffix	two	Hokkien	Α	Salamstam-ity	amstam-ity	boh-ity
4	English	Suffix	one	Hokkien	Α	goai-ness	hose-ness	hoahi-ness
5	English	Suffix	one	Hokkien	Α	kham-y	tobieng-y	anstam-y
6	English	Suffix	one	Hokkien	Ν	tsiau-ling	miau-ling	kau-ling
7	English	Suffix	one	Hokkien	Ν	phongkan-ery	hio-ery	tshieng-ery
8	English	Suffix	one	Hokkien	Ν	Tiong-san-ian	Tiong-tsieng-ian	Hokkien-ian
9	English	Suffix	one	Hokkien	Ν	ong-dom	katieng-dom	atsi-dom
10	English	Suffix	one	Hokkien	Ν	panto-eer	betsia-eer	hesua-eer
11	English	Suffix	one	Hokkien	Ν	Taidiok-er	Dipun-er	Hankok-er
12	English	Suffix	one	Hokkien	Ν	Dipun-ese	Hankok-ese	Taidiok-ese
13	English	Suffix	one	Hokkien	Ν	isng-ess	pieng-ess	kanglang-ess
14	English	Suffix	one	Hokkien	Ν	tungsi-ful	tshung-ful	pakto-ful
15	English	Suffix	one	Hokkien	Ν	lame-hood	due-hood	gina-hood
16	English	Suffix	two	Hokkien	Ν	Tiongtsieng-ism	Hokkienism	Tiongsan-ism
17	English	Suffix	one	Hokkien	Ν	Hokkien-ist	Tiongsan-ist	Tiongtsieng-ist
18	English	Suffix	one	Hokkien	Ν	ti-let	lame-let	poe-let
19	English	Suffix	one	Hokkien	Ν	piengiu-ship	ong-ship	isng-ship
20	English	Suffix	one	Hokkien	V	kau-al	toa-al	kaisiau-al
21	English	Suffix	two	Hokkien	V	tsai-ation	tshong-ation	pangdio-ation
22	English	Suffix	one	Hokkien	V	tshongdiau-ment	kiah-ment	hoat-ment
23	English	Suffix	one	Hokkien	V	tim-age	tshongpai-age	tshongti-age
24	English	Suffix	one	Hokkien	V	gut-ant	thungsak-ant	tsham-ant
25	English	Suffix	one	Hokkien	V	pala-ee	khotsheh-ee	thsim-ee
26	English	Suffix	one	Hokkien	V	kun-er	tshit-er	tsai-er
27	English	Suffix	one	Hokkien	V	tsham-ing	tsien-ing	tshit-ing
28	English	Suffix	one	Hokkien	V	tshong-ity	tshi-ity	oa-ity
29	English	Suffix	one	Hokkien	V	seh-ance	koh-ance	thieng-ance
30	English	Suffix	one	Tagalog	Α	pagod-ery	duwag-ery	bilis-ery
31	English	Suffix	two	Tagalog	Α	kaliwa-ism	kanan-ism	pareho-ism
32	English	Suffix	two	Tagalog	Α	gitna-ity	peke-ity	nipis-ity
33	English	Suffix	one	Tagalog	Α	bait-ness	buti-ness	saya-ness
34	English	Suffix	one	Tagalog	Α	yabang-y	gastos-y	kanan-y
35	English	Suffix	one	Tagalog	Ν	ibon-ling	pusa-ling	aso-ling
36	English	Suffix	one	Tagalog	Ν	manok-ery	dahon-ery	baril-ery
	5							

Appendix 1. Complete list of stimuli

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# Appendix 1. Continued.

