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Singaporean students' language repertoires and attitudes revisited

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ABSTRACT: Singapore has received a large amount of scholarly interest with regards to the structural and sociolinguistic properties of its local variety of English. In contrast, there is comparatively less empirical data on individual linguistic repertoires and usage patterns. Building on previous research into the linguistic and sociological background of young Singaporean adults, our study examines 450 students recruited from three distinct educational institutions: a university, polytechnics, and vocational training schools. A detailed language background questionnaire reveals the degree of multilingualism, patterns of language use, as well as language attitudes towards different languages. The data suggest that the notion of the typically multilingual Singaporean needs to be challenged: bilingualism and trilingualism are more widespread than more multilingual repertoires. Students also report generally positive attitudes towards both English and their mother tongue; attitudes towards the vernacular (Singlish) are also generally positive, as Singlish evidently continues to serve as an important marker of Singaporean identity. We find important differences between the three student cohorts examined here and are able to relate them to their social and ethnic backgrounds.

INTRODUCTION

Recent research into the multilingual texture of Singapore indicates that the city-state is developing into a predominantly bilingual society in which, much in line with government policies, citizens speak English next to one of the so-called 'mother tongues', i.e. Mandarin for the Chinese ethnicity, Malay for the Malay group, and Tamil for the ethnic group of Indians. The mother tongues as well as English count as official languages in Singapore. Many Singaporean speakers, however, live in a more complex linguistic setting, since the term 'English' subsumes both Standard and Colloquial Singapore English, the latter being quite distinct from the standard, as is well known.

Representing a follow-up study to Siemund et al. (2014), our study explores the individual language profiles of 450 Singaporean students coming from three cohorts, namely 150 university students (Nanyang Technological University), 150 students from various polytechnics, and 150 ITE students (Institute of Technical Education, the national vocational training school). Such individual linguistic information is conspicuously absent from government reports (SingStats) or other studies and helps, in our view, to paint a clearer picture of the Singaporean linguistic landscape. The novel contribution of our present study is the addition of 150 ITE students that we will set in relation to the two other cohorts sampled

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and analyzed in Siemund et al. (2014). Our study significantly expands the relatively small body of research on language use and language shift in Singapore, thus helping to paint a clearer picture of this highly complex and dynamic situation.

The set-up of our study is as follows. In section 0, we will provide some background information on the shifting linguistic territory in Singapore as well as summarize the major findings from previous studies. Since the present study, as its precursor, is based on a comprehensive language background questionnaire, we will describe the design of the questionnaire as well as the sampling technique in section 0. The data analysis follows in section 0, while section 0 offers a discussion of our results.

Language shift in Singapore

The linguistic texture in the city-state has undergone dramatic changes since its independence in 1965. Broadly speaking, we can observe a general trend towards speaking English that is present in all ethnic groups. Regarding the ethnic group of Chinese, there is major shift away from Chinese vernaculars such as Cantonese, Hokkien, Hakka, and Teochew towards using the Chinese standard variety Mandarin. The language shift is clearly reflected in the home language use of different age groups, as shown in Table 1.

Table 1: Differences in home language use according to age (based on Wong 2010)

	5 – 24	25 – 44	45 – 64	65 – 85 and over
English	40.8%	32.1%	27.4%	11.5%
Mandarin	35.4%	39.7%	36.2%	15.9%
Chinese Vernaculars	4.3%	9.6%	20.6%	59.0%
Malay	14.6%	10.3%	11.9%	9.9%
Tamil	3.0%	4.2%	2.7%	2.5%

The use of English portrays a very clear monotonic increase from old to young age groups. A similar trend holds for Mandarin, while the Chinese vernaculars manifest a monotonic decrease across these age groups. Table 1 also shows that home language use of Malay and Tamil is practically stable. The diachronic trend given in Table 2 underlines these findings. Here, too, English gives rise to a steady increase from practically no home use in 1957 to more than 30 per cent in 2010. Mandarin, again, follows this trend, while the Chinese vernaculars go down in usage during the same period. Malay and Tamil do not participate in these changes.

Table 2: Changes in home language use over time (based on Wong 2010; Cavallaro 2011; and Leimgruber 2013a)

	1957	1980	1990	2000	2010
English	1.8	11.	18.	23.	32.

	%	6%	8%	0%	3%
Mandarin	0.1 %	10. 2%	23. 7%	35. 0%	35. 6%
Chinese Vernaculars	74. 4%	59. 5%	39. 6%	23. 8%	14. 3%
Malay	13. 5%	13. 9%	14. 3%	14. 1%	12. 2%
Tamil	5.2 %	3.1 %	2.9 %	3.2 %	3.3 %

To be sure, language use in Singapore has been subject to extensive social engineering and close monitoring ever since the city-state became independent. Its multilingual and multicultural identity needs to be viewed as constructed, also medially. The late Prime Minister Lee Kuan Yew considered a successful language policy a matter of great priority on which not least the economic success of the city-state depended. In his memoirs, Lee Kuan Yew writes that 'If we were monolingual in our mother tongues, we would not make a living. Becoming monolingual in English would have been a setback. We would have lost our cultural identity, that quiet confidence about ourselves and our place in the world.' (Lee 2000: 181). While the increase in English can plausibly be attributed to the governmental bilingual policy (English plus mother tongue), the rise in Mandarin can be assumed to have at least partially been caused by the Speak Mandarin Campaign that was initiated in 1979. This campaign took issue with the widespread use of Chinese vernaculars ('dialects') in Singapore. Even before the launch of that campaign, which undertook 'visible' changes such as banning non-Mandarin 'dialects' from mass media, the education system put emphasis on the mother tongue (i.e. Mandarin for the Chinese majority), be it as a subject in English-medium schools or as the actual language of instruction in Chinese-(i.e. Mandarin)-medium schools. When the entire education system switched to English as the medium of instruction in 1987, Mandarin kept its important status among the Chinese ethnic group as the mother tongue taught compulsorily at school and weighted heavily in end-of-year grades.

The data shown in Table 1 and Table 2 primarily come from the official government statistics of Singapore (SingStats). In spite of being very informative, they leave many important questions open. For example, they give no information on individual language competencies and proficiencies. They do not disclose how many and which languages the individuals speak. It remains unclear in which contexts the languages are spoken and which attitudes individuals hold towards them. And finally, SingStats remains completely silent on Colloquial Singapore English. Important parameters of the on-going language shift situation, thus, continue to be unknown.

Previous findings

There are not many studies that try to go beyond the information contained in the official government census reports. Li et al. (1997), Schiffman (2002), Vaish (2007) as well as Cavallaro and Serwe (2010) focus on specific ethnic groups (Tamil, Malay, Teochew), but do not consider the peculiarities of the language shift situation in cohorts that are more representative of the Singaporean society at large. The only studies that we are aware of that sample larger and quasi representative segments of society are Vaish et al. (2009) and Siemund et al. (2014).

In their Sociolinguistic Survey of Singapore, Vaish et al. (2009) explored the language backgrounds and language use profiles of 716 primary 5 students from a selection of Singaporean schools. The students were selected in such a way as to represent the ethnic groups of Chinese, Malays, and Indians. Another sampling parameter concerned socio-

economic status, including students from high, medium, and low social backgrounds. The survey primarily addressed the use of English in comparison to the mother tongues of the students, i.e. Mandarin, Malay, and Tamil. The students were asked to report on their language use at home, at school, amongst family and friends, on the media, for religious activities, and in public spaces. The study also assessed the fluency and proficiency of the students in English and their mother tongues. On top of that, it recorded the attitudes towards these languages. In comparison to the government figures, the Sociolinguistic Survey of Singapore attests a higher usage of English and less mother tongue usage amongst the students. For example, the home language rate for English in the Chinese group is as high as 53.6 per cent, contrasting with 32.6 per cent in the census of 2010. The younger age groups in the census report are certainly in line with these observations (see Table 1 above). Not surprisingly, the use of English positively correlates with socio-economic status, with high-income homes showing higher rates of English. The survey further suggests that literacy in English is higher than in the mother tongues, since it is preferred for reading books, comics, and the like.

A useful overview of the multilingual situation in Singapore is also found in Bolton & Ng (2014), who give a historical breakdown of the societal multilingualism present from early British times (beginning with the census of 1824), to the present day. The various migration waves experienced until World War II do much to explain the resulting picture, whereas in post-war Singapore, massive language shift is clearly framed as being the result of several language policy measures put in place. With regards to language use in the education system, Bolton et al. (2017) shed light on the success of the shift towards English as the sole medium of education at all levels in the country. As they show, this success is, however, mitigated in everyday language practice at postgraduate university level by the presence of a much higher percentage of international students from non-anglophone countries.

As outlined above, the study by Siemund et al. (2014) offers insights into the distribution of languages amongst two cohorts of students (university and polytechnic students), their proficiencies in these languages as well as their attitudes towards them. One of its main findings is the observation that the level of bilingualism in the group of university students is significantly higher than in the group of polytechnic students. The latter group attests higher levels of trilingualism. These findings are shown in Figure 1.

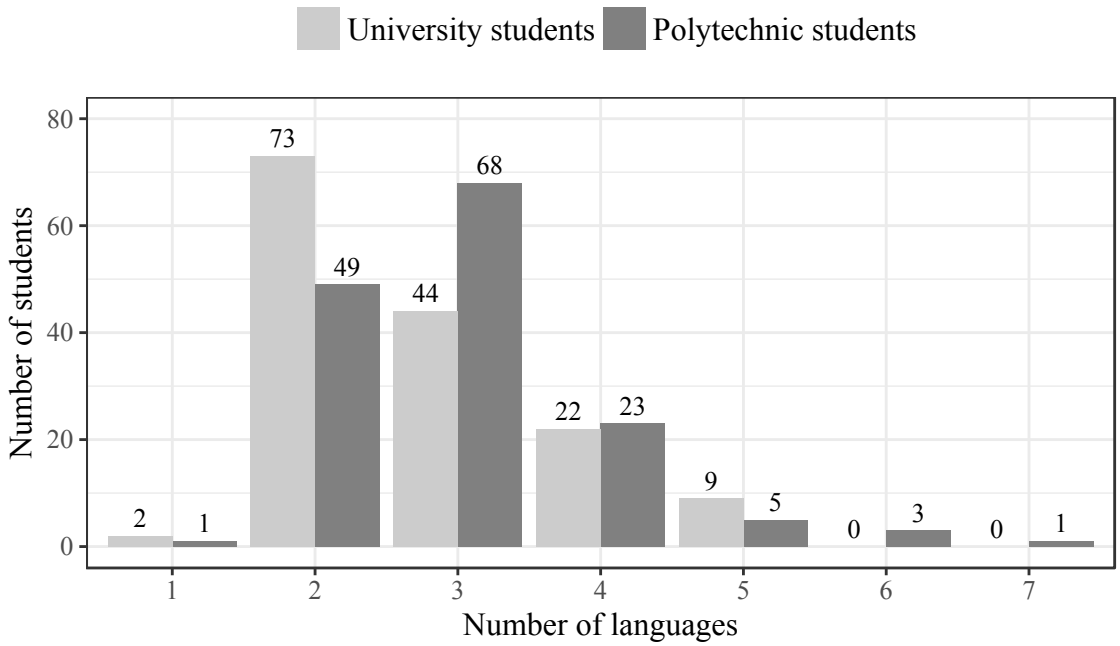

Figure 1: Number of languages spoken by university and polytechnic students (Siemund et al. 2014: 353).

The two student cohorts also show important differences in their language repertoires or language profiles. The relevant findings are summarized in Figure 2. University students are strongly represented in the language combination English (E) and Mandarin Chinese (MC), whereas polytechnic students more often report that they speak English, Mandarin, in combination with either Hokkien (H) or Cantonese (C). In this student group, the traditional Chinese vernaculars are more strongly represented. Students speaking Malay are practically absent from the university group and only modestly present in the polytechnic group. Indians speaking Tamil were very difficult to find. On the whole, Singaporean students attest one of four major language profiles, namely 1. English and Mandarin, 2. English, Hokkien, and Mandarin, 3. English, Cantonese, and Mandarin, and 4. English and Malay.

