

LANGUAGE CONTACT IN SINGAPORE MANDARIN *XIANGXIN* ‘BELIEVE’ IN LOCAL NEWSPAPERS

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Abstract. This paper investigates a novel use of the word *xiangxin* ‘believe’ in Singapore Mandarin (SgM) in which the pre-verbal nominal refers not to the believer, but rather to the subject of the propositional complement of *xiangxin* ‘believe’, analogous to passive *believe* sentences in English (e.g. *NP is believed to ...*), although no passive marking occurs in the SgM sentences. We argue for an adverbial analysis of this novel use of *xiangxin*, against previous views (Lin and Khoo 2018) that it exemplifies “raising” as in English *be believed to* sentences. Contrastive analysis of corpus data from Mandarin newspapers in Singapore and Mainland China establishes that this use is not found in standard Mainland Mandarin (MIM), where *xiangxin* ‘believe’ only allows the NP in pre-verbal position to be interpreted as the believer. We discuss the emergent adverbial use of SgM *xiangxin* ‘believe’ as an instance of language contact-induced change and in particular, as translation-induced language change (Heine and Kuteva 2003, 2005).

Keywords: non-experiencer, adverbial, language contact, translation.

1. INTRODUCTION

Language contact situations provide a fertile incubating ground for language change, whether in the intermingling of lexicons or in the evolution of both lexical and grammatical entities. Reflecting this reality, the local languages of the multi-ethnic and multi-lingual society of Singapore have been studied both for their structural properties (Lu 2001, 2002, 2018; Chew 2002; Erlewine 2018) and for the insights they provide into language change (Ho & Platt 1993; Bao 2015). Both threads of inquiry will be evident in this work, which is concerned with the use of the word *xiangxin* ‘believe’ in standard written Singapore Mandarin (henceforth, SgM), and how it contrasts with *xiangxin* ‘believe’ in the standard written Mandarin in Mainland China (henceforth, MIM).

Based on the contrastive analysis of corpus data from newspapers in both Singapore and China, we highlight the emerging features of *xiangxin* ‘believe’ in SgM, in particular as manifested by a novel type of sentence containing *xiangxin* ‘believe’ that bears resemblance to English passive *believe* sentences. These are sentences headed by the verb *xiangxin* ‘believe’ in which the matrix clause subject is not the logical subject of *xiangxin*, but the subject of its embedded clause, as exemplified in example (1) below.

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- (1) 男子相信涉及超过 20 起诈骗案，骗取共 4500 元。

Nanzi **xiangxin** sheji chaoguo 20 qi zhaqi an, pianqu gong 4500yuan.
 man believe involved exceed 20 CL fraud case cheat total 4500RMB
 ‘The man is believed to be involved in more than 20 fraud cases, obtaining a total of RMB4,500.’

In (1), the subject of the sentence containing *xiangxin* ‘believe’ is not the logical experiencer subject of *xiangxin* ‘believe’, i.e. it does not refer to the believer. Rather, the man referred to is the one suspected of fraud, the logical subject of *sheji* ‘involved’ – the subject of the embedded clause, analogous to the English sentence given in the free translation. Below, we refer to this type of *xiangxin* ‘believe’ sentence as non-experiencer *xiangxin* sentences, providing empirical evidence that such examples are found in SgM but not in MIM.

Novel non-experiencer subject *xiangxin* ‘believe’ sentences have been noted by other researchers in existing overviews of SgM (Zhu 2008, Lin and Khoo 2018), and described as instances of subject-to-subject raising (Lin and Khoo 2018), in line with prevailing assumptions on the analysis of corresponding *believe* sentences in English. The present study, however, argues that the NP-raising hypothesis is untenable for the case of SgM *xiangxin* ‘believe’. We argue instead for an alternative analysis of the novel SgM *xiangxin* ‘believe’ sentences as exhibiting an emergent adverbial use of *xiangxin* ‘believe’.

The rest of the paper is structured as follows: Section 2 first documents the contrasting use of *xiangxin* ‘believe’ in SgM and MIM, presenting results from item-by-item inspection of more than 2,000 data tokens from local newspaper articles. In section 3, we argue against the raising analysis of novel *xiangxin* ‘believe’ sentences, citing evidence showing that *xiangxin* ‘believe’ in such cases is no longer a verb, but rather shows adverbial properties. Section 4 discusses the change as a likely result of contact-induced language change, suggesting that this is a case of translation-induced change. Section 5 concludes the paper.