	Affix	Affix	Affix	Base	Base			
#	Source	Position	Length	Source	Domain	Set A	Set B	Set C
37	English	Suffix	one	Tagalog	Ν	Rizal-ian	Marcos-ian	Quezon-ian
38	English	Suffix	one	Tagalog	Ν	hari-dom	pari-dom	ate-dom
39	English	Suffix	one	Tagalog	Ν	bangketa-eer	kalesa-eer	bundok-eer
40	English	Suffix	one	Tagalog	N	Vigan-er	Pasay-er	Mactan-er
41	English	Suffix	one	Tagalog	N	Pasay-ese	Mactan-ese	Vigan-ese
42	English	Suffix	one	Tagalog	N	leon-ess	guro-ess	babaylan-ess
43	English	Suffix	one	lagalog	N	pinggan-ful	tiyan-ful	bibig-ful
44	English	SUTTX	one	Tagalog	IN N	lalaki-nood	babae-nood	Data-nood
45 46	English	SUIIIX	lwo	Tagalog	IN N	Marcosism Quezon ist	Quezonism Dizal ist	Rizalism Marcos ist
40 47	English	Suffix	one	Tagalog	IN N	Quezon-Ist babov-let	KIZdI-ISL Jalaki-lot	Marcos-Ist baso-let
47	English	Suffix	one	Tagalog	N	habae-shin	hari-shin	ninsan-shin
49	Fnalish	Suffix	one	Tagalog	V	dating-al	hatid-al	ganan-al
50	Fnalish	Suffix	two	Tagalog	v	tanim-ation	avos-ation	ihi-ation
51	English	Suffix	one	Tagalog	v	tapos-ment	dala-ment	parusa-ment
52	English	Suffix	one	Tagalog	V	lunod-age	sira-age	tawa-age
53	English	Suffix	one	Tagalog	V	dulas-ant	alis-ant	sali-ant
54	English	Suffix	one	Tagalog	V	bayad-ee	hiram-ee	halik-ee
55	English	Suffix	one	Tagalog	V	kulo-er	punas-er	tanim-er
56	English	Suffix	one	Tagalog	V	sali-ing	gupit-ing	punas-ing
57	English	Suffix	one	Tagalog	V	ayos-ity	hubad-ity	piga-ity
58	English	Suffix	one	Tagalog	V	salita-ance	gabay-ance	hinto-ance
59	Tagalog	Prefix	one	Hokkien	A	ka-thautsui	ka-sakap	ka-pithau
60	Tagalog	Prefix	one	Hokkien	N	ka-piengiu	ka-bang	ka-phoa
61	Tagalog	Prefix	one	Hokkien	N	mag-bang	mag-phoa	mag-piengiu
62	Tagalog	Prefix	one	Hokkien	N	pang-tshia	pang-tshung	pang-naktshe
63	Tagalog	Prefix	one	Hokkien	V	Ka-tsniukoa	ka-thiaubu	Ka-tsia
64 65	Tagalog	Prefix	one	Hokkien	v	mang-maubu	many-isia	mang-tsniukoa
66	Tagalog	Profix	one	Hokkien	v	pay-kia nana-tsitsia	pay-isau nang-tshit	pag-use
67	Tagalog	Prefix	one	Hokkien	v	nang-khun	pang tsint pang-hiusiak	nang-tsau
68	Tagalog	Prefix	one	Fnalish	Å	ka-front	ka-together	ka-side
69	Tagalog	Prefix	one	English	N	ka-friend	ka-room	ka-partner
70	Tagalog	Prefix	one	English	N	mag-room	mag-partner	mag-friend
71	Tagalog	Prefix	one	English	Ν	pang-car	pang-bed	pang-bathroom
72	Tagalog	Prefix	one	English	V	ka-sing	ka-dance	ka-eat
73	Tagalog	Prefix	one	English	V	mang-dance	mang-eat	mang-sing
74	Tagalog	Prefix	one	English	V	pag-walk	pag-run	pag-sit
75	Tagalog	Prefix	one	English	V	pang-cook	pang-wipe	pang-wash
76	Tagalog	Prefix	one	English	V	pang-sleep	pang-relax	pang-run
77	Tagalog	Prefix	threeplus	Hokkien	A	pagkakapag-hose	pagkakapag-boleso	pagkakapag- thiatshui
78	Tagalog	Prefix	threeplus	Hokkien	Α	pagkaka-boleso	pagkaka-thiatshui	pagkaka-hose
79	Tagalog	Prefix	threeplus	Hokkien	A	pagkakapagpaka- thiatsui	pagkakapagpaka- hose	pagkakapagpaka- boleso
80	Tagalog	Prefix	threeplus	Hokkien	Ν	magkaka-dai	magkaka-khantsiu	magkaka-ban
81	Tagalog	Prefix	threeplus	Hokkien	Ν	pagkakapag-siensi	pagkakapag- tshiathau	pagkakapag- haksung
82	Tagalog	Prefix	threeplus	Hokkien	Ν	pagkaka-tshiathau	pagkaka-haksung	pagkaka-siensi
83	Tagalog	Prefix	threeplus	Hokkien	Ν	pagkakapagpaka-	pagkakapagpaka-	pagkakapagpaka-
						haksng	siensi	tshiathau
84	Tagalog	Prefix	threeplus	Hokkien	V	pakiki-kongoe	pakiki-tsham	pakiki-tsiauthai
85	Tagalog	Prefix	threeplus	Hokkien	V	pagkakapag-soe	pagkakapag-siu	pagkakapag-sau
86	Tagalog	Prefix	threeplus	Hokkien	V	pagkaka-siu	pagkaka-sau	pagkaka-soe
87	Tagalog	Prefix	threeplus	Hokkien	V	pagkakapagkipang- hoah	pagkakapagkipang- thoe	pagkakapagkipang- hoa
88	Tagalog	Prefix	threeplus	Hokkien	V	pagkakapagpaka- sau	pagkakapagpaka- soe	pagkakapagpaka- siu
89 90	Tagalog Tagalog	Prefix Prefix	threeplus threeplus	Hokkien Hokkien	V V	pagkakapang-thoe tagapag-khe	pagkakapang-hoa tagapag-pao	pagkakapang-hoah tagapag-sng