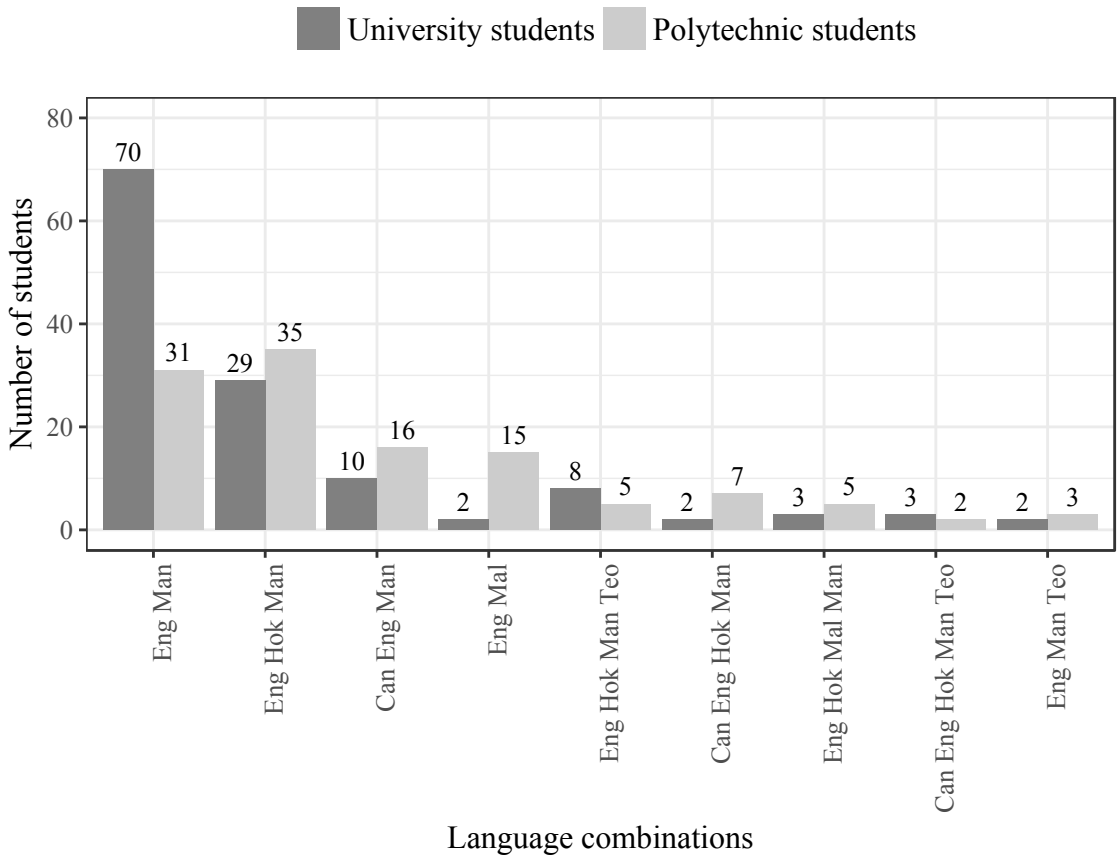

Figure 2: Language combinations amongst Singaporean university and polytechnic students that occur at least five times in the questionnaire data (Siemund et al. 2014: 353). Eng = English, Man = Mandarin Chinese, Hok = Hokkien Chinese, Can = Cantonese, Mal = Malay, Teo = Teochew Chinese.

Siemund et al. (2014) also tapped into the language proficiencies and attitudes of the two student cohorts, suggesting that the degree of multilingualism has a slightly positive effect on proficiency. University students generally outperform polytechnic students in English and Mandarin, though the latter group self-reports higher proficiencies in the Chinese vernaculars. As far as attitudes are concerned, they found that university students show statistically significantly higher positive attitudes towards Colloquial Singapore English than polytechnic students. Moreover, university students embrace the bilingual model (English plus mother tongue) more vigorously than polytechnic students. Tan (2014) also reports increasingly positive attitudes towards Colloquial Singapore English based on a comparison of different age groups. Crucially, the youngest age group in her sample shows the strongest attachment to Colloquial Singapore English, quite independent of ethnic belonging (see Cavallaro and Ng 2009 for some contradictory findings).

Aims of the present study

The principal aim of the present study lies in an extension of Siemund et al.'s (2014) questionnaire survey by a third cohort of students that come from a different educational institution and that can be assumed to be different both ethnically and socially. These additional 150 ITE students (Institute of Technical Education) will be used to correct or corroborate previous findings and hypotheses. We will here be especially concerned with the following three areas:

1. According to Siemund et al. (2014), the degree of multilingualism is higher amongst polytechnic in comparison to university students, which is likely to be attributable to the social delta between these two student groups. Since ITE students typically populate a social

stratum below that of university and polytechnic students, we hypothesize that the degree of multilingualism reported in this group is even higher than in the other two groups.

2. The self-reported language proficiencies reported in Siemund et al. (2014) moderately rise with the number of languages that students command. In other words, the degree of multilingualism has a positive effect on perceived language proficiencies. We expect this effect to become slightly more pronounced due to the addition of another cohort of students.

3. Siemund et al. (2014) showed that university students have developed more positive attitudes towards Colloquial Singapore English and the government-backed bilingual model than polytechnic students. Apparently, Colloquial Singapore English is increasingly embraced as a local solidarity code by the country's elite. We therefore hypothesize that ITE students maintain the least favourable attitudes towards Colloquial Singapore English.

It goes without saying that these hypotheses and the ensuing research questions represent expectations resulting from previous research. We are realistic enough, though, not to expect certain social groups to behave in mechanistic ways. Rather, our current study will reveal several additional factors responsible for the distribution of languages, proficiencies, and attitudes – even though the main thrust of our hypotheses can be shown to be justified.

METHODOLOGY AND DATA COLLECTION

This section describes the questionnaire design and data collection procedure. In order to allow for comparability of the data with the study in Siemund et al. (2014), which was conducted among Singaporean university and polytechnic students in 2011, the same questionnaire was used, and the data collection procedure paralleled the one applied in 2011. For our subsequent analysis, we collate the samples of Siemund et al. (2014), i.e. 150 university students plus 150 polytechnic students, and the sample gathered during the current study (i.e. 150 ITE students). The total sample, hence, comprises 450 students.

An important difference to Siemund et al. (2014) is that for the current study the questionnaire was not distributed as a paper-based questionnaire but online (using SociSurvey, see below). The questionnaire consisted of items that established (a) a general language background profile, (b) a language use profile, (c) an educational and socio-economic profile, and (d) a language attitude profile (cf. Siemund et al. 2014: 346). An interactive design guaranteed that participants were only presented with follow-up questions in case their answers required further information. Depending on the answers they provided, participants were presented with up to 70 questions.

For the general language background profile, participants provided the languages they speak and estimated their proficiency in each of the languages mentioned by ranking them. Additionally, for the (up to) four languages they ranked highest, participants self-assessed their proficiency in listening, speaking, reading, and writing. The self-assessment scale was made up of five points: very good, good, fair, not good, and poor. The language options to choose from throughout the questionnaire comprised the four official languages of Singapore (English, Malay, Mandarin, Tamil) as well as three Chinese dialects (Cantonese, Hokkien, Teochew).[1] Additionally, participants could fill in up to five further languages or dialects in empty slots labelled 'other'. The three Chinese dialects were already provided in the questionnaire distributed by Siemund et al. (2014) in order to account for the most widely spoken Chinese dialects among members of the ethnically Chinese population in Singapore. Since a comparatively high percentage of Malay ITE students were expected to take part in the present study, providing a number of empty slots allowed for several Malay dialects to be mentioned as well.

Furthermore, this questionnaire section investigated the order and mode of acquisition of the languages learnt. Besides asking for the language participants spoke first ('as long as you can remember'), the section investigated the language(s) learnt at home, studied in school, and other languages spoken. Participants could indicate at which age they acquired the languages mentioned and to which degree and with whom they use them. The questionnaire deliberately asked for the first language participants spoke as long as they can remember rather than for their mother tongue (Siemund et al. 2014: 347). This is due to the fact that the term 'mother tongue' officially refers to the respective ethnic mother tongues of Singaporeans, namely Mandarin Chinese, Malay, and Tamil (e.g. Leimgruber 2013b: 48), and might therefore not necessarily trigger the correct answer. Additionally, participants provided information on members of their family that live and do not live in Singapore. This complements information about the language environment participants have grown up in.

Questions on the gender of participants, year and country of birth as well as on the time they spent abroad aim at general background information. Participants were not directly asked for their ethnic affiliation, but speaker groups are rather identified by comparing information on the linguistic background of participants (Siemund et al. 2014: 347).

The questionnaire items about the language use profile of participants provide in-depth information on usage patterns according to situation and speech partner. As a follow-up to the ranking of languages according to proficiency in the general language background section, participants were asked to indicate how often they carry out activities such as watching TV, writing e-mails, or talking on their *handphone* 'mobile phone' in the languages they had ranked highest before. A whole range of questions (16 in total) investigated language use with different family members, with friends that share or do not share the language profile of the participants, and with language use in situations such as thinking alone, swearing, or counting. This section provides valuable insights into the extent to which participants draw on particular (combinations of) languages in different environments, i.e. into the extent of multilingualism in everyday language use.

Questions on the educational and socio-economic profile of participants help to relate patterns of multilingualism and language use to socio-economic status. This is particularly interesting insofar as a comparison with the data of Siemund et al. (2014) allows for the investigation of linguistic profiles of students at different levels of education. In a first step, participants provided information on their ITE affiliation, the programme they were enrolled in, their year of study, and the educational route they had followed. The latter was presented as a multiple choice question comprising all steps from kindergarten to university and was based on a flowchart published by the Singapore Ministry of Education in the Education Statistics Digest (2011) entitled *The Singapore Education Journey* (Siemund et al. 2014: 347). In a second step, the type of housing participants had grown up in and the educational and occupational background of their parents were asked for. Particularly the type of housing and parental occupation is a reliable socio-economic indicator in Singapore (see e.g. Quah et al. 1991; Tan 2004).

Finally, information about the language attitude profile of participants was collected. In that section participants were asked to consider the role of the various languages they speak in their daily lives. Participants rated statements about the relative importance English plays for them, about their respective ethnic mother tongue (Mandarin Chinese, Malay, or Tamil), and about Singlish and its role as an identity carrier. The term *Singlish*, it should be noted, is used here without judgement as to (a) its inherent value as a variety of English, and (b) its ontological status. The latter may be questioned due to the high levels of variation within the 'variety', a point not restricted to Singlish (Leimgruber 2013c). Nonetheless, the term *Singlish* remains in widespread use within the general population, within academia, and within language planning circles (see e.g. Platt 1975; Kramer-Dahl 2003; Bokhorst-Heng 2005;

Rubdy 2007; Wee 2011). Although definitions on what constitutes 'Singlish' differ even within the speech community, there is agreement that it does, in fact, exist (Leimgruber 2014), if only as a topic of discussion.

The data for the project were collected during a research visit at Nanyang Technological University in September 2015. 150 questionnaires were distributed among students of various campuses of the Institute of Technical Education (ITE) across Singapore; they were all born and raised in the city state. Thus, the size of the sample is the same as that of the two samples in Siemund et al. (2014), resulting in a total of 450 language background questionnaires that were collected from students at three different levels of education. Participants had to sign a consent form confirming their agreement that their data would be used for non-profit, bona fide linguistic research. They were rewarded with twelve Singapore dollars for their participation.

Participants were recruited with the help of six research assistants (students of linguistics) from Nanyang Technological University. Siemund et al. (2014) had shown that gathering data by using the social network of the research assistants led to a return rate of 100 per cent of the questionnaires distributed, which was why it was decided to adopt this so-called 'friend of a friend' approach again. The 'friend of a friend' approach dates back to Milroy (1980) and is based on the assumption that data of a social group can most successfully be collected by insiders to that social group or by people who are friends with a member of the group (Milroy 1980: 47; Milroy & Gordon 2003: 73-76). In fact, also the data collection conducted for the current study was met with a very satisfactory return rate of 100 per cent. All six research assistants had access to social networks of ITE students, a fact that, together with their background knowledge in linguistics and familiarity with the questions asked, made them the ideal candidates to carry out the data collection. The dataset comprises responses from 61 female and 89 male participants.

As pointed out before, in contrast with the data collected by Siemund et al. (2014) an online questionnaire rather than a paper-based version was distributed this time. We digitalized the questionnaire used by Siemund et al. by means of the online platform SoSci Survey (SoSci Survey GmbH 2016) and the research assistants provided participants with a link and password that allowed them to access the questionnaire. While the participants filled in the questionnaire, the research assistants stayed in the surroundings to be available should questions arise.

Presenting participants with an online questionnaire posed several advantages that should be mentioned briefly here. First of all, the questionnaire was designed interactively, meaning that participants were only presented with follow-up questions in case they gave answers that require further information (cf. Rasinger 2013: 64). To mention just one example, participants were only asked to provide details on their time spent abroad in case they indicated that they actually had been abroad. As simple as it sounds, this strategy saved participants much reading effort. Reader-friendliness was also enhanced by only presenting participants with one question per page for most questions. A scale on the screen indicated how far participants had proceeded with the questionnaire at any point. For the researcher, an online questionnaire has the big advantage that all data collected are digital from the beginning. Having to digitalize large amounts of data is not only time-consuming but also prone to errors. Additionally, the collected data can be monitored and downloaded on the go. This means that even while data are still being collected, the researcher can easily keep an eye on important statistics such as gender or ethnic distribution and conduct interim analyses. For a discussion of benefits and costs of online questionnaires in the field of linguistics see, for instance, Riazi (2016: 312) or Paltridge & Phakiti (2015: 92).