2. CONTRASTIVE DATA ANALYSIS

This section presents data illustrating the uses of *xiangxin* ‘believe’ in SgM and MIM. We show that, while in both varieties of Mandarin, experiencer subject *xiangxin* ‘believe’ is found, only the former allows non-experiencer *xiangxin* ‘believe’.

2.1. Data Sources

The data used for investigation is extracted from newspapers that arguably reflect the written standard of each variety of Mandarin. We selected corpus examples from *People’s Daily* as representative of MIM, using the CCL database (Zhan et al. 2003), and examples from all three Mandarin newspapers published in Singapore: the morning daily *Lianhe Zaobao* (*Zaobao*), and the evening dailies *Lianhe Wanbao* (*Wanbao*), and *Shin Min Daily News* (*Shin Min*), taken from the Factiva database.

People’s Daily is the official newspaper of the central committee of the Chinese Communist Party (CCP), which mainly reports China news, with sections on politics, military, culture and life. Similarly, *Zaobao* is the main Chinese language daily newspaper

of Singapore, with a regional focus both on Singapore and other Southeast Asian countries. The other two newspapers, *Wanbao* and *Shin Min*, mainly cover news from Singapore. *Wanbao* was further merged with *Shin Min* in December 2021. While novel *xiangxin* ‘believe’ is found in both *Zaobao* and *Shin Min*, it is more prevalent in *Shin Min*, likely because *Shin Min* is targeted towards a local audience. Therefore, unless otherwise noted, all examples below of MIM are from People’s Daily and SgM examples are from *Shin Min*.

Table 1

Data information

	Zaobao	WanBao	ShinMin	SgM	MIM (People’s Daily)
Database	Factiva	Factiva	Factiva	Factiva	CCL
Year	2000-2021	2000-2021	2000-2021	2000-2021	2000
Token count	100	100	800	1000	1000
Total		2000			

As Table 1 shows, the mini-corpus is composed of 2,000 sentences with 1,000 from SgM and the other from MIM. Concrete examples will be provided in sections 2.1 and 2.2.

2.2. Canonical uses of *xiangxin* ‘believe’: MIM and SgM

For illustrative purposes, the tokens presented here are restricted to *xiangxin* ‘believe’ sentences with an uncontroversial subject NP. Thus, sentences without an overt nominal before *xiangxin* ‘believe’, or with a pre-verbal nominal that is not clearly a subject, e.g. topic NPs marked by a pause or other discourse markers, are excluded. This simplifies the data for maximal contrast between different interpretations of the subject NP.

Both MIM and SgM show the canonical use of *xiangxin* ‘believe’ with an experiencer subject. In both varieties, much as with English *believe*, *xiangxin* ‘believe’ may take a simple NP object, as in (2)-(3); or a propositional complement as in (4)-(5). In what follows, we will only present examples with clausal complements and set aside uses of *xiangxin* with a nominal object.

- (2) 奶奶相信《贤文》中的一句话。

Nainai xiangxin <xianwen>-zhong-de yiju hua.
 grandma believe <Sage-Writing>-middle-DE one-CL³ words
 ‘Grandma believed in a quote from the Sage.’ (MIM)

- (3) 国人应该相信医生的判断。

Guoren yinggai xiangxin yisheng de panduan.
 country.people should believe doctor DE judgement
 ‘The people of the country should trust the judgment of their doctors.’ (SgM)

³ Abbreviations used: 1, 3 = 1st person, 3rd person; ASP = aspect; CL = classifier; COP = copula; NEG = negative; NMLZ = nominalizer; PL = plural; PRT = particle; Q-PRT = question particle; REDUPL = reduplication; SG = singular.

- (4) 我们相信台湾同胞会作出明智的历史抉择。
 Women xiangxin Taiwan tongbao hui zuochu mingzhi-de lishi jueze
 1PL believe Taiwan compatriots will make-out wise-NOMZ history choice
 ‘We believe that our compatriots in Taiwan will make a wise historical choice.’ (MIM)
- (5) 我相信这么一来就可事半功倍。
 Wo xiangxin zheme yilai jiu ke
 1PL believe this.way one.come so can
 shibangongbei.
 thing.half.merit.double
 ‘I believe that this way can get twice the result with half the effort.’ (SgM)

Canonical *xiangxin* ‘believe’ sentences need not contain an overt experiencer subject: In keeping with the pro-drop nature of Mandarin, the subject may be null, as in (6) and (7), which are understood to have an unpronounced experiencer subject.