	Affix	Affix	Affix	Base	Base			
#	Source	Position	Length	Source	Domain	Set A	Set B	Set C
91	Tagalog	Prefix	threeplus	English	А	pagkakapag-alright	pagkakapag-rude	pagkakapag-
92	DoleneT	Prefix	threenlus	Fnalish	Δ	nagkaka-rude	nagkaka-obedient	nagkaka-alright
93	Tagalog	Prefix	threenlus	English	A	nagkakanagnaka-	nagkakanagnaka-	nagkakanagnaka-
	rugulog	TTCHX	uncepius	English		obedient	alright	rude
94	Tagalog	Prefix	threeplus	English	Ν	magkaka-	magkaka-couple	magkaka-class
95	Tagalog	Prefix	threeplus	English	Ν	pagkakapag-nun	pagkakapag-priest	pagkakapag- student
96	Tagalog	Prefix	threeplus	Enalish	Ν	pagkaka-priest	pagkaka-astronaut	pagkaka-nun
97	Tagalog	Prefix	threeplus	English	Ν	pagkakapagpaka- studvante	pagkakapagpaka- nun	pagkakapagpaka- priest
98	Tagalog	Prefix	threeplus	Fnalish	v	pakiki-talk	pakiki-ioin	pakiki-entertain
99	Tagalog	Prefix	threeplus	Fnalish	v	pagkakapag-wash	pagkakapag-fix	pagkakapag-sweep
100	Tagalog	Prefix	threeplus	English	v	pagkaka-fix	pagkaka-sweep	pagkaka-wash
101	Tagalog	Prefix	threeplus	Fnalish	v	pagkakapagkipang-	pagkakapagkipang-	pagkakapagkipang-
102	Tagalog	Drofy	throoplus	English	v	shout	take	hold
102	ragalog	Prelix	threepius	English	v	sweep	wash	радкакарадрака-пх
103	Tagalog	Prefix	threeplus	English	V	pagkakapang-take	pagkakapang-hold	pagkakapang-shout
104	Tagalog	Prefix	threeplus	English	V	tagapag-arrange	tagapag-wrap	tagapag-count
105	Tagalog	Prefix	two	Hokkien	Α	pagka-siuki	pagka-ulat	pagka-phoapi
106	Tagalog	Prefix	two	Hokkien	Ν	mag-pphoa	mag-ppiengiu	mag-babang
107	Tagalog	Prefix	two	Hokkien	Ν	mag-hihi	mag-gugu	mag-kkoe
108	Tagalog	Prefix	two	Hokkien	Ν	magka-khantsiu	magka-ban	magka-dai
109	Tagalog	Prefix	two	Hokkien	N	pagka-kanglang	pagka-hautiu	pagka-laobu
110	Tagalog	Prefix	two	Hokkien	Ν	taga-taidiok	taga-Bikok	taga-hiongkang
111	Tagalog	Prefix	two	Hokkien	V	pang-hohoa	pang-hohoah	pang-ththoe
112	Tagalog	Prefix	two	Hokkien	V	pagka-tsau	pagka-tse	pagka-kia
113	Tagalog	Prefix	two	Hokkien	V	taga-sng	taga-khe	taga-pao
114	Tagalog	Prefix	two	English	Α	pagka-angry	pagka-strong	pagka-sick
115	Tagalog	Prefix	two	English	N	mag-ppartner	mag-ffriend	mag-roroom
116	Tagalog	Prefix	two	English	N	mag-fifish	mag-cocow	mag-chichicken
117	Tagalog	Prefix	two	English	N	magka-couple	magka-class	magka-generation
118	Tagalog	Prefix	two	English	N	pagka-servant	pagka-principal	pagka-parent
119	Tagalog	Prefix	two	English	N	taga-China	taga-America	taga-HongKong
120	Tagalog	Prefix	two	English	V	pang-hohold	pang-shoshout	pang-tatake
121	Tagalog	Prefix	two	English	V	pagka-run	pagka-sit	pagka-walk
122	Tagalog	Prefix	two	English	V	taga-count	taga-arrange	taga-wrap
123	Tagalog	Suffix	one	Hokkien	N	piangko-han	kape-han	angtsiu-han
124	Tagalog	Suffix	one	Hokkien	V	tsitsia-an	katsheh-an	hoado-an
125	Tagalog	Suffix	one	Hokkien	V	katsheh-in	hoado-in	tsitsia-in
126	Tagalog	Suffix	one	Hokkien	N	bamboo-han	igloo-han	frisbee-han
127	Tagalog	Suffix	one	Hokkien	V	perform-an	enter-an	arrange-an
128	Tagalog	Suffix	one	Hokkien	V	enter-in	arrange-in	perform-in
129	Tagalog	Suffix	two	Hokkien	Α	siukhi-siukhi-han	utsi-utsi-han	payse-payse-han
130	Tagalog	Suffix	two	Hokkien	N	tshulai-tshulai-an	otung-otung-an	isung-isung-an
131	Tagalog	Suffix	two	Hokkien	V	hoado-hoado-an	tsitsia-tsitsia-an	katsheh-katsheh-an
132	Tagalog	Suffix	two	English	A	heavy-heavy-han	tancy-tancy-han	happy-happy-han
133	Tagalog	Suffix	two	English	N	intern-intern-an	student-student-an	police-police-an
134	Tagalog	Suffix	two	English	V	arrange-arrange-an	perform-perform- an	enter-enter-an
135	Tagalog	Circumfix	two	Hokkien	А	ka-payse-han	ka-bosong-an	ka-siosim-an
136	Tagalog	Circumfix	two	English	Α	ka-happy-an	ka-tender-an	ka-eager-an