DATA ANALYSIS

We now turn to the analysis of the data collected by the methods described above. First, a description of the student cohorts' demographic characteristics is presented, followed by results of the extent of multilingualism found in each of the three schools (university, polytechnic, vocational training). The languages used by the students and the various language combinations found in the sample are then presented. Following that, we turn to the question of whether university, polytechnic, and vocational training students differ with respect to their degree of multilingualism. Lastly, students' oral and literal proficiencies in their languages are considered, as well as their attitudes towards these languages and towards language policies.

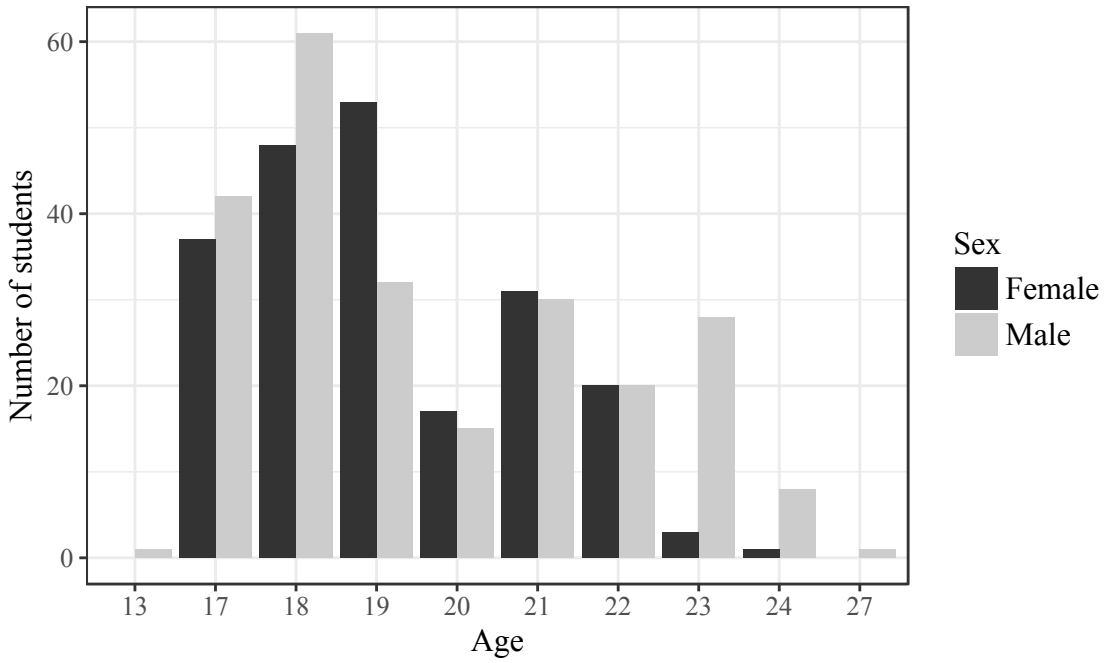

Figure 3: Demographics of the student cohort

Demographics

The demographic profile of our informants can be described as follows. There were 450 students, recruited from a university (150 students), a polytechnic (150), and the ITE (Institute of Technical Education), the vocational training school (150). Nearly all students were exclusive members of one of the three types of schools: 29 university students in our sample have a history of some kind of polytechnic study prior to entering university, 13 polytechnic students have spent time at the ITE. No university students in our sample have a history of ITE study. In total, there were 336 students of Chinese ethnicity (75%), 98 Malays (22%), and 16 Indians (4%). In the sample from the university, there were 147 Chinese, two Malays, and just one Indian. In the polytechnic, there were 124 Chinese, 23 Malays, and 3 Indians. The ITE sample comprised of 65 Chinese, 73 Malays, and 12 Indians. As can be seen in Figure 3, their ages range from 17 to 24; only two of the 450 students fall outside this range (13 and 27, both being male university students). Two informants did not provide their age. Not shown in Figure 3 is that university students are, on average, slightly older than both polytechnic and ITE students.

As far as we can tell, the distribution of students according to school and ethnic background in our sample partially corresponds to the figures provided by the 2010 census, though there are also differences. Consider Table 3, which shows the official figures,

comprising the age groups of '15 – 19 Years' and '20 Years & Over'. We can see that Chinese students are somewhat overrepresented at university level when judged against the general ethnic distribution in the city-state (75 per cent Chinese, 15 per cent Malay, and 10 per cent Indian), whereas they are slightly underrepresented at the ITE-level.

Table 3: Census data (2010) on level of education currently attending, for the age groups 15–19 years and 20 years & over combined, by ethnic group.

	University		Poly		ITE	
	absolute	%	absolute	%	absolute	%
Chinese	60,520	87.48	59,665	76.12	10,447	72.54
Malay	3,885	5.62	12,998	16.58	2,534	17.59
Indian	4,774	6.90	5,724	7.30	1,421	9.87
Total	69,179		78,387		14,402	

Table Table 4 offers the corresponding distributions in our sample. Chinese students are overrepresented both at university and polytechnics, but strongly underrepresented at the ITE-level. The share of Malay students at the ITEs lies considerably above the figures reported in the census, while these students hardly show up at university level.

Table 4: Ethnicity and type of institution in our sample.

	University		Poly		ITE	
	absolute	%	absolute	%	absolute	%
Chinese	147	98.00	124	82.67	65	43.33
Malay	2	1.33	23	15.33	73	48.67
Indian	1	0.67	3	2.00	12	8.00
Total	150		150		150	

A major caveat in interpreting these figures, however, is that the census figures do not reveal the type of school attended, but the course currently being attended. This is problematic insofar that the numbers for ITE in Table 3, for instance, are in fact those of the census category 'Professional Qualification and Other Diploma', which includes courses taught at other institutions, whereas it does not include some of the course on offer at the ITE. Therefore, any comparison is by necessity somewhat speculative, which leads us to believe that our snowballing sampling method may in fact be more suited to comparisons between institutions rather than the more complex, institution-independent data provided by the census.

Gender is fairly balanced in the sample, with 239 male and 211 female respondents. The place of birth was Singapore in 440 cases, Malaysia in five cases, Indonesia in three, and China and the United Kingdom in one each. In our study, we used educational attainment (as

measured by the three schools) as a proxy to social class, a method commonly employed, also in the context of research on Singapore English (Platt 1975; Pakir 1991; Poedjosoedarmo 1995; Leimgruber 2009; Siemund et al. 2014). Tan (2015: 63) also lists education, together with income and occupation, as an objective criterion in assessing class in Singapore's society. The type of school attended also reveals a high correlation with parental occupation and housing, a trend confirmed by census data on housing and education as well as by previous research (Quah et al. 1991; Tan 2004). The demographic profile underlying our study does not pretend to reflect the linguistic ecology of Singapore as a whole, but rather of a clearly delimited (and young) age group.

Multilingualism

Turning now to the languages spoken by the students, the first question concerns the number of languages used. Figure 4 shows the number of languages claimed to be spoken against the number of students in the respective category. It shows that monolingual speakers are an exception and that multilingualism is the norm: 442 out of 450 respondents speak two or more languages.

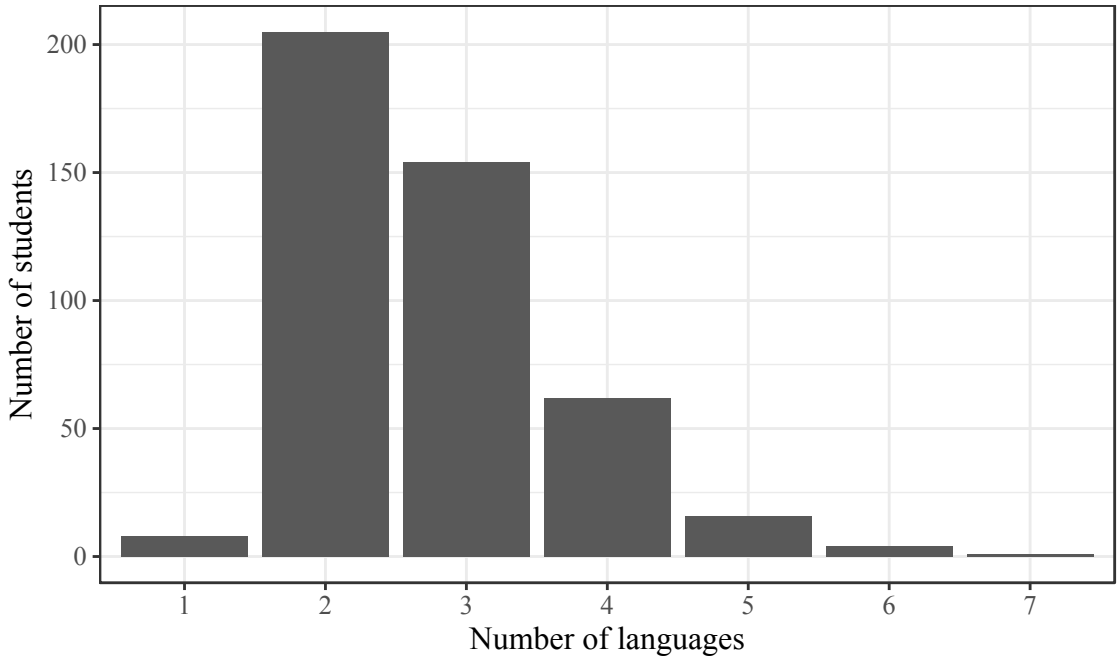

Figure 4: Number of languages spoken by students

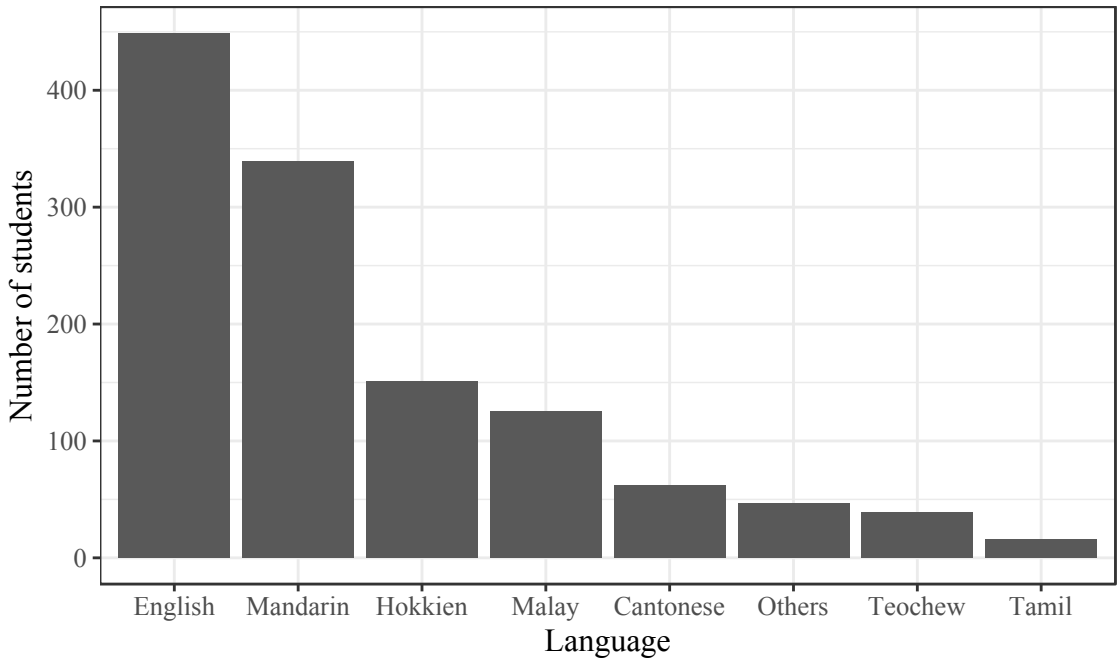

Figure 5: Languages spoken by students

The mean number of languages spoken is 2.75, the median three languages, and the mode two languages. Two or three is the number of languages spoken that is claimed by most respondents, and few report speaking more than four languages. Typically, therefore, the multilingualism in our sample consists of bilingualism and trilingualism.

Given that multilingualism is the norm rather than the exception, our next question relates to the actual languages themselves and the frequencies at which they are spoken. As can be seen in Figure 5, all informants speak English and a large number speaks Mandarin. The other languages or dialects are spoken at much lower rates, even though Hokkien, Malay, and Cantonese are also well represented. Tamil, Singapore's fourth official language, is spoken by only eighteen respondents. The category 'other' above comprises the following languages: Arabic (3), Bahasa Indonesia (7), Batak (1), French (4), German (1), Gujarati (1), Hainanese (5), Japanese (14), Javanese (1), Korean (11), Spanish (3), Swedish (1), Thai (3). Many of these are languages foreign to Singapore.[2]

As far as the language combinations are concerned, the students in our sample exhibit the profiles displayed in Table 5 below. The languages have been abbreviated as follows: Cantonese = Can, English = Eng, Hokkien = Hok, Malay = Mal, Mandarin = Man, Tamil = Tam, Teochew = Teo; Arabic = Ara, Bahasa Indonesia = Ind, Batak = Bat, French = Fre, German = Ger, Gujarati = Guj, Hainanese = Hai, Japanese = Jap, Javanese = Jav, Korean = Kor, Spanish = Spa, Swedish = Swe, Thai = Tha. Languages in the profiles appear in the order of the most commonly used language to the least commonly used.