- (6) 相信竞争会给消费者带来好处。
 Xiangxin jingzheng hui gei xiaofeizhe dailai haochu.
 believe competition will give consumers bring benefits.
 ‘(We) believe that competition will bring benefits to consumers.’ (MIM)
- (7) 事后，相信受害者深感不妥，才决定报警。
 Shihou, xiangxin shouhaizhe shengan bu tuo,
 thing.after believe victim deep.feel NEG appropriate
 cai jueding baojing.
 until decide call.police
 ‘Afterwards, it was believed that the victim deeply felt something was wrong and decided to call the police.’ (SgM)

2.3. Non-canonical uses of *xiangxin* ‘believe’: SgM only

In addition to canonical *xiangxin* ‘believe’, SgM presents non-canonical uses of *xiangxin* ‘believe’ with a non-experiencer subject, as noted in example (1), repeated below.

- (1) 男子相信涉及超过 20 起诈骗案，骗取共 4500 元。
 Nanzi xiangxin sheji chaoguo 20 qi zhaqi an, pianqu gong 4500yuan.
 man believe involved exceed 20 CL fraud case cheat total 4500RMB
 ‘The man is believed to be involved in more than 20 fraud cases, obtaining a total of RMB4,500.’ (SgM)

(8) and (9) show that non-experiencer *xiangxin* ‘believe’ is quite general, found also when the non-experiencer surface subject denotes an inanimate entity, potentially headed by an abstract noun describing an activity (8), and by a concrete noun describing an apartment (9).

- (8) 祭祖活动相信会集中在 3 月 21 日至 4 月 19 日。

Jizu **huodong** **xiangxin** hui jizhong
 worship.ancestor activity believe will concentrate
 zai 3 yue 21 ri zhi 4yue 19 ri.
 at 3 month 21 day until 4.month 19 day
 'The ancestor worship activities are believed to be concentrated from March 21 to April 19.' (SgM)

- (9) 失火单位相信住着一家六口和一只宠物鸟...

Shihuo **danwei** **xiangxin** zhu.zhe yi.jia liu.kou he
 Lose.fire unit believe live-ASP one-CL six-CL and
 yi.zhi chongwu niao.
 one-CL pet bird
 'The unit on fire is believed to be inhabited by a family of six and a pet bird...' (SgM)

In contrast, *xiangxin* 'believe' sentences in MIM conventionally require an experiencer subject, and they therefore do not generally allow for an inanimate-denoting surface subject. In other words, the surface subject of *xiangxin* 'believe' sentences in MIM must also refer to the actual believer.

Categorizing the types of elements (including pro-drop cases) before *xiangxin* 'believe' as experiencer, non-experiencer and others⁴, we provide data counts in Table 2 below showing the frequency of experiencer and non-experiencer subjects of *xiangxin* 'believe' found in MIM and SgM.

Table 2

Counts and frequency of different elements before *xiangxin* 'believe'

	Experiencer	non-experiencer	others
SgM	258 (25.8%)	218 (21.8%)	52 (52.4%)
MIM	738 (72.42%)	1 (0.1%)	260 (25.9%)

The data demonstrate clearly that experiencer subject is almost the only type of *xiangxin* 'believe' sentence found in MIM while SgM allows both experiencer and non-experiencer to occur in front of *xiangxin* 'believe'. In our sample SgM showed a healthy 21.8% of non-experiencer subject *xiangxin* 'believe' sentences, while MIM yielded only one example (0.1%) of a potential non-experiencer subject (10).

- (10) 科学还该不该相信?

Kexue hai gai-bu-gai xiangxin?
 science still should-not-should believe
 'Should science still be believed/Should one still believe in science?' (MIM)

⁴ 'Others' includes pro-drop, a subject separated from *xiangxin* by a comma, and *xiangxin* in an embedded clause.

It is noteworthy that in this example, the pre-verbal nominal describes an inanimate concept, *kexue* ‘science’. Being inanimate, the subject here cannot be interpreted as the believer, and the sentence is interpretable only as ‘should people believe in science?’ The sentence is consistent with a parse in which the *xiangxin* ‘believe’ has a null experiencer subject with a preposed object nominal. The sentence also contains the deontic modal verb *gai* ‘should’, which expresses some kind of obligation, strengthening the interpretation that there is a null subject referring to a sentient being in the sentence. As will be discussed in section 4 below, this kind of (hypothesized) structure involving a null subject with a preposed element is an important factor in the emergence of non-experiencer *xiangxin* ‘believe’.

The inanimate pre-verbal non-experiencer in MIM example (10) also contrasts neatly with the different options available for the semantic types described by subject nominals in SgM *xiangxin* sentences. We further examined the 218 non-experiencer tokens in SgM in Table 2 for the semantic types of the subject noun, identifying three semantic categories of the subject noun description: human, animal, and inanimate. Their respective counts and percentages are illustrated in Table 3.