Appendix 2. Sample word list (Set	R)
#	Word
1	pang-sleep
2	pagkakapag-nun
3	pala-ee
4	ka-happy-an
5	Hokkien-ist
6	tapos-ment
7	, maa-room
8	piangko-han
9	tsiau-ling
10	tsham-ing
11	ka-tshiukoa
12	pag-walk
13	tim-age
14	pagkaka-priest
15	ka-piengiu
16	pang-cook
17	pagkakapag-siensi
18	sali-ing
19	Pasay-ese
20	pagka-servant
21	seh-ance
22	bangketa-eer
23	lalaki-hood
24	pagkakapagpaka-haksng
25	taga-China
26	mag-fifish
27	arrange-arrange-an
28	yabang-y
29	tshulai-tshulai-an
30	intern-intern-an
31	pagkaka-tshiathau
32	tagapag-khe
33	pang-hohoa
34	Vigan-er
35	pang-car
36	gitna-ity
37	hari-dom
38	katsheh-in
39	pagkaka-boleso
40	bamboo-han
41	dating-al
42	ibon-ling
43	pinggan-ful
44	pagka-run
45	pang-hohold
46	pagkakapag-wash
47	leon-ess
48	mag-pphoa
49	heavy-heavy-han
50	pagka-tsau
51	kau-al
52	tsai-ation
53	ka-front
54	mang-dance
55	bait-ness
56	baboy-let
57	piengiu-ship
58	Taidiok-er
59	pagkaka-fix
60	pag-kia

Appendix 2. Sample word list (Set A)

#	Word
61	mang-thiaubu
62	isng-ess
63	pagkakapagkipang-shout
64	Salamstam-ity
65	Quezon-ist
66	ayos-ity
67	taga-taidiok
68	ong-dom
69	Marcos-ism
70	Rizal-ian
/1	kaliwa-ism
72	pang-tsitsia
75	toolerig-isin
74	laga-sng
75	periorin-ari maa-ppartner
70	nag-ppartner
78	pagkakapagpaka-saa
79	Tionatsiena-ism
80	nana-khun
81	lunod-aae
82	maa-bana
83	Tiona-san-ian
84	pagkakapagpaka-thiatsui
85	taga-count
86	pagkakapag-alright
87	pang-tshia
88	tsitsia-an
89	pagkakapagpaka-obedient
90	goai-ness
91	mag-hihi
92	kulo-er
93	lame-hood
94	magkaka-generation
95	pagka-angry
96	tanim-ation
97	manok-ery
98	sien-ery
100	pagkakapag-nose
101	naakakapaakipapa-boab
107	pagkakapagkipang noan pagkaka-rude
102	tshona-ity
104	paakakapana-thoe
105	dulas-ant
106	pagkakapagpaka-sweep
107	pagkaka-siu
108	pagka-kanglang
109	phongkan-ery
110	salita-ance
111	pagod-ery
112	ti-let
113	pagkakapagpaka-studyante
114	pagka-siuki
115	enter-in
116	magka-couple
117	tagapag-arrange
118	babae-ship
119	magka-khantsiu
120	tungsi-tui
121	кип-er

Ap	pendix	: <b>2.</b> Co	ntinued.
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Word
siukhi-siukhi-han
pagkakapag-soe
panto-eer
ka-friend
gut-ant
bayad-ee
pagkakapang-take
tshongdiau-ment
magkaka-dai
kham-y
Dipun-ese
pakiki-kongoe
ka-sing
ka-payse-han
ka-thautsui

#### Appendix 2. Continued.