The students reported a combined 61 language profiles, but many of these were reported by a single speaker. Nonetheless, several profiles enjoy a large number of speakers and involve the ethnically-based languages and dialects of Singapore. The majority of speakers (304 out of 450, just over two thirds), speak one of the following four most frequent language profiles:

1. English and Mandarin;
2. English, Hokkien, and Mandarin;
3. English and Malay;
4. Cantonese, English, and Mandarin.[3]

In addition to these four main combinations, there are another six profiles that cover between two and four per cent of the sample. When these are included, nearly 85 per cent of our participants fall within one of these top ten profiles. These minor profiles are 'Eng Hok Man Teo', 'Can Eng Hok Man', 'Eng Mal Man', 'Eng Tam', 'Eng Hok Mal Man', and 'Eng' only. With the exception of two profiles, namely 'English, Malay, Mandarin' and 'English, Hokkien, Malay, Mandarin', none of these ten profiles mixes different language families (ignoring English). Furthermore, Singaporean multilinguals who speak four or more languages exhibit profiles that typically include English, Mandarin, and several Chinese dialects. The main point we are trying to make here is that our data reveal reasonably homogeneous language combination groups that may be tapped into for future research.

Table 5: Language profiles

Language profile	Count	Percent	Cumulative percent
Eng Man	118	26.2%	26.2%
Eng Hok Man	86	19.1%	45.3%
Eng Mal	72	16.0%	61.3%
Can Eng Man	28	6.2%	67.6%
Eng Hok Man Teo	18	4.0%	71.6%
Can Eng Hok Man	14	3.1%	74.7%
Eng Mal Man	14	3.1%	77.8%
Eng Hok Mal Man	10	2.2%	80.0%
Eng Tam	9	2.0%	82.0%
Eng	7	1.6%	83.6%
Can Eng Hok Man Teo	6	1.3%	84.9%
Eng Man Teo	6	1.3%	86.2%
Eng Mal Tam	3	0.7%	86.9%
Eng Mal Ara	3	0.7%	87.6%
Can Eng Hok Mal Man Teo	2	0.4%	88.0%
Can Eng Mal Man	2	0.4%	88.4%
Eng Hok	2	0.4%	88.9%
Eng Hok Man Kor	2	0.4%	89.3%
Eng Mal Ind	2	0.4%	89.8%
Eng Mal Man Ind	2	0.4%	90.2%
Eng Man Hai	2	0.4%	90.7%
Eng Man Jap	2	0.4%	91.1%
Eng Tam	2	0.4%	91.6%

Can Eng Chi	1	0.2%	91.8%
Can Eng Hok Mal Man	1	0.2%	92.0%
Can Eng Hok Mal Man Teo Jap	1	0.2%	92.2%
Can Eng Hok Man Teo Jap	1	0.2%	92.4%
Can Eng Mal Man Jap	1	0.2%	92.7%
Can Eng Man Fre	1	0.2%	92.9%
Can Eng Man Jap	1	0.2%	93.1%
Can Eng Man Teo	1	0.2%	93.3%
Can Eng Man Teo Kor	1	0.2%	93.6%
Can Eng Man Tha Kor	1	0.2%	93.8%
Eng Chi	1	0.2%	94.0%
Eng Guj	1	0.2%	94.2%
Eng Hok Mal Man Fre	1	0.2%	94.4%
Eng Hok Mal Man Hai	1	0.2%	94.7%
Eng Hok Mal Man Teo	1	0.2%	94.9%
Eng Hok Man Hai	1	0.2%	95.1%
Eng Hok Man Jap	1	0.2%	95.3%
Eng Hok Man Kor Spa	1	0.2%	95.6%
Eng Hok Man Spa	1	0.2%	95.8%
Eng Hok Man Teo Hai	1	0.2%	96.0%
Eng Mal Bat	1	0.2%	96.2%
Eng Mal Ind Pen	1	0.2%	96.4%
Eng Mal Jap	1	0.2%	96.7%
Eng Mal JavKor	1	0.2%	96.9%
Eng Mal Kor	1	0.2%	97.1%
Eng Mal Man Kor	1	0.2%	97.3%
Eng Mal Man Kor Jap Ind	1	0.2%	97.6%
Eng Mal Tam Ger	1	0.2%	97.8%
Eng Man Fre	1	0.2%	98.0%
Eng Man Jap Swe	1	0.2%	98.2%
Eng Man Kor Ind	1	0.2%	98.4%
Eng Man Sin	1	0.2%	98.7%
Eng Man Tam Jap	1	0.2%	98.9%
Eng Man Teo Jap	1	0.2%	99.1%
Eng Man Tha Jap	1	0.2%	99.3%
Eng Man Tha Kor Jap	1	0.2%	99.6%
Eng Spa Fre	1	0.2%	99.8%
Mal	1	0.2%	100.0%

Before considering the overall degree of multilingualism among Singaporean students, we will elaborate on differences between the three different schools in terms of the students'

language profiles. Figure 6 shows some remarkable differences between university, polytechnic, and vocational training (ITE) students. The most remarkable finding relates to the number of students who are proficient only in English and Mandarin. Almost half of the university students fall into this category, while only about one fifth of the polytechnic students and just over a tenth of ITE students do so. English–Malay bilingualism is prominently present in the ITE, where over a third has this profile; this must be a reflection of the different ethnic composition of the institute as opposed to the other two institutions. Polytechnic students typically exhibit a profile involving English, Mandarin, and a third Chinese dialect (either Hokkien or Cantonese). In contrast, university students are commonly bilingual rather than trilingual. Furthermore, the bilingualism among polytechnic students is not restricted to the English plus Mandarin profile: a substantial number of polytechnic students (though fewer than in the ITE) speak English and Malay – a profile that is almost absent among university students. This is noteworthy as it points to social and ethnic stratification with ITE students being more often ethnically Malay, while university students are almost exclusively ethnically Chinese, and polytechnic students somewhere in between. A further ethnic differentiation can be observed in the profile 'English and Tamil', which stems from Indian students that are overrepresented in our ITE sample (twelve, versus three at polytechnic and one at university).

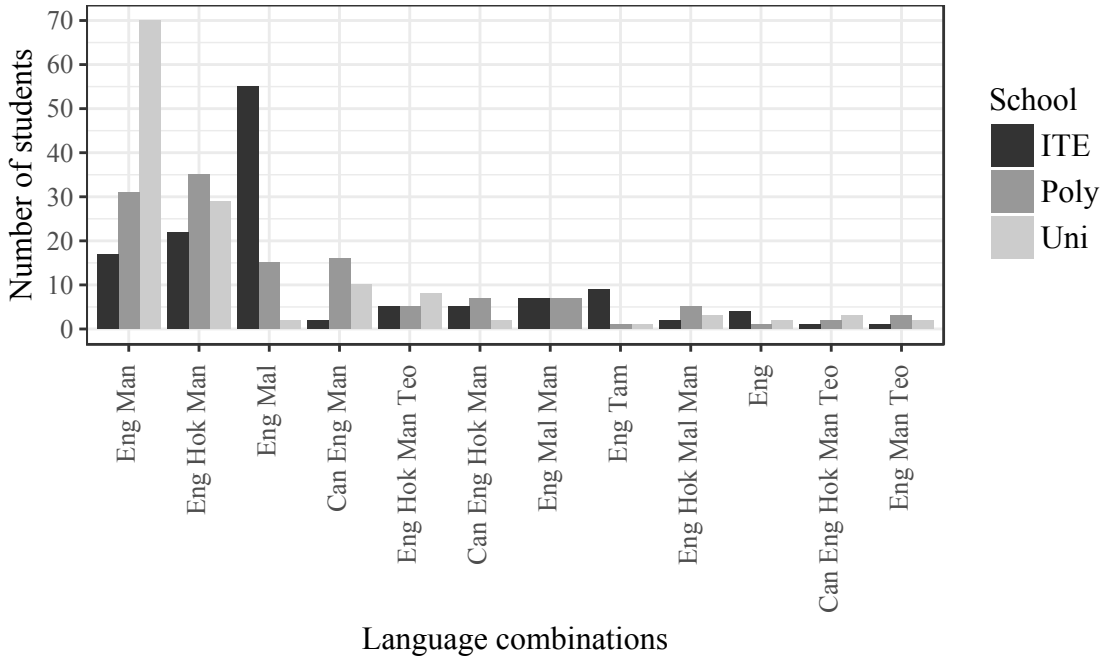

Figure 6: Language combinations among university, polytechnic, and vocational training (ITE) students that occur at least five times

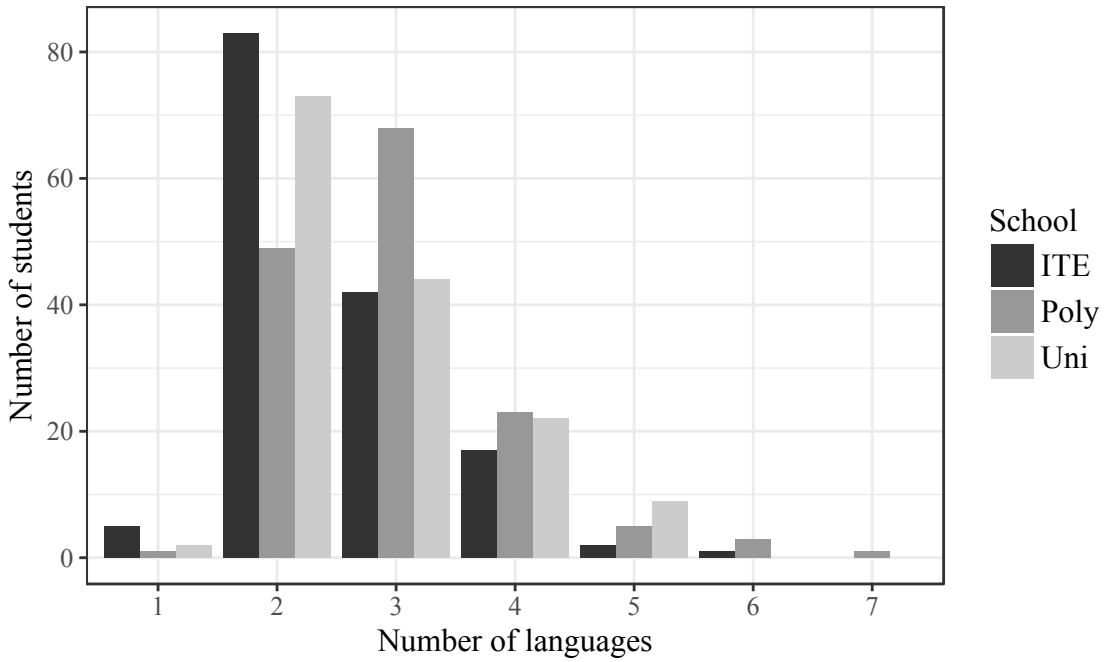

Figure 7: Number of languages spoken by university, polytechnic, and ITE students

Another issue to be addressed here relates to differences between students of different schools with respect to the extent or degree of multilingualism. This is shown in Figure 7.

Figure 7 confirms the difference between polytechnic students on the one hand and university and ITE students on the other hand with respect to the number of languages that the students are competent in. Polytechnic students are more trilingual than bilingual, with a mean of 2.97 languages, whereas the other two groups are more bilingual than trilingual (ITE mean = 2.54 and university mean = 2.75). For ITE students, this can be explained by the high proportion of Malay students (half the ITE students in our sample are Malays), whose profile is English–Malay bilingualism in 54 cases out of 74. The difference between schools is statistically significant ($\chi^2_{\text{Kruskal-Wallis}} = 17.765$, df = 2, p = 0.0001388),[4] confirming that polytechnic students report competence in significantly more languages than university and ITE students. The difference reflects a stronger tendency for university and ITE students to be bilingual rather than trilingual, while the opposite holds true for polytechnic students.