Table 3

Counts and frequency based on semantic features

	human	animal	inanimate
count	103	5	110
frequency	47.02%	2.38%	50.61%

As Table 3 shows, animate and inanimate-denoting subject nominals each account for approximately half the SgM *xiangxin* examples. That is, animate and inanimate subjects are equally likely in non-experiencer *xiangxin* ‘believe’ sentences, indicating that the non-canonical *xiangxin* ‘believe’ sentences in SgM reflect a grammatical option, and is not a case of structural ambiguity supported by a particular semantic type of subject nominal, a possibility found in MIM, as the discussion just below will show.

Together, Table 2 and Table 3 show that *xiangxin* ‘believe’ allowing a non-experiencer human-denoting subject nominal is a remarkable feature of SgM, comprising 47.02% of all non-experiencer *xiangxin* tokens and 10% of all SgM data. In sharp contrast, MIM, any human-denoting nominal before *xiangxin* ‘believe’ can only be interpreted as the experiencer or believer.

3. NON-EXPERIENCER XIANGXIN ‘BELIEVE’: AN ADVERBIAL ANALYSIS

This section turns to the structure of non-experiencer *xiangxin* ‘believe’ sentences. We show that, although these sentences resemble passive raising structures on the surface, *xiangxin* ‘believe’ in these cases is not a verb in any voice. Rather, as evidenced by its incompatibility with negation and question marking, it is better understood as an adverb.

3.1. Against a raising analysis for non-experiencer *xiangxin* 'believe'

On the surface, novel non-experiencer *xiangxin* 'believe' sentences, as in (11) below, truncated from example (1), resemble cases of "subject-to-subject" raising. In generative approaches, *xiangxin* 'believe' could be assumed to be passive, its experiencer argument "demoted" in some way so as to be unrealizable in subject position. This leaves the matrix subject position open, available for the subject of the embedded propositional clause to raise into matrix subject position, as exemplified in (12).

(11) 男子相信涉及超过 20 起诈骗案。

Nanzi xiangxin sheji chaoguo 20 qi zhaqi an
man believe involved exceed 20 CL fraud case
'The man is believed to be involved in more than 20 fraud cases.' (SgM)

(12) 男子相信涉及超过 20 起诈骗案。

Nanzi_i xiangxin [s i sheji chaoguo 20 qi zhaqi an]
man believe involved exceed 20 CL fraud case
'The man is believed to be involved in more than 20 fraud cases.' (SgM)

This is the standard analysis for English passive *believe* sentences (see e.g. Carnie 2006: 285-291; 395-411), where the subject position can be filled by the subject of the embedded clause, as in (13), or by expletive *it*, as in (14).

(13) [The suspect]_i is believed to [i be involved in more than 20 fraud cases].

(14) **It** is believed that [the suspect is involved in more than 20 fraud cases].

The raising structure for novel non-experiencer *xiangxin* 'believe' is assumed in Lin and Khoo (2018). Given the lack of a distinct passive verb form in Mandarin and the lack of expletive subjects, however, there is no independent corroboration of the raising analysis available from other facts.

We argue here that in any case there cannot be any such corroboration, because non-experiencer *xiangxin* 'believe' does not involve raising, and indeed, *xiangxin* 'believe' is not a verb in such cases. We claim that non-experiencer *xiangxin* 'believe' is not a verb. This conclusion receives support from the inability of *xiangxin* 'believe' in these sentences to be negated or to form a yes-no question. (15) shows that a non-experiencer *xiangxin* 'believe' sentence, based again on example (1), does not allow a negation marker to precede *xiangxin* 'believe'.

(15) *男子不相信涉及超过 20 起诈骗案。

Nanzi **bu** xiangxin sheji chaoguo 20 qi zhaqi an.
man **NEG** believe involve exceed 20 CL fraud case
Intended: 'The man is not believed to be involved in more than 20 fraud cases.'

Using the same example, (16) shows that *xiangxin* ‘believe’ cannot occur in the X-not-X pattern to yield a yes-no question.

- (16) *男子相信不相信涉及超过 20 起诈欺案?

Nanzi **xiangxin-bu-xiangxin** sheji chaoguo 20 qi zhaqi an?
 man believe-NEG-believe involve exceed 20 CL fraud case
 Intended: ‘Is the man believed to be involved in more than 20 fraud cases?’

In contrast, standard experiencer subject *xiangxin* ‘believe’, like other verbs, is compatible with all the preceding contexts. The MIM examples below show that experiencer subject *xiangxin* ‘believe’ occurs naturally with negation (17) and in an X-not-X question (18).

- (17) 我不相信埃塞会出现饥荒, ...

Wo **bu** xiangxin aisai hui chuxian jihuang, ...
 1SG **NEG** believe Ethiopia will appear famine, ...
 ‘I do not believe there will be a famine in Ethiopia, ...’ (MIM)

- (18) 人们相信不相信这位女子能否经受……种种磨练的摧残呢?

Renmen **xiangxin-bu-xiangxin** zhewei nüzi nengfou
 people **believe-NEG-believe** this-CL girl able.or.not
 jingshou ...zhongzhong molian he cuican ne?
 endure type-REDUPL trial and torment Q-PRT
 ‘Will people believe whether this girl will be able to endure all kinds of trials and torment?’ (MIM)

Analogous examples of negation (19) and X-not-X question formation (20) are also found in SgM for canonical experiencer *xiangxin* sentences.

- (19) 我不相信我这一生能演完所有坏人。

Wo **bu** xiangxin wo zhe yisheng neng yan-wan
 I **NEG** believe I this one-life can play-finish
 suoyou huairen.
 all bad.guy
 ‘I don’t believe I can play all the bad guys in my life.’ (SgM)

- (20) 便又问我, 相不相信石头也是忧郁的?

Bian you wen wo, **xiang-bu-xiangxin** shitou ye
 then again ask I **believe-NEG-believe** stone also
 shi youyu-de?
 COP melancholy?
 ‘Then s/he asked me again, do you believe that stones are also melancholy?’ (SgM)

Therefore, the unacceptability of negation and X-not-X question formation in (15)-(16) is a characteristic of non-experiencer *xiangxin* sentences, and not a property of SgM *xiangxin* ‘believe’ in general.

3.2. An adverbial analysis for non-experiencer *xiangxin* 'believe' in SgM

This subsection presents our analysis of non-experiencer *xiangxin* 'believe' in SgM, arguing that it is best considered as having developed into an adverb. The discussion in the previous subsection shows that *xiangxin* 'believe' with non-experiencer sentences in SgM is not a verb, and therefore, it cannot be a raising verb. Consequentially, non-experiencer *xiangxin* sentences do not involve a raising structure. The restricted nature of non-experiencer *xiangxin* 'believe' in SgM contrasts not only with canonical uses of experiencer *xiangxin* 'believe', but also with English passive *be believed*, which allows straightforwardly for negation (21) and yes-no question formation (22).

(21) The victim's wound was **not** believed to be life-threatening. (COCA)⁵

(22) One thing I never see addressed: **is** dark matter **believed** to be tangible? (COCA)

The above examples in English demonstrate that the unacceptability of these contexts with SgM non-experiencer *xiangxin* 'believe' is not due to interpretational restrictions, and should arise from some other contrast with English passive (*be*) *believed*.

We propose that non-experiencer *xiangxin* 'believe' should be classified as an adverb. This proposal receives support from the incompatibility of *xiangxin* 'believe' with negation and X-not-X question formation, as discussed above, which is behaviour typical of adverbs in Mandarin. This point can be demonstrated using standard adverbs. As the examples below indicate, the epistemic adverbial *dagai* 'probably' (23) also cannot be negated (24) or be questioned in the X-not-X structure (25).

(23) 他大概会来。

Tabu	dagai	hui	lai.
he NEG	probably	will	come

Intended: He is not likely to come.

(24) *他不大概会来。

Tabu	dagai	hui	lai.
he NEG	probably	will	come

Intended: He is not likely to come.

NEGATION

(25) *他大概不大概会来?

ta	dagai	bu	dagai	hui	lai.
he	probably	not	probably	will	come

Intended: Will he probably come?

X-NOT-X QUESTION

Consistent with an adverbial analysis, in all the relevant examples presented above, *xiangxin* 'believe' is entirely optional, and can be removed while preserving both the

⁵ Corpus of Contemporary American English, <https://www.english-corpora.org/coca/>.

grammaticality and interpretation of the rest of the sentence. This is illustrated by the examples in (26)-(27), based on (8)-(9) above.

- (26) 祭祖活动(相信)会集中在3月21日至4月19日。 (= (8))
 Jizu huodong xiangxin hui jizhong zai
 worship.ancestor activity believe will concentrate be.at
 3 yue 21 ri zhi 4yue 19 ri.
 3 month 21 day until 4.month 19 day
 ‘The ancestor worship activities are (believed to be) concentrated from March 21 to April 19.’
- (27) 失火单位(相信)住着一家六口和一只宠物鸟... (= (9))
 Shihuo danwei xiangxin zhu.zhe yi.jia liu.kou he yi.zhi
 lose.fire unit believe live-ASP one-CL six-CL and one-CL
 chongwu niao.
 pet bird
 ‘The unit on fire is (believed to be) inhabited by a family of six and a pet bird...’