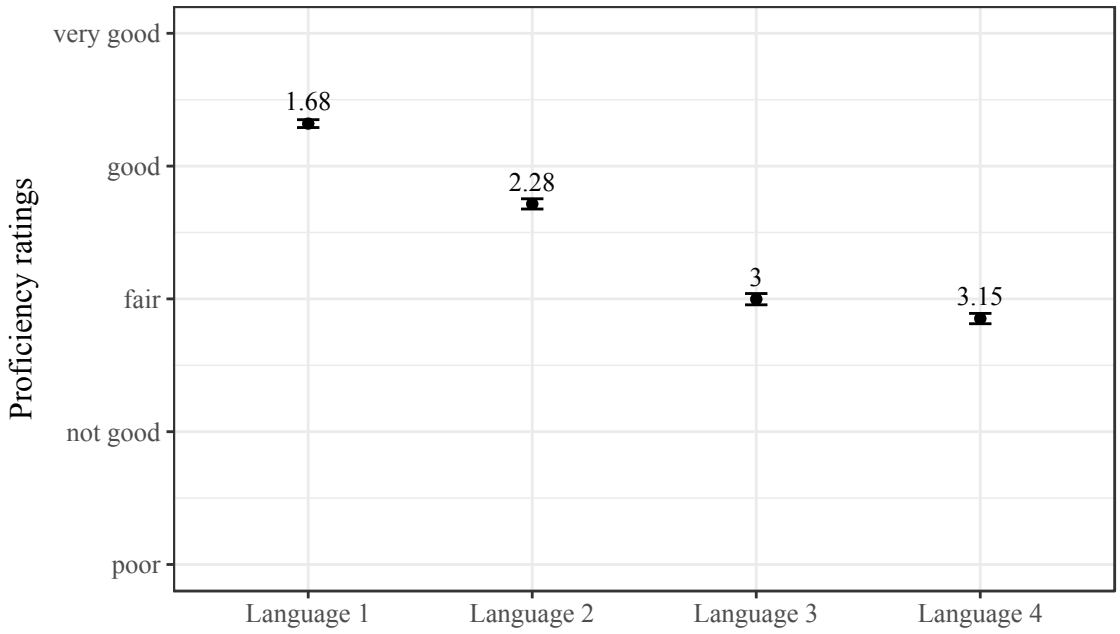

Figure 8: Self-reported proficiency for the first, second, third, and fourth language of speakers

Proficiencies

We now turn to the proficiency that students report for their languages. Figure 8 provides the mean values of self-reported proficiency for the first, second, third, and fourth language of speakers. For our analysis, we converted the proficiency rating 'very good' . . . 'poor' into ordinal numbers.

It appears that the proficiency ratings of a speaker's first, second, third, and fourth language monotonically decline from language to language. This behaviour is expected, as informants were asked to rank their languages by proficiency. A further point of interest to note is that speakers, at least on average, do not even feel fully proficient in the language they consider their most proficient language.

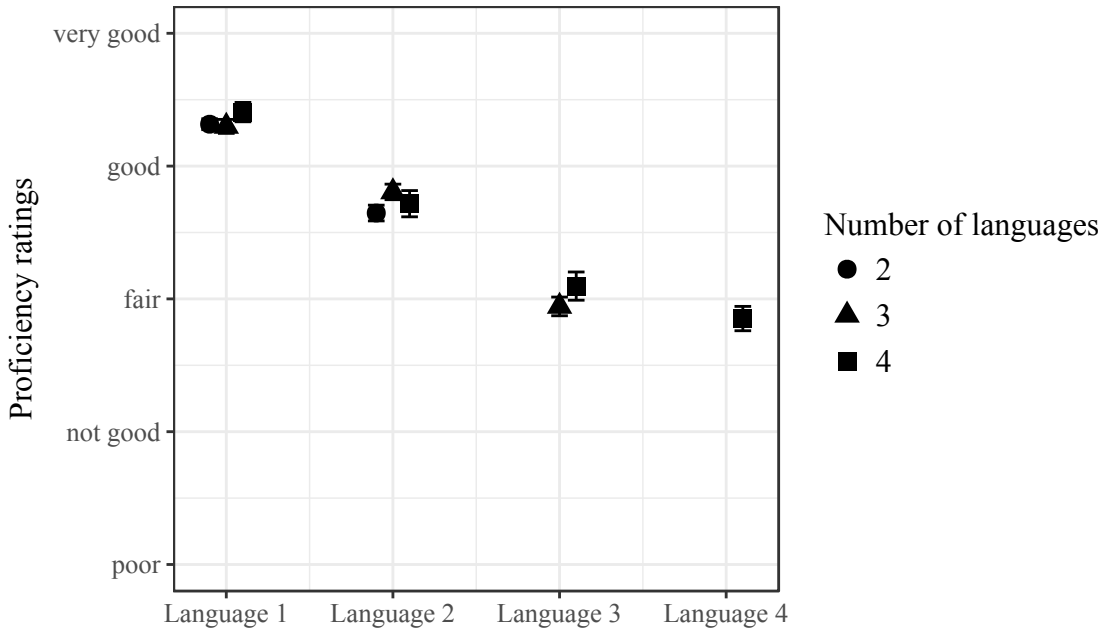

Figure 9: Self-reported proficiency for the first, second, third, and fourth language of speakers who speak two, three, or four and more languages

We now address the issue of whether speakers who are proficient in two languages report proficiency ratings different from those reported by speakers who speak three, or four and more languages. Figure 9 shows that the self-reported mean values for proficiency differ only marginally. Informants who are proficient in four or more languages tend to report higher proficiency levels in comparison to the other speakers. Trilinguals rate their proficiency in their second language higher than bilinguals and speakers of four or more languages. Quadrilinguals' fourth language is rated only marginally below their third, whereas the gaps between their first, second, and third language are larger. Conversely, trilinguals rate their first and second languages similarly, whereas their third is rated much lower. While many of these differences are not statistically significant, they do represent compelling tendencies.

Finally, it is informative to look at the written and spoken (literal and oral) proficiencies of the students, especially with regard to differences between the students' educational institution. Figure 10 visualizes these self-reported proficiencies, with listening and speaking proficiencies collapsed into 'oral skills' and reading and writing proficiencies into 'literal skills' respectively, though they are distinguished in the questionnaires.

In both types of skills, proficiencies decrease monotonically with the rank of the language. Oral proficiencies are always higher than literal proficiencies. What appears noteworthy is that university students, in comparison to polytechnic and ITE students, report better or equal proficiencies for their first and second languages, but comparatively lower proficiencies for third and fourth languages.

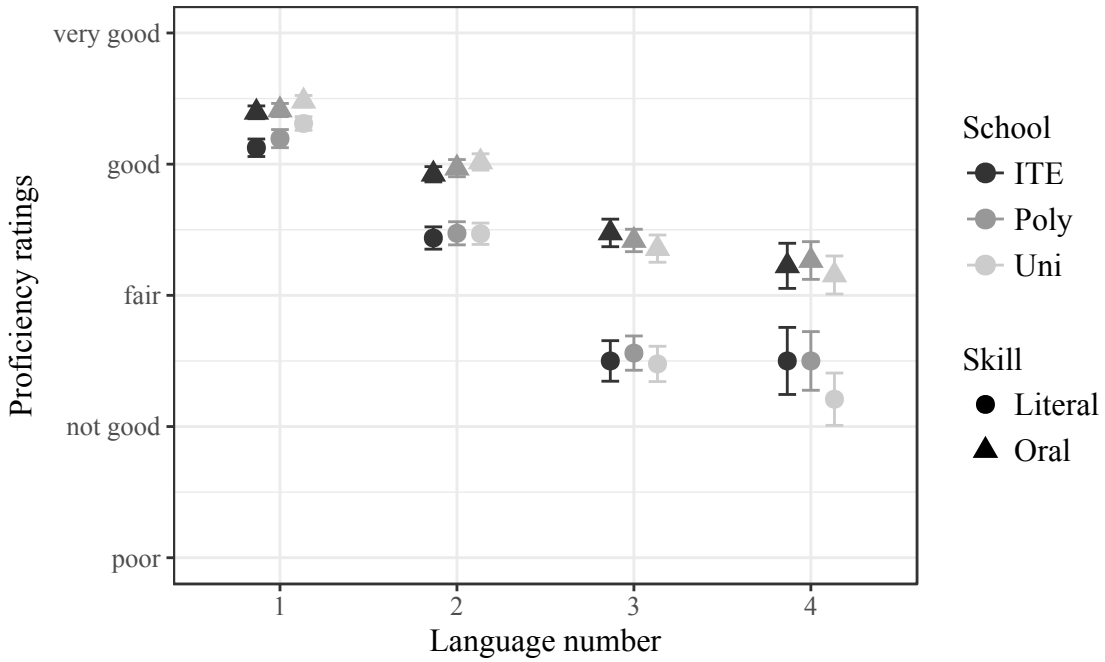

Figure 10: Literal and oral proficiencies, by language and by school

Attitudes

We now turn to the attitudes our respondents express towards the following languages: English, Singlish, and the ethnic mother tongues Mandarin, Malay, and Tamil. The questionnaire features seven statements to which students could respond using a standard seven-point Likert scale ranging from strong agreement to strong disagreement.

Figure 11 shows these statements as well as the average responses to them. All informants agree that proficiency in English is more important than proficiency in their mother tongue (S1), although polytechnic students agree slightly less strongly than university and ITE students. Students seem to be in favour of maintaining both mother tongue and English, but not at the expense of English (S2). English appears to be accepted as Singaporeans' principal language of communication (S3). Mother tongue knowledge and usage is not believed to be crucial for Singaporean identity (S4, S5), although polytechnic students would seem to find mother tongue knowledge/usage more important than the other two groups. ITE and polytechnic students are often neutral about using the mother tongue as a critical part of their self-definition (S6); however, ITE students also more strongly agree to this proposition, whereas university students tend to disagree. The attitudes towards Singlish are generally positive, though mostly so among ITE students and least among polytechnic students (S7).

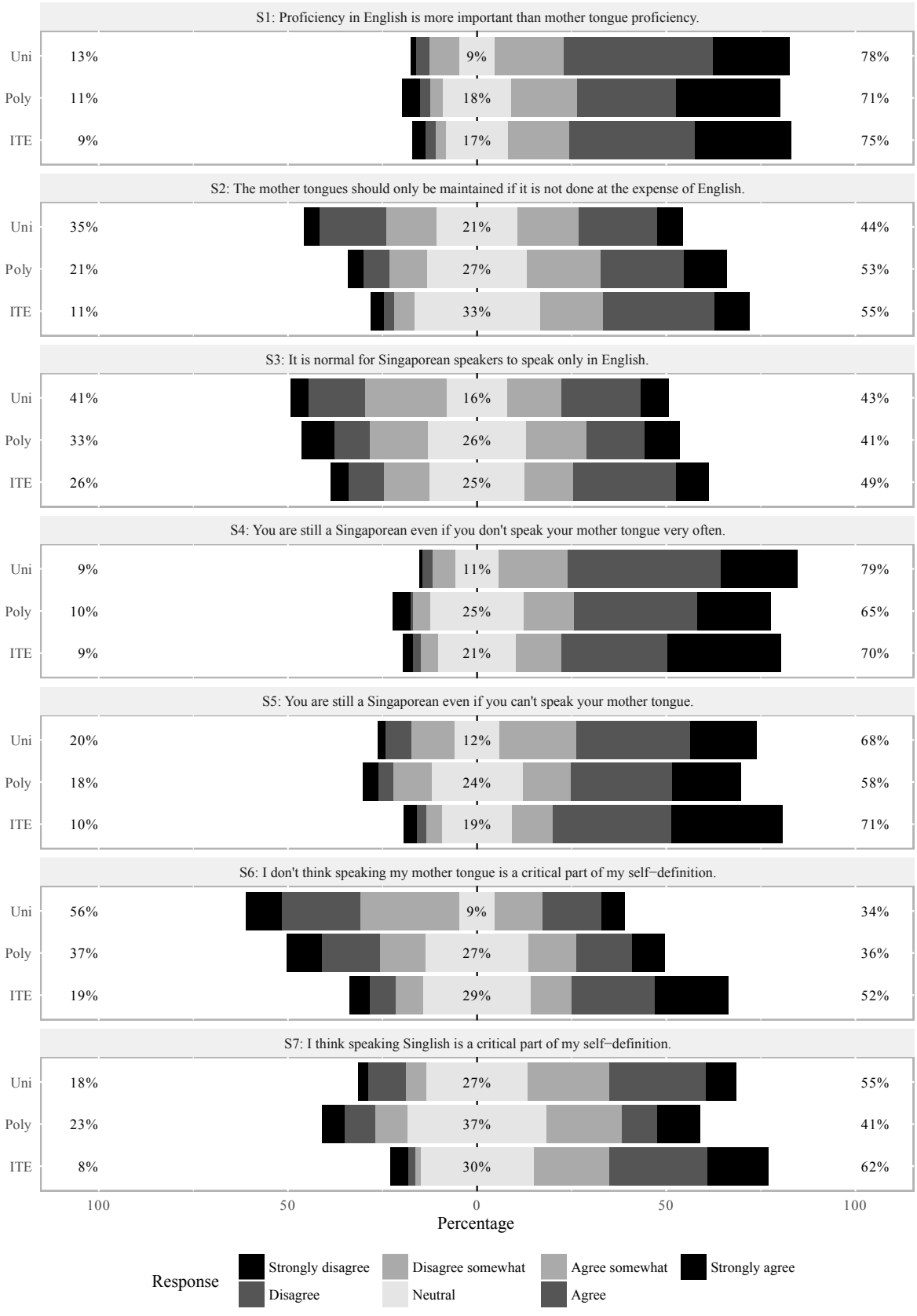

Figure 11: Attitudes towards English, Singlish, and mother tongue

In these reported attitudes, we find differences between university, polytechnic, and ITE students, although these are mostly tendencies. In two of the seven statements, education was found to have no significant effect on attitude at all: S1 (‘Proficiency in English is more

important than mother tongue proficiency') and S4 ('You are still a Singaporean even if you don't speak your mother tongue very often'). However, a Wilcoxon rank sum test with continuity correction[5] reported effects in the other five statements. The first statistically significant difference was reported for S2: 'The mother tongues should only be maintained if it is not done at the expense of English'. University students disagreed significantly more with this statement than both polytechnic (W = 12,866, p-value = 0.02146)[6] and ITE (W = 13,677, p-value < 0.001) students did; the difference between polytechnic and ITE is not significant (W = 12,042, p-value = 0.2797). In S5 ('You are still a Singaporean even if you can't speak your mother tongue'), ITE students agree more than both university (W = 12,976, p-value = 0.01347) and polytechnic (W = 13,344, p-value = 0.002919) students; the difference between the latter two not being significant. The same holds true for S6: 'I don't think speaking my mother tongue is a critical part of my self-definition', where ITE students again agree significantly more than university (W = 15,124, p-value < 0.001) and polytechnic (W = 14,071, p-value < 0.001) students. In the final statement S7 ('I think speaking Singlish is a critical part of my self-definition'), all groups differ significantly (ITE–polytechnic: $p < 0.001$, university–ITE: $p = 0.03239$, university–polytechnic: $p = 0.03225$), although the difference between university and polytechnic students was not corroborated by a one-way analysis of means ($F = 3.4523$, $df = 1$, p-value = 0.06415). Interestingly, polytechnic students disagreed most to this last statement, whereas ITE students agreed most.