Summing up, non-experiencer *xiangxin* ‘believe’ in SgM, unlike typical verbs, but in parallel to adverbs such as *dagai* ‘probably’, is unable to undergo negation or form yes-no questions in the X-not-X form. We have argued that *xiangxin* is no longer a verb in such cases, but should actually be treated as having developed into an epistemic adverbial which can be translated with the coinage “believedly”. Like other epistemic adverbials such as *dagai* ‘probably’ and English *allegedly*, it is used to indicate the speaker’s attitude or informational source with respect to the proposition framed in the clause it occurs in.

4. DISCUSSION

This section discusses the factors likely to have contributed to the emergence of non-experiencer adverbial *xiangxin* ‘believe’ in SgM. We first discuss facilitating properties of the particular situation, i.e., the wider linguistic context that gave birth to Singapore Mandarin, and the structural properties of Mandarin itself. We then turn to more universal factors that could also be relevant.

4.1. The wider linguistic context and English *be believed*

SgM is the regional variant of Mandarin spoken and written in the ethnically and linguistically diverse society of Singapore. Based on the major ethnicity categories designated during colonial times, there are four official languages in Singapore, Chinese, Malay, Tamil and English, with English designated as the ‘working’ language (see Bao 2005: 271; Lee 2012:287, among others). While the Chinese are the majority, comprising approximately 70% of the population, English is the prestige language, being the medium of instruction in schools, and the language used by all ethnicities in the city state.

The use of English as a home language has increased over the years while use of other official languages, including Mandarin and other Chinese dialects, has fallen (Lee 2012, Goh 2017: 45).

Given the prestige status of English, SgM is inevitably affected by English. This is especially true of written material in official texts, such as press releases, official announcements, and other informational material issued by the government, which tend to originate in English while versions in the other official languages, if made available, are obtained through translation.

The similarity of non-experiencer *xiangxin* 'believe' sentences to English passive *be believed* sentences should be clear from the examples themselves, and this point has not been lost on previous researchers. Zhu (2008:148) attributes non-experiencer *xiangxin* 'believe' to the translation of the two sentence structures illustrated below.

- ① It is believed that...
- ② NP- be - V-ed - infinite VP

The English source structures schematized above employ *believe* in the passive voice, but there is no direct translational equivalent in Mandarin of English *be believed* for two reasons. First, Mandarin is known to lack inflectional morphology for grammatical categories including voice. The verb form remains the same across active and passive structures. Overt passive marking comes most often in the form of the pre-verbal morpheme *bei*, although even that is optional (Tan 1991). Second, *xiangxin* is almost never used with overt *bei* passive marking. Out of 49, 249 tokens of *xiangxin* in the entire CCL corpus (Zhan et al. 2003), only eleven occurrences of *bei* with *xiangxin* can be found. No examples at all of *bei* with *xiangxin* are found in the CCL data from the *People's Daily*.

Bilingual users of Mandarin in Singapore, especially those journalists who produced the sampling of data appealed to in this study, are surely aware of this difference when translating from English to Mandarin. Zhu (2008) suggests that novel *xiangxin* sentences in SgM reflect a word-for-word translation from English while constrained by the inability of *xiangxin* to be used in a passive sentence. Lin and Khoo (2018), who also note the relevance of English "it's believed", further attribute the novel non-experiencer use to 'NP-raising' as discussed in section 3.1. We have seen, however, that the raising analysis is not tenable for non-experiencer *xiangxin*. Therefore, the question to pursue is, more fittingly, how the novel adverbial use arises.

4.2. How does novel adverbial *xiangxin* 'believe' arise?

We agree with the abovementioned authors that English passive *be believed* sentences are the source structure after which novel adverbial *xiangxin* sentences are modelled, constrained by properties of Mandarin grammar. But exactly what properties are relevant is not explicitly discussed in these works. In this section, we identify three structural factors of Mandarin that could have facilitated the evolution of *xiangxin* from verb to adverbial in SgM.