DISCUSSION

Our findings reveal several interesting trends, which we will discuss below. To begin with, we consider the extent and nature of the multilingualism found within our sample. We then turn to a discussion of language proficiencies, and end by considering the results from the language attitudes survey.

Student multilingualism

According to Siemund et al. (2014: 357-358), trilingualism is more prevalent amongst polytechnic students, while university students more strongly embrace the bilingual model. The authors explain this as an effect of social background. Since there is also a social class delta between polytechnic and ITE students, we predicted ITE students to be even stronger trilingual than polytechnic students, assuming that social class inversely correlates with degree of multilingualism.

This prediction, however, is not borne out by our study, as ITE students predominantly turned out to be bilingual rather than trilingual. They behave more alike to university students. Since the ethnic composition of ITE students is different from the other two groups, we here suspect confounding factors and therefore propose to consider the ethnic groups individually. Figure 12, accordingly, shows the language numbers spoken by ITE students that have a Chinese background. We here represent the students as percentages and not as absolute numbers, since the cohorts differ in size in the three schools.

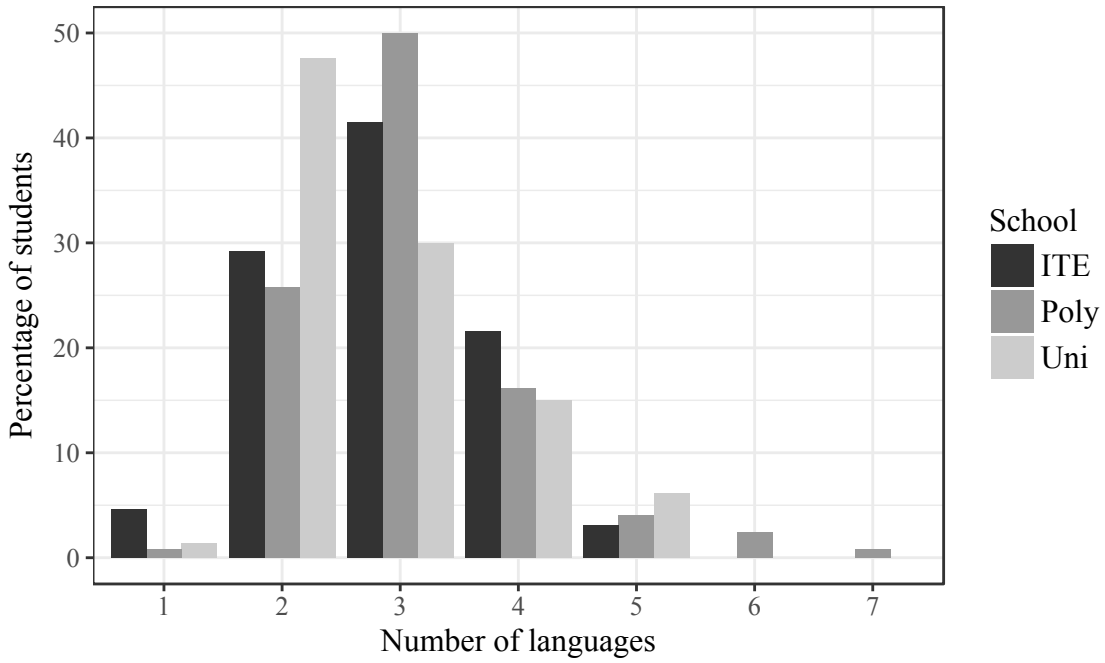

Figure 12: Language profiles, by school, Chinese students only, normalized.

What we can see here is that the degree of bilingualism is highest amongst university students, while polytechnic and ITE students show similar levels. ITE bilingualism is even slightly higher than that of polytechnic students. Concerning trilingualism, the difference between university students and the other two groups is more substantial than that between polytechnic and ITE students. Knowledge of four languages conforms to our predictions, but the differentials are small. On the whole, it appears more adequate to view polytechnic and ITE students as one group that can be opposed to university students, at least amongst Chinese students.

Figure 13 focuses on Malay students only and plots the observable number of languages according to school type, again using percentages. Malays show a predominantly bilingual language profile consisting of English in combination with Malay. Here, too, ITE students basically pattern with polytechnic students, as opposed to university students, who are even stronger bilingual. Only ITE and polytechnic students in this ethnic group have knowledge of more than two languages.

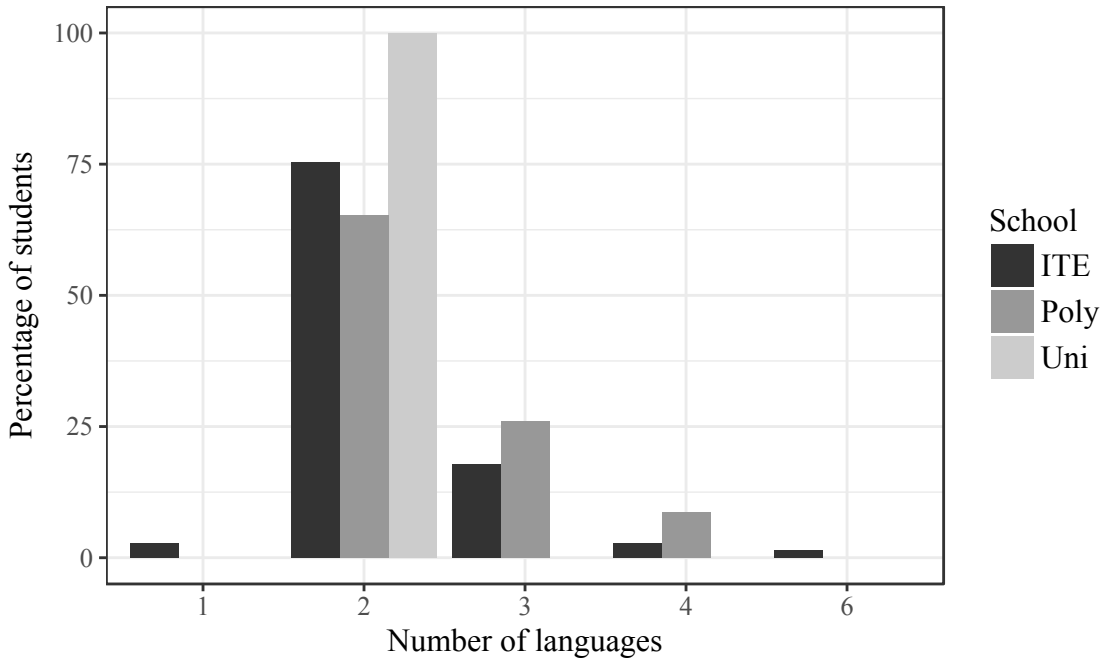

Figure 13: Language profiles, by school, Malay students only, normalized.

Let us now consider the cohort of Indian students, as shown in Figure 14. The picture that presents itself by and large corresponds to that of Malay students. The level of bilingualism is highest amongst university students, there being only small differences between polytechnic and ITE students. Command of three or four languages is only found amongst ITE and polytechnic students.

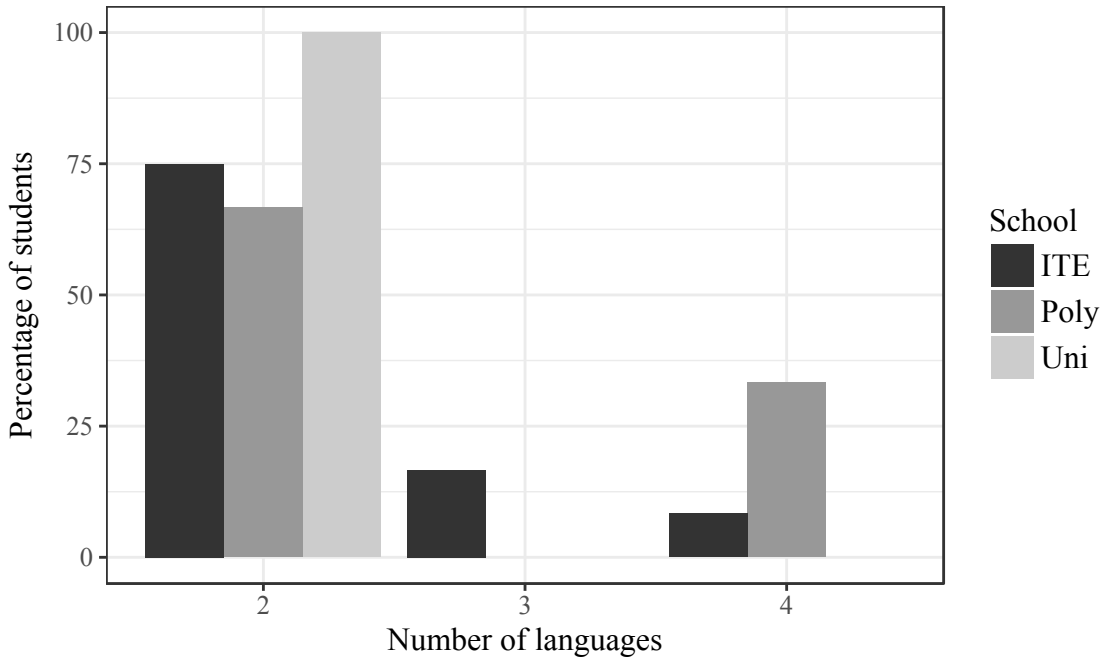

Figure 14: Language profiles, by school, Indian students only, normalized.

We interpret the higher levels of bilingualism amongst university students as an effect of social class that is stable across all three ethnic groups investigated here. Substantial numbers of multilingual students (speaking three or more languages) only exist in the Chinese group. Their dominance at the ITE and at polytechnics can also be viewed as a social class effect. Multilingualism as such, however, is best explained by ethnic belonging. It is interesting to note that across all three ethnic groups, the extent of self-assessed bilingualism

amongst ITE students is higher in comparison to polytechnic students. This runs counter our initial hypothesis and must be due to factors that we currently do not understand. Nevertheless, ITE and polytechnic students pattern together and must be opposed to university students.

Language proficiencies

Our proficiency ratings, which represent self-assessments and not objective tests, suggest that proficiency levels decrease with each additional language and that speakers do not feel fully proficient even in their first language. Moreover, self-assessed proficiencies seem to be positively affected by the speakers' degree of multilingualism. Competence in more languages results in slightly higher proficiencies, though the differentials are not statistically significant. In Siemund et al. (2014: 358-359), these observations are interpreted against Flynn at al.'s (2004) Cumulative Enhancement Model as well as Herdina & Jessner's (2002) Dynamic Model of Multilingualism, arguing for a positive effect with each language learnt.

Oral skills are higher than literal skills and interact with school type. Oral and literals skills are highest among university students and lowest among ITE students, with polytechnic students ranking in between. These generalizations only hold for first and second language, though. For subsequent languages, they are reversed, but only for university and polytechnic students. Again, we are here talking about trends and not statistically significant differences. Siemund et al. (2014: 359) propose that university students – due to their strong bilingual orientation – place more emphasis on language one and two, whereas polytechnic students consider the languages in their repertoire of more equal status. The problem is that ITE students do not follow the expected trend in language three and four, except for oral proficiencies in language three (recall Figure 10). However, ITE students are not more multilingual than polytechnic students either, as hypothesized at the outset of our study.

In view of these problems, we would now like to focus on proficiency differences between the three ethnic groups, i.e. Chinese, Malays, and Indians. Figure 15 gives the relevant proficiency trends for the group of Chinese students. Focussing on languages one, two, and three, the dependency on school type as well as the reversal from language two to three is clearly visible.[8] However, the highest level of proficiency produced by ITE students in language three cannot be attributed to their degree of multilingualism, since this is lower than that of polytechnic students (recall Figure 12). Here, a currently unknown factor must be at work.

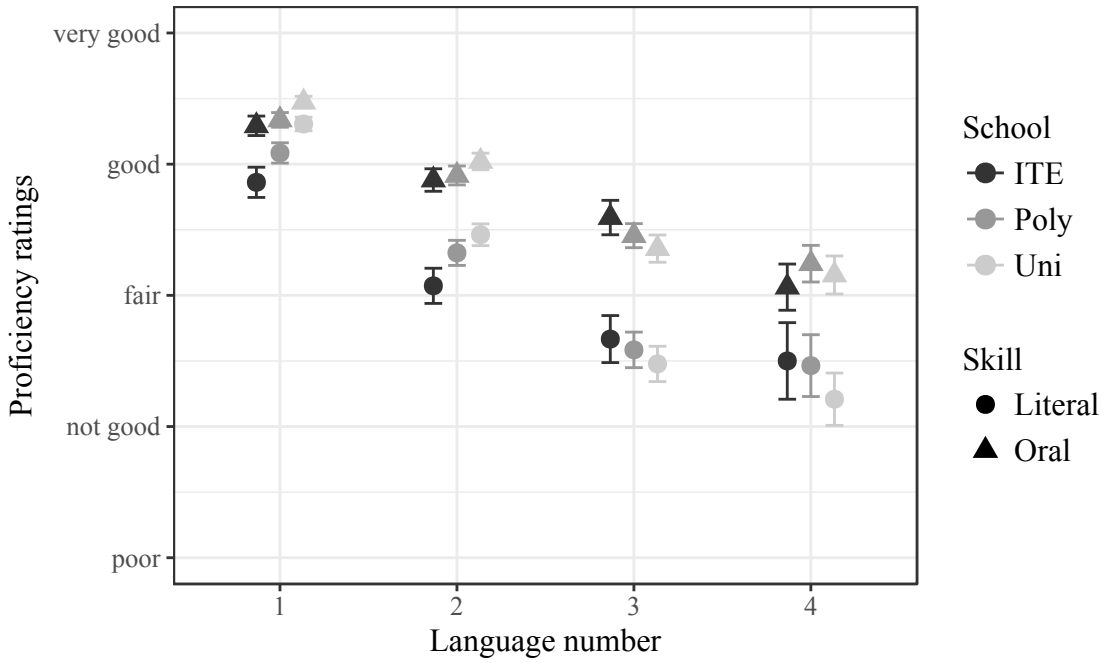

Figure 15: Oral and literal skills by language by school, Chinese only.

The group of Malay students is different, as Figure 16 makes clear. Firstly, their self-assessed proficiencies are higher in language one and two, in comparison to the group of Chinese students. The two Malay university students in our sample rate their language one proficiencies as very good. None of the Chinese students made such self-assessments. Moreover, the differentials between oral and written proficiencies are lower in comparison to the Chinese group.[9]

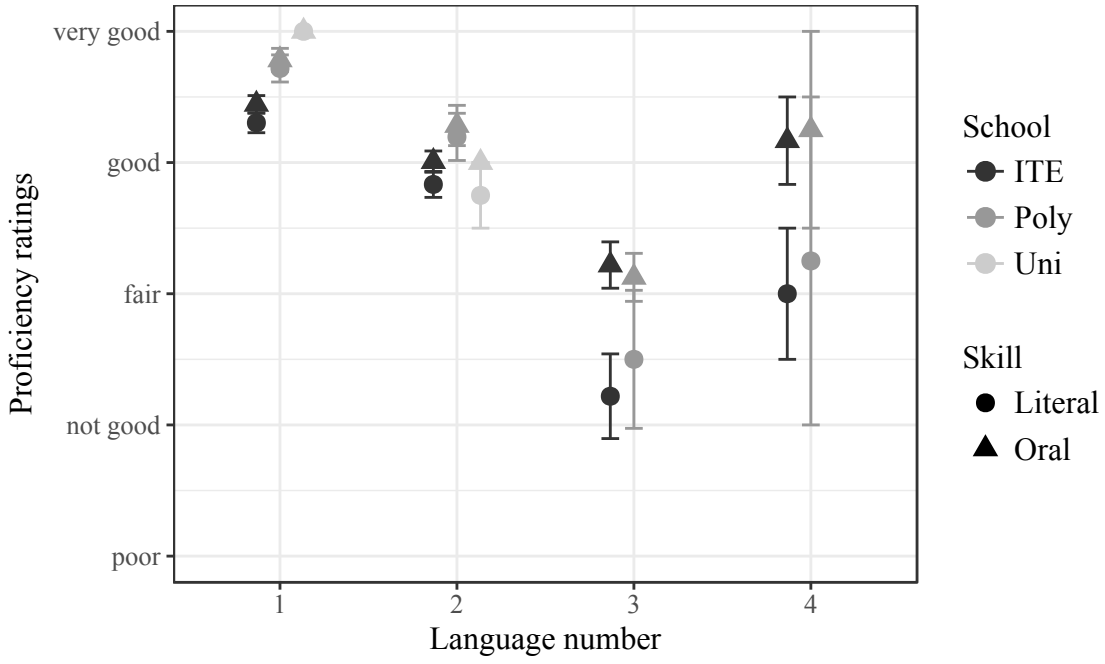

Figure 16: Oral and literal skills by language by school, Malays only.

In view of these differences between the Chinese and the Malay ethnicity, it is not convincing to explain the modest proficiency ratings of the Chinese group in their first language in terms of central tendency bias, as suggested in Siemund et al. (2014: 358). We may suspect cultural differences or perhaps a higher multilingual awareness of the Chinese group due to their higher degree of multilingualism, but this must necessarily remain

speculation. Instead, we would here like to set our findings in relation to recent school test results made available by the Singapore Ministry of Education in 2015. We will use the test results on English and mother tongue proficiency, measured on the basis of various production and comprehension tasks, both literal and oral.

Figure 17 offers a summary of the O-level results in English from 2006 to 2015, targeting students at around the age of sixteen in secondary schools. The results are differentiated by ethnic background (race) and show that Indians consistently outperform Chinese students who in turn outperform Malays.

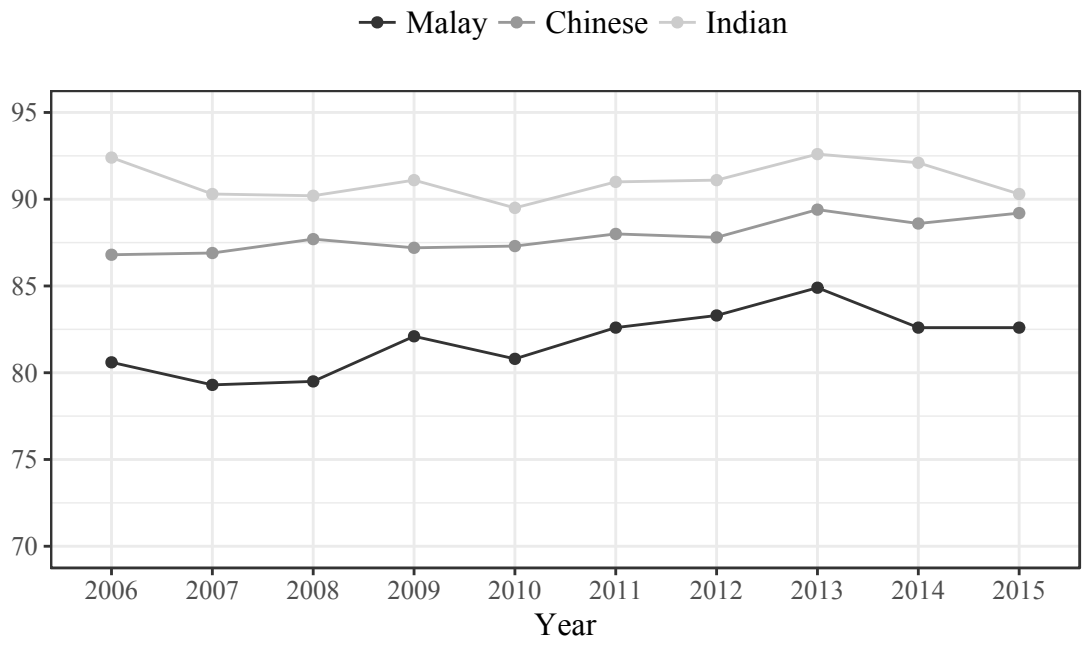

Figure 17: Percentage of O-level students who passed English language (Education Statistics Digest 2016).

Figure 18 provides the corresponding overview for the mother tongues (Malay, Mandarin, Tamil), again differentiated by ethnic background. Here, it is the Malay students who are ahead of the other groups. Mother tongue proficiency amongst Chinese and Indian students appears more or less the same.

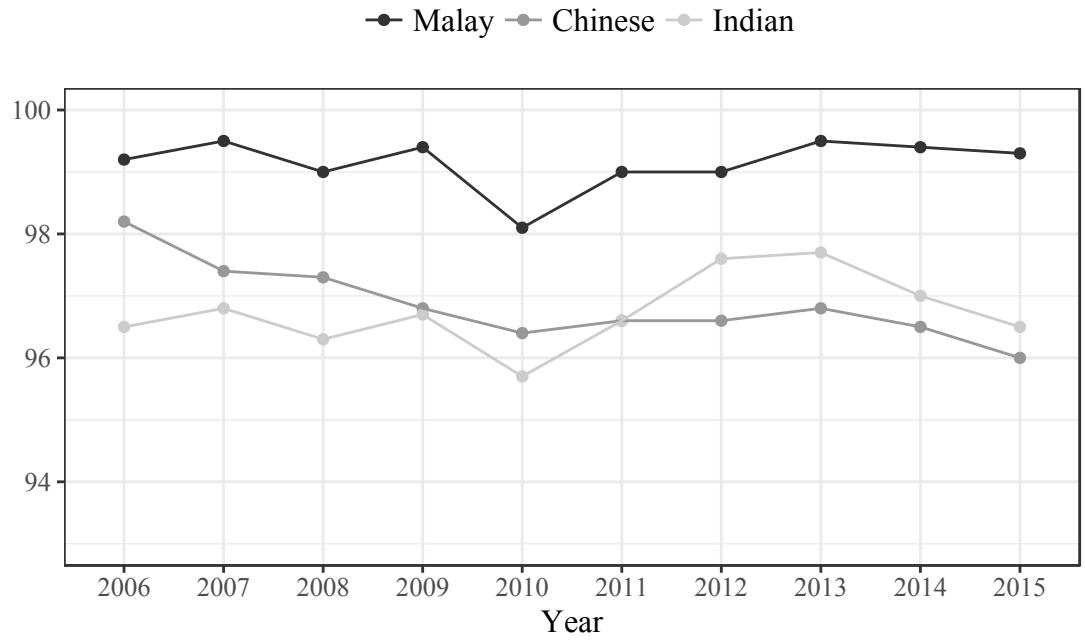

Figure 18: Percentage of O-level students who passed mother tongue language (Education Statistics Digest 2016).