First, as repeatedly noted, the general lack of inflectional marking in general, and on verbs in particular, is a crucial factor. Also important to the picture are second, the pre-verbal

position of adverbs in Mandarin, and third, the pro-drop nature of the language. In combination, these properties mean that it is difficult to consistently distinguish between adverbs from verbs taking clausal complements. A particularly illustrative minimal pair can be seen in the following examples, which both contain a word that in English would be translated as *need* (*to*). Both *xuyao* (28) and *bixu* (29) can occur with a clausal complement which may or may not show an overt subject. They appear quite synonymous: both are apparently modal verbs amenable to a raising analysis.

(28) 我们**需要**研究他们为什么“不听话”...

women	xuyao	yanjiu	tamen	weishenme	bu	tinghua...
1PL	need	research	3PL	why	not	obedient

‘We need to investigate why they are “disobedient”.’ (MIM)

(29) 我们**必须**正视这样的现实...

women	bixu	zhengshi	zhe	yang	de	xianshi...
1PL	need	correctly.view	this	CL	DE	reality

‘We need to take the correct perspective on this kind of reality.’ (MIM)

Despite their apparent synonymy, however, *xuyao* and *bixu* belong to distinct lexical categories. The former can indeed be analysed as a raising verb, compatible with negation (30) and the X-not-X question form (31); while the latter cannot (32)-(33).

(30) 我们**不需要**研究他们为什么“不听话”...

women	bu	xuyao	yanjiu	tamen	weishenme	bu	tinghua
1PL	NEG	need	research	3PL	why	not	obedient

‘We don’t need to investigate why they are “disobedient”.’

(31) 我们**需要不需要**研究他们为什么“不听话”？

women	xuyao	bu	xuyao	yanjiu	tamen	weishenme	bu	tinghua?
1PL	need	NEG	need	research	3PL	why	not	obedient

‘We don’t need to investigate why they are “disobedient”.’

(32) *我们**不必须**正视这样的现实...

women	bu	bixu	zhengshi	zhe	yang	de	xianshi ...
1PL	NEG	need	correctly.view	this	CL	DE	reality

Intended: ‘We need to take the correct perspective on this kind of reality.’

(33) *我们**必须不必须**正视这样的现实...

women	bixu	bu	bixu	zhengshi	zhe	yang	de	xianshi ...
1PL	need	NEG	need	correctly.view	this	CL	DE	reality

Intended: ‘Do we need to take the correct perspective on this kind of reality?’

The diagnostics show that *xuyao* ‘need (to)’ is a verb, while *bixu* ‘obligatorily’ is an adverb. On the surface, however, it is difficult to tease apart *xuyao* and *bixu* unless diagnostic measures such as the above are taken. We thus assume that the novel adverbial

use of *xiangxin* 'believe' arises precisely because of the potential ambiguity between verb and adverb in the presence of another predicate. Given the general lack of verbal inflection and other clause marking devices, the additional predicate may be interpreted either as heading a clausal complement or simply as the main predicate modified by a preceding adverbial.

4.3. Contact-induced grammaticalization?

The preceding discussion pertains to language-particular factors relevant to the change discussed. In addition, there may be more universal factors at work that make the meaning and grammatical shift more likely for items like *xiangxin* 'believe' than say, other verbs that take clausal complements such as *daying* 'promise'. Barron (1997), discussing the evolution of raising verbs, believe that lexical items that pertain to epistemic modality easily experience semantic bleaching through diachronic development. In this process, the lexical meaning of such verbs becomes increasingly abstract, and this shift in meaning often affects the argument structure of the verb. That is, raising verbs, which arguably have no lexically specified subject, may develop from contentful lexical items with a full argument structure in a process of grammaticalization (Hopper and Traugott 1993/2003 and related works).

Heine and Kuteva (2005) apply grammaticalization theory to external language change, and propose that both internal and external change would present the same linear stages. The parameters of grammaticalization are described as extension (extending to new contexts), desemanticization (semantic bleaching), decategorialization (loss in morphosyntactic properties) and erosion (phonetic reduction).

The 'adverbial proposal' for the new usage patterns of *xiangxin* 'believe' in SgM arguably exemplifies grammaticalization stages in that this epistemic verb is undergoing the evolution process from a lexical verb with selectional restrictions on its subject to be a sentient being, to an adverbial item which simply modifies a clause, characterizing speaker attitude/belief.

It is possible to assume that there is grammaticalization behind the category change from lexical verb to adverb, for *xiangxin* 'believe' in SgM according to the data provided. On the other hand, grammaticalization research typically pertains to the spoken language, but the current study is centred on written material. It is not immediately clear whether adverbial *xiangxin* is prevalent or typical in spoken SgM. Therefore, further synchronic and diachronic investigations of spoken SgM are required to support positing a grammaticalization process. Our current corpus does not provide sufficient coverage to make the argument. In the next section, we discuss the relevance of translation-induced language change, for which our evidence may be more pertinent.