Let us now consider our self-assessed proficiencies in English against the dimension of ethnic background, as shown in Figure 19. What we can see here is that Malay students provide stronger self-assessments in comparison to the Chinese group, which is exactly opposite to the objectively measured proficiencies in school tests. This holds for all school types distinguished in our study. Indian students provide stronger self-assessments than the two other ethnic groups in the ITE and in polytechnics, conforming to school test results. They offer the lowest self-assessments at university level, though, which may be due to fact that we only had a single informant of Indian ethnicity in that school.[10]

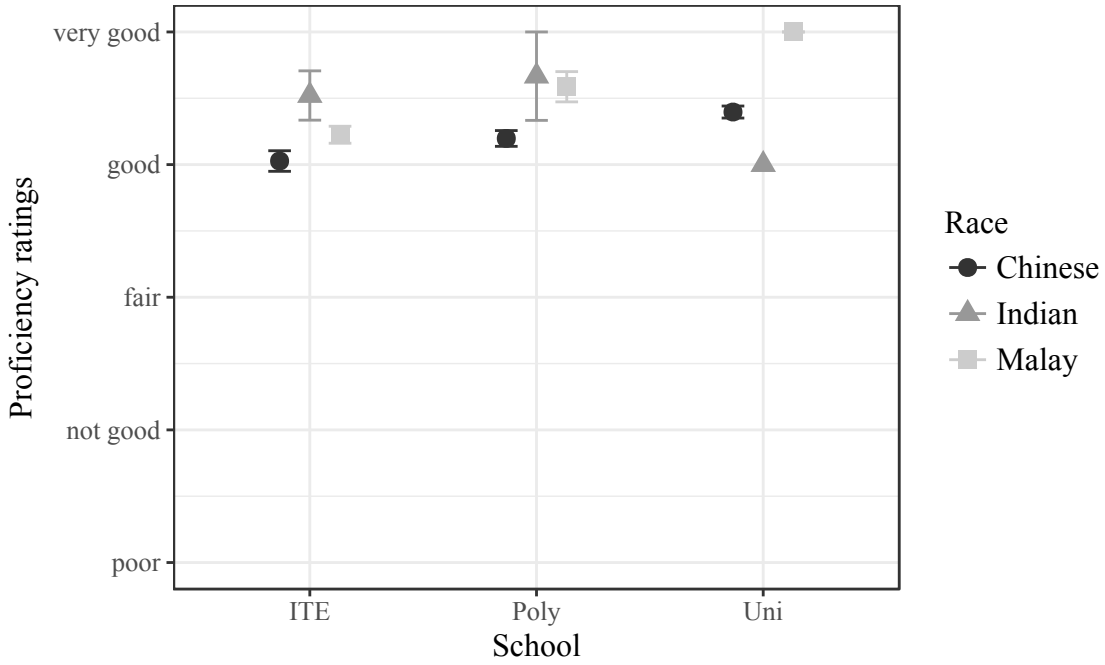

Figure 19: Proficiencies in English, by race and school.

The self-assessments of our Malay students in their mother tongue are mostly in line with school test results, as they provide stronger assessments than all other ethnic groups in

this respect. Consider Figure 20. School testing only revealed minor differences in the mother tongue proficiency between Indians and Chinese. This is corroborated by our study except for polytechnic students, perhaps also an artefact of the low number of informants in that group (n=3).[11]

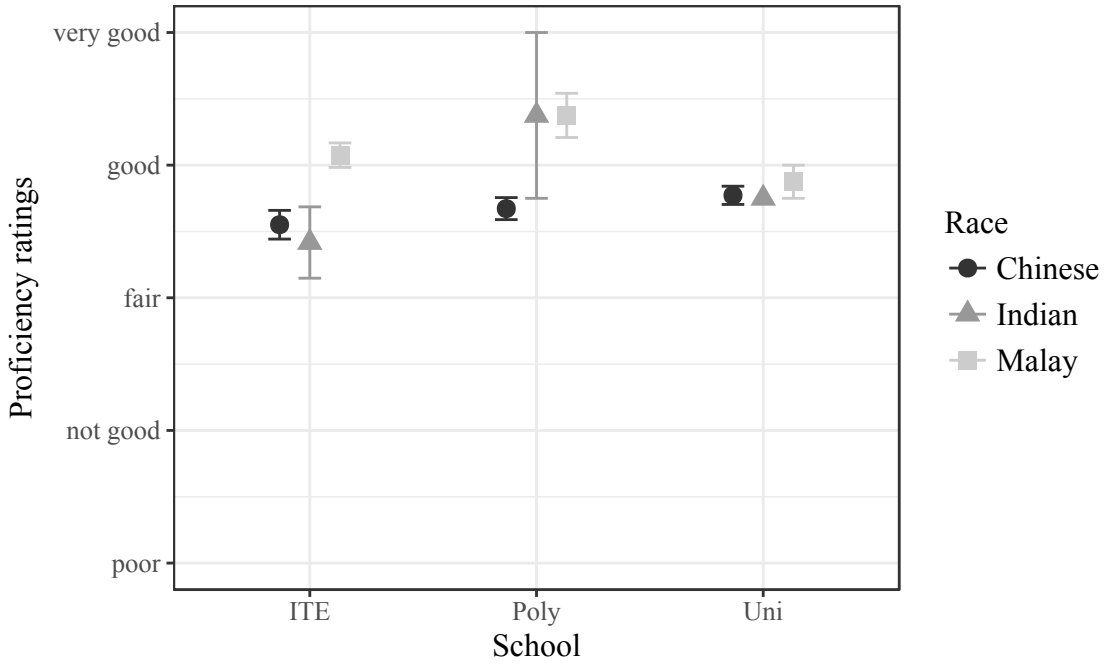

Figure 20: Proficiencies in the mother tongues, by race and school.

Generally, self-assessments in English are higher than in the mother tongues, while school tests measure higher proficiencies in the mother tongues in comparison to English. We submit that English is measured more rigorously in school tests, since it is the language of instruction. In the Singaporean educational system, the mother tongues merely have the status of a second language. Here, our self-assessments may form the more representative judgments.

Attitudes

As far as the attitudinal section of the questionnaire is concerned, several statistically significant differences were found between schools. Beginning with the last statement (S7), 'I think speaking Singlish is a critical part of my self-definition', ITE students agree most and polytechnic students least, with university students being situated in between these two. This is noteworthy as it puts an earlier interpretation in Siemund et al. (2014: 360) into a new light: there, the higher rate of agreement among university students was described as 'interesting, as a socially high status group apparently is willing to adopt a low code as their own identity marker'. The behaviour of our ITE cohort, representative of lower status groups, whose agreement levels surpass the university cohort, suggest that the situation is more complex, since the identity-marking function of Singlish is found in both the highest and the lowest of our three social tiers. Such a situation is reminiscent of the classic Labovian (Labov 1966) case of hypercorrection, where members of the lower-middle class outperform upper-middle class speakers in the use of socially prestigious speech variants, with the exception that here, it is the attitudes towards an entire variety that are less favourable among the middle tier than among both the upper and lower tiers.

Statement 6 'I don't think speaking my mother tongue is a critical part of my self-definition' shows a much more monotonic pattern of agreement, with university students disagreeing, polytechnic students split between agreement and disagreement, and ITE students tending towards more agreement. The official mother tongue policy, therefore, which

endows Mandarin, Malay, and Tamil with the status of identity-creating vectors of communication enabling a linkage with an idealized ancestral culture, seems to be endorsed more wholeheartedly by the higher educational tier, whereas this agreement dwindles with educational status.

On the other hand, the proposition that 'You are still a Singaporean even if you can't speak your mother tongue' (S5) speaks of a different kind of attitude towards this same 'mother tongue' policy: most of our informants clearly do not regard national identity to be critically informed by knowledge of the mother tongue. Across educational backgrounds, a similar picture emerges as in the case of attitudes towards Singlish: ITE students agree most, and polytechnic students least.

The presence of English in the linguistic ecology of Singapore is viewed favourably, and there is general agreement to the proposition that 'The mother tongues should only be maintained if it is not done at the expense of English' (S2). Here, it is interesting to note that agreements are inversely correlated with educational attainment: ITE students seem to be most concerned with mother tongue maintenance impacting English proficiency, whereas polytechnic and university students increasingly less. A similar pattern emerges with respect to English monolingualism (S3), which, overall, is considered 'normal' by all three groups, but more so by ITE students and less by polytechnic and university students. It is reasonable to surmise that English proficiency, which is, in the Singaporean education system, closely tied to academic outcomes, is a concern for many in the educational tiers that see the time and effort invested in 'mother tongue' learning (the mother tongues being, often, not natively spoken) an additional hurdle that may adversely impact the learning of those English skills so important for upward social mobility. This point is of particular relevance when considering the very clear correlation between educational level and perceived identity-giving in the mother tongues (S6), where ITE students, in particular, combine attitudes towards their mother tongues and towards the educational bilingual policy that are at loggerheads with the country's top-down language policy line.

CONCLUSION

In our study, we have tried to make a contribution to ongoing research on language use and language shift in Singapore, an altogether highly underresearched area. Even though our original hypothesis concerning a negative correlation of degree of multilingualism and social status could not be confirmed by our present study, it nevertheless survives in a weaker formulation and with a restriction to the Chinese community in Singapore. In this ethnic group, bilingualism is significantly higher amongst university students in comparison to both polytechnic and ITE students, with the latter two groups showing similar language profiles. Ethnic Malays and Indians are predominantly bilingual in their respective mother tongues and English. Hence, the relationship between multilingualism and social status in the Chinese community needs to be interpreted as an effect of the on-going language shift from Chinese dialects to English and Mandarin, the higher social groups being more advanced on this trajectory.

As far as self-assessed language proficiencies are concerned, we received relatively modest responses in the sense that Singaporean students do not consider themselves fully proficient even in their first language. This effect is most pronounced in the Chinese group, and less clearly visible amongst Malays and Indians. Above and beyond the interpretation that we offered in the main parts of our paper, this may be an indicator of the enormous pressure exerted on Singaporean students who are constantly being told that they underperform when they effectively outperform other students in international comparisons. Lower literal proficiencies in the Chinese group may be attributable to the difficult character-based writing

system used for Chinese. In addition, there is some indication in our data that multilingualism has a slightly positive effect on language proficiency.

Our findings concerning language profiles and proficiencies are supported by the attitudinal responses that we received from the three student cohorts, with university students reacting more positively to statements about the official bilingual model. This certainly does not come as a surprise. What we find more remarkable in the attitudinal section of our survey are the more positive responses to the use of Colloquial Singapore English (Singlish) amongst university and ITE students, though less so in the cohort of polytechnic students. Apparently, university students can afford and control the use of Colloquial Singapore English besides Standard Singapore English, whereas the former is the main code available to ITE students.

A study like ours naturally invites some speculation concerning the future linguistic landscape of Singapore. Although the main trajectory seems to be headed towards the official bilingual model, English is bound to outperform the mother tongues due to its prominent status in all official sectors of society (administration, academia, politics, business, etc.). In our data, self-assessed proficiencies in English are generally higher than in the mother tongues. We submit that this delta is going to increase. At the same time, we believe that Colloquial Singapore English is bound to stay, albeit more as a resource to indicate local belonging than a separate variety.

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NOTES

[1] 'Singlish' was not offered as an option, primarily because it was also not offered in Siemund et al. (2014). Offering the option here would have rendered the results less immediately comparable. The extent to which Singlish and English are perceived to be different is not fully understood. There, was, however, the option for respondents to mention Singlish in any of the four blank 'other' languages that they could list. Tellingly, only one respondent did so.

[2] It is worth noting that our sample contains a much larger number of Malayo-Polynesian languages than the one in Siemund et al. (2014: 351). While in the previous study, only three respondents mentioned Indonesian, in this present sample nine respondents claimed to speak a Malayo-Polynesian language other than Malay: Indonesian (7), Batak (1), and Javanese (1). Similarly, two more informants indicated to speak Arabic. These results are indicative of the distinct ethnic composition of our ITE cohort.

[3] The profiles 'English + Malay' and 'Cantonese, English, and Mandarin' appear in third and fourth position here, whereas in Siemund et al. (2014: 351), they were in the reverse order, coming fourth and third respectively.

[4] The non-normal distribution of the number of languages called for a non-parametric test; we used a Kruskal-Wallis rank sum test, and corroborated its results with a Wilcoxon rank sum test with continuity correction, with the following results: Uni–Poly W=12801,

p=0.02755; Uni–ITE W=9925, p=0.05357; Poly–ITE W=8283, p<0.0001. See section 3.1 for the ethnic distribution of students per institution in our sample, which also needs to be kept in mind for the following statistical analyses. Our sample reflects the ethnicity bias found across institutions in census data (see Table 3).

[5] The results of the Wilcoxon rank sum test with continuity correction were corroborated by an ordinal logistic regression model and a Kruskal Wallis test (one way ANOVA by ranks).

[6] When reporting p-values, we give the full value as reported by R, except where the value is below 0.001. In general, we consider p-values below 0.001 to be highly significant, values above that but below the 0.01 threshold to be significant, and values higher than that but below the 0.05 threshold to be marginally significant.

[7] Of the six respondents that checked the 'other' option, five further defined it: one (ITE) lived in a 2-room HDB flat, one (university) in a 1-room HDB rental flat, and three (two polytechnic and one university) in a 'private apartment'.

[8] Oral proficiency differences are marginally significant between university and ITE students in language 1 ($p = 0.0378$). As for literal proficiencies, there are highly significant differences between university and ITE students ($p = 0.000166$) and marginally significant differences between university and polytechnic students ($p = 0.0218$). Proficiency differences in language 2 are marginally significant for university and ITE students ($p = 0.0133$).

[9] We find significant differences in language 1 between polytechnic and ITE students for both oral ($p = 0.00915$) and literal ($p = 0.00504$) proficiencies.

[10] In the ITE cohort, there are significant differences between Chinese and Indian students ($p = 0.00809$). Moreover, we find significant differences between Chinese and Malay students in the polytechnic cohort ($p = 0.0085$).

[11] Regarding ITE students, there are highly significant differences between Chinese and Malay students ($p = 0.000363$) and marginally significant differences between Indian and Malay students ($p = 0.010409$). As for polytechnic students, we find highly significant differences between Chinese and Malay students ($p = 0.000852$), though the low number of informants in this group invites some caution in the interpretation of the p-value.

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