4.4. Translation-induced language change

Singapore presents a unique linguistic and social context not only in being multi-ethnic and multi-lingual, but also in its restricted press landscape in which all newspapers are owned by a single entity. Since 1984, all newspapers in Singapore have belonged to

Singapore Press Holdings.⁶ In 2022, the newspapers and other media businesses of the former SPH came under the auspices of SPH Media, run by the SPH Media Trust.⁷

Different language newspapers often need to report the same event in Singapore. This is especially so in the case of national events and public announcements from the government. Official communication and press conferences are in English and the journalists of newspapers in other languages, including the Chinese newspapers, frequently have to write news articles by translating for quick publication according to English-language sources. In this context, it serves writers well to be able to come up with translational equivalents of high-frequency structures (Heine and Kuteva 2005).

In comparison with other epistemic verbs used in reporting an event, *(be) believe(d)* is the most frequently used in the local English newspaper, The Straits Times. Table 4 displays the counts of each verb occurring in the same year.

Table 4

Counts of reporting verbs used in The Straits Times

THE STRAITS TIMES(1Y)	TOTAL
is believed	450
is found	174
is supposed	113
is thought	22
is reported	10

It is probable that being a high frequency item, *be believed* is more easily transferred from the Model language, English, to the Replica language, SgM.

The notion of translation-induced language change seems to provide a plausible account for the development of adverbial *xiangxin* ‘believe’, given that it pertains more directly to the written language. It reflects the unique demands of writing Mandarin texts in Singapore, and does not immediately make claims about the grammar of SgM. Adopting this understanding of adverbial *xiangxin* ‘believe’ does, however, raise questions as to what counts as grammatical change, and how our command and use of the written language features into what we consider grammatical knowledge.

5. CONCLUSIONS AND LOOKING AHEAD

To conclude, this paper explores a novel use of the word *xiangxin* ‘believe’ in SgM by comparing how the same word is used in MIM. We provided empirical confirmation that

⁶ Singapore Press Holdings was formed in a government-brokered effort in 1984, merging Times Publishing Berhad, The Straits Times Press (1975) Limited, Singapore News and Publications Limited and Singapore Newspaper Services Pte Ltd. (Source: <https://eresources.nlb.gov.sg/history/events/34789177-5f5e-468d-9a77-db3680ce4161#3>)

⁷ See <https://www.businesstimes.com.sg/international/khaw-boon-wan-be-chairman-sph-media-clg-management-shareholders-be-founding-members>), also https://en.wikipedia.org/wiki/Singapore_Press_Holdings#cite_note-:8-30 for a fuller discussion.

this use of *xiangxin* 'believe' is found systematically in SgM but not in MIM, based on an investigation of 2000 tokens of *xiangxin* 'believe' in both MIM and SgM. This empirical evidence both supplements and supports earlier discussions based more on anecdotal observations.

We then argued, contrary to earlier work, that non-experiencer *xiangxin* 'believe' in SgM should not be considered a raising verb, but has rather developed into an epistemic adverbial. Our analysis is compatible with considering the emergence of SgM adverbial *xiangxin* 'believe' to be a result of semantic bleaching (Barron 1997, Hopper and Traugott 2003, Heine and Kuteva 2005). In particular, we assume this change is likely to be translation-induced, arising from the influence of English in Singapore's English-dominant contact environment (Bao 2005, 2015; Lee 2012). We propose that this development is facilitated by the following factors: (i) the epistemicity inherent in the lexical meaning of *xiangxin* 'believe'; (ii) structural factors in Mandarin, including pro-drop, the pre-verbal position of adverbials, and the lack of inflectional morphology, including the lack of a passive verb form distinct from the active form; (iii) the influence of English *be believed to* structures.

The current work could be extended in more than one direction. Looking beyond SgM non-experiencer *xiangxin*, analogous uses of *xiangxin* have also been observed in Hong Kong Mandarin (HKM) (Shi et al. 2003), extending to other verbs such as *huaiyi* 'suspect' and *zhengshi* 'confirm'. Whether these phenomena should receive a similar analysis in HKM would be an interesting direction for future research. Looking again at SgM itself, the effects of translation may also have made their way into other uses of *xiangxin* that are not clearly adverbial. In our data, SgM *xiangxin* often follows the adverb *yiban* 'generally', a pattern not found in MIM. Preliminarily, this use seems to reflect English collocations such as 'it is generally believed', inviting further investigation into translation-induced language change.